

**Central Coalfields Limited**

***ENVIRONMENTAL STATEMENT***

**FOR THE YEAR 2013-2014**



**KARGALI WASHERY**

**B&K AREA**

Submitted to Jharkhand State Pollution Control Board

# **KARGALI WASHERY, (B&K) AREA**

## **Environment Statement for 2013 – 14**

### **1) Brief description of the Project:**

Kargali was commissioned in the year 1958 to cater the needs of Steel Plants and Power Plants.

### **2) Location :**

Kargali Washery is situated in Bokaro & Kargali Area of Central Coal-fields Limited (CCL), in the district of Bokaro in Jharkhand State. The washery is well connected by rail and road. The nearest railway station is Phusro on Gomoh – Barkakana section of East Central Railway. The washery is well connected by metalled road to Ranchi and Hazaribag on one side & Dhanbad on the other side. There exists a railway siding at the washery for despatch of final products.

### **3) Production Capacity : 2.72 MTY of ROM Coal**

### **4) Technology :**

At present Kargali Washery is operated with ROM Jig as main washing unit, which treats coal of size 300 to 30 mm. and (-)30mm. size coal fraction is directly put to washed coal bunker. The total process is screening, crushing and Densification only, leading to ZERO production of slurry.

### **5) Purpose of the Project :**

To supply Medium Coking Washed Coal to SAIL / RINL plants and Power Coal to Thermal plants.

### **6) Environmental Clearance Availability :**

“ Consent to Operate ” from Jharkhand State Pollution Control Board, Ranchi has already been obtained for the year ending 31.12.2013 vide ref.no. B-63 dtd.03.01.2014 and the formalities for the y.e. 31.12.2014 have already submitted to JSPCB, Ranchi and Dhanbad vide this office ref.no. KGW/QM/Air-Water/13-14/188– 92 dtd. 26.11.2013.

# KARGALI WASHERY

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## ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING 31.03.2013

### PART – A

- (i) Name & address of the owner/occupier of the industry operation or process : Central Coalfields Limited  
: Darbhanga House, Ranchi
- (ii) Industry category : Primary
- (iii) Production capacity : 2.72 MTY of Raw Coal
- (iv) Year of establishment : 1958
- (vi) Date of last environmental statement submitted: 25.07.2013 for the Y.E. 2012 - 13

### PART – B

#### WATER CONSUMPTION

- a) Washery :
- (i) Industrial : 1,67,302 KL
- (ii) Domestic : 10,586 KL

b) Water Consumption per Unit of Product :

Name of Product	During F.Y. 2012-13	During F.Y. 2013-14
Washed Coal	0.382 KL	0.325 KL

c) Raw Material Consumption :

Sl.no.	Name of Raw Material	Consumption of Raw Material	
		During 2012-2013	During 2013-2014
1.	Raw Coal Feed	3,95,462 MT	5,00,300 MT
2.	Reject Feed	1,78,038 MT	15,000 MT
3.	POL	8.278 KL	5.546 KL
4.	HSD	56.042 KL	47.097 KL

### PART – C

## POLLUTANTS DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT

(PARAMETERS SPECIFIED IN THE CONSENT ISSUED)

POLLUTIONS	Quantity of Pollutants generated (Mass/day)	Concentration of pollutants discharged (mass/volume)	Percentage variation from prescribed standards with reasons
Water	NIL	Discharge from Washery -NIL	No effluent is going out of the Washery (closed circuit of water exists)
Air	The ambient air quality results are appended in Anx. – A (QEM)	As per Anx. – A (QEM)	The levels of SPM, SOX, NOX have been found to be mostly within permissible limits
Noise	Noise has been recorded and mentioned in Anx. –A (QEM)	As per Anx. – A (QEM)	The noise level in the project is within tolerance limits

### PART- D

#### HAZARDOUS WASTE

(As specified under Hazardous Waste Management and Handling Rules, 1989)

Source of Hazardous waste	Total quantity (in Kg)	
	2012-13	2013-14
From process	No Hazardous waste as specified by Ministry of Environment & Forest (MoEF) rules, 1989 for waste management and handling is generated.	
From pollution control facilities	NIL	

### PART - E

## **SOLID WASTES**

	Total Quantity	
	During F.Y. 2012-13	During F.Y. 2013-14
a) From Process	56,290	11,155
b) From Pollution control facilities	Nil	Nil

House Keeping : Maintained well

Plantation : Roads in and around the Washery with plantation is maintained (photographs attached).

Recirculation of Water: Leakage water from the plant is collected in three sumps from where the clarified water is recirculated back into the washery process for re-use. Thus a complete closed circuit is achieved.

Environment Audit Form : Attached

### **PART – F**

1. Hazardous Wastes :

\* Hazardous wastes is not being produced either from washery operation or from any pollution control facilities.

2. Solid Wastes :

\* Rejects generated from the beneficiation of coal are the only solid wastes containing very high ash% which are of no sale value.

3. Disposal Practice :

\* In order to deplete the huge stock of rejects lying since long, the same is used in the Plant for beneficiation of rejects and a very meager amount of rejects sold to private parties by road.

### **PART – I**

**ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT**

- \* The Environmental monitoring is carried out quarterly for the project by CMPDI, Ranchi as per the guidelines of the Ministry of Environment & Forest ( MoEF )
- \* The Environmental Statement for the project is prepared every year
- \* Ambient air quality and noise level all conform to prescribed limits
- \* No effluent is going out of the washery and conforms to ZERO discharge
- \* To control fugitive dust on roads in and around the washery there is departmental Water-tanker for spraying and the conveyor belts are provided with water sprinkler
- \* Layout plan is attached

Chief Manager/Project Officer  
Kargali Washery

**Name of Unit** - **Kargali Washery, B&K Area, CCL**  
**Name and address of Project Officer** - **Sri Binod Kumar Jha**  
**Office of the Project Officer, Kargali Washery, Bermo, Bokaro-829104**

### AIR POLLUTION

1. DRILLING AND BLASTING - *Not applicable*

#### 2. COAL HANDLING PLANT

a) Whether all transfer points and loading points are provided with water sprinkler arrangements. Check their functioning and efficiency.

*- Yes sprinklers are provided; all of them are functioning properly and are sufficient to suppress the dust generated at these points.*

b) Check for coverings of trucks with tarpaulins.

*-All the trucks involved in despatch of washed coal are covered with tarpaulins. Our check-posts are strictly instructed to check for tarpaulins.*

c) Whether sides of CHP are covered.

*- Yes, it is covered from all sides by metallic sheets.*

d) Whether crushers are fitted with dust extractor/ bag filter.

*- No, since dust generation is very low (crushers produce quite coarse particles with negligible amount of fines).*

e) Check overall housekeeping.

*- Manual brooming and cleaning is done on everyday basis.*

#### 3. COAL STOCK YARD

a) Whether fixed sprinklers are installed at the yard and no. of sprinklers and their functioning including throw.

*-Yes, fixed sprinklers are installed.*

b) Check condition of approach road and its maintenance.

*- Approach road is in good condition, regular maintenance is done using dozer and manually .*

c) Whether fire fighting arrangement is there.

*- Yes, water outlets and flexible PVC pipes are provided in sufficient number.*

d) Overall housekeeping.

*- Manual brooming and cleaning is done on everyday basis.*

#### 4. COAL TRANSPORTATION ROAD

a) Whether the entire road black topped/ Concrete

*- Entire road within the Washery is black topped.*

b) Whether fixed sprinklers are installed and no. of sprinklers and their functioning including the throw.

- *Fixed sprinklers are not installed instead mobile tankers are used for sprinkling on roads in and around the washery.*

c) Check No. of mobile tankers and number of trips per shift.

- *One mobile tanker is available and it makes 8-10 trips per shift.*

d) Check whether roads properly maintained/pot holes repaired.

- *All roads within washery are properly maintained and repaired on weekly basis.*

e) Check how the dust in road is cleaned. Whether manual/mechanical brooming is done.

- *Manual brooming is done on daily basis.*

f) Check dust control arrangements provided at Weigh Bridges and its effectiveness.

- *Sprinklers are provided and functioning properly.*

## 5. RAILWAY SIDING

a) Whether fixed sprinklers are installed and no. of sprinklers and their functioning including the throw.

- *Yes sprinklers are installed; all of them are functioning properly.*

b) Whether adequate space is there for storage; if less, is there further scope for increasing storage space.

- *Yes, there is adequate space for storage; and there is further scope for increasing storage space.*

## 6. MONITORING OF AIR POLLUTION

a) Check reports for last 2 years. Whether any exceptional readings are noticed, if so, what actions have been taken to mitigate.

- *No exceptional readings are noticed.*

b) Who does the monitoring and the agency's competency like lab facility and competent persons for carrying out tests.

- *CMPDI does the monitoring and there are no doubts regarding its competency.*

c) Whether P 2.5 is being monitored or not

- *Yes, it is being monitored continuously.*

d) Is automatic continuous air quality monitoring arrangement is there? If yes, since when installed. If no, plan/programme for such installation.

- *No such arrangement is there. Washery in itself does not have the authority to plan/Programme such installation. It can be done only at CCL Hq. level. Till date there is no such plan to the best of our knowledge.*

## WATER POLLUTION



**1. MINE DISCHARGE** - *Not Applicable*

**2. WORKSHOP EPT/OIL & GREASE TRAP**

- a) Check the source of effluent. - *Not Applicable*
- b) Whether the drain from oil changing room is connected to ETP - *Not Applicable*
- c) Check the process of control of spillage in oil changing. Check the disposal method of oil filters & cotton waste. - *Not Applicable*
- d) Check floating matters removing system before inlet to ETP and the mechanism thereof; - *Not Applicable*
- e) What coagulant/chemicals are added for the treatment and its measuring system? Whether stock register is being maintained for chemicals. - *Not Applicable*
- f) What are the system for removal of sludge and also the place of disposal of sludge? Measure the depth of sludge to check regular removal is done - *Not Applicable*
- g) Check stacking of sludge and disposal method. Whether land/sludge farm is there - *Not Applicable*
- h) Check the drainage arrangement in the land/sludge farm and the arrangement for protection from rain - *Not Applicable*
- i) Check status of outlet water - *No effluent is going out of the washery*
- J) Whether zero discharge adopted and implementation status - *Yes, zero discharge is adopted.*
- k) Check % of recovery of burnt oil -
- l) Overall housekeeping of the premises - *Maintained*
- m) Check reports for last 2 years. Whether any exceptional readings are noticed, if so, what actions have been taken to mitigate. - *No exceptional readings are noticed.*
- n) Who does the monitoring and the agency's competency like lab facility and competent persons for carrying out tests. - *CMPDI does the monitoring and there are no doubts regarding its competency.*

**3. DETP/STP** - *Not Applicable since close circuit facility exists*

- a) Check how many houses are connected to integrated DETP and total no. of houses in the colony -*NA*
- b) Check the floating matters removal system before inlet to DETP and the mechanism thereof;

- NA
- c) Check whether all the pumps are working and whether there are any standby arrangements or not  
- NA
- d) Check quality of final treated water pond (tertiary Pond) is clear  
- NA
- e) Whether is there any pisci-culture being done in the tertiary pond  
- NA
- f) How the sludge is removed. Check for records of disposal  
- NA
- g) Whether the treated water is used for gardening or agriculture/Cultivation  
- NA
- h) Overall Housekeeping of the premises  
- *Maintained*
- i) See the reports for last 2 years. Whether any exceptional readings are noticed, if so, what action has been taken to mitigate  
- *No exceptional readings are noticed.*
- j) Who does the monitoring and the agency's competency like lab facility and competent persons for carrying out tests.  
- *CMPDI does the monitoring and there are no doubts regarding its competency.*

### **NOISE POLLUTION**

- a) Whether ear muffs/ ear plugs are provided to people working in noisy areas / near noisy machine.  
- *Yes.*
- b) Whether plantation is done around workshop.  
- *Yes.*
- c) Whether controlled blasting is done.  
- *Not applicable*
- d) Check from record the record keeping of regular monitoring of noise level at work shop and noise generating places.  
- *Monitoring done by CMPDI*
- e) Whether DG sets are provided with acoustic meters and emission control from DG sets are followed  
-

### **LAND DEGRADATION & TREE PLANTATION:**

- 1. BACK FILLED AREAS & OB DUMPS  
-*Not applicable*

#### **Any show cause notice or court case pending:**

- *No, there are no show cause notices or court cases pending.*



**CENTRAL COALFIELDS LIMITED**  
**Office of the Project Officer, Kargali Washery**  
**P.O. Bermo, Dist. Bokaro (829104)**

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Ref.No. KGW/QM/Env.&Safety/Emer.Org./2013/

Date:

**EMERGENCY ORGANISATION PLAN**  
**PROJECT : KARGALI WASHERY**

**STATUTORY PROVISIONS :**

COAL MINES REGULATION 1957, REGULATION NO. 199A AND  
MINES RESCUE RULES 24

**UTILITY :** In case of fire, explosion, emission of gases, inundation and others

- 1) Duties and responsibility of each officials, key personnels, telephone operator and others must be clear in case of emergency. So that each person shall know what is expected of him in case of emergency, so as to avoid contradictory orders and confusion at the time when prompt and efficient action is required.
- 2) When a disaster occurs in a project, it leaves little or no time to discuss the steps to deal with the situation.
- 3) In most cases, the work done in few hours is the most vital for saving lives.
- 4) Decision taken on the spur of the moment will not bring in as good result as properly planned procedures. Advance planning is the most logical way of minimizing the effects of a sudden and drastic emergency.

**(A) INCIDENT CONTROL ROOM**

**Location :** Office of the Agent / Project Officer, Kargali Washery

**Members :**

- 1) GM of the Area as Controller
- 2) GM ( Safety )
- 3) Agent / Project Officer, Kargali Washery
- 4) Dy. Director of Mines Safety, Koderma Region
- 5) President of Trade Unions
- 6) Superintendent, Rescue Station, Kathara
- 7) Inspector of Police, Bermo P.S.
- 8) Secretary of RCMS

Responsible for overall direction of all operations connected with emergency. The controller can call in other persons with special knowledge as required.

## **(B) SURFACE CONTROL ROOM**

**Location :** Office of the Manager / Chief Manager (E&M), Kargali Washery

**Members :**

- 1) Manager / Chief Manager (E&M), Kargali Washery as Controller
- 2) Welfare Officer / Manager ( Personnel ), Kargali Washery
- 3) Officer-in-Charge, Bermo P.S.
- 4) Store / Depot Officer, Kargali Washery
- 5) Area Medical Officer, R.H.Kargali
- 6) Safety Officer, Kargali Washery

To direct the operation of all surface workmen and organize the supply of materials and equipments.

## **(C) PLANT CONTROL ROOM**

**Location :** Office of the Shift Engineer, Kargali Washery

**Members :**

- 1) Operation Incharge as controller
- 2) Shift Engineer, Kargali Washery
- 3) Safety Officer, Kargali Washery
- 4) Foreman / Chargineman of the Shift
- 5) Medical Officer, R.H.Kargali

To direct the operation of all plant workmen and to organize rescue and recovery work.

## **(D) CHECKING OF PERSONS**

As soon as an incident has been reported, the entry and departure of men to and from the Plant shall be in accordance with the following system.

All persons who are required to go to plant in an emergency must first obtain authorisation from the plant control room.

## **DUTY OF OFFICIALS AND KEY PERSONNEL**

### **1) DUTY OF ANY PERSON**

Any person realizing that anything serious has happened anywhere in the plant shall immediately inform the nearest shift staff, other staff and executive.

### **2) DUTY OF CHARGEMAN / FOREMAN**

On receipt of information and realizing anything serious he shall immediately withdraw person from plant under their control.

Inform other section of the plant about the incident and communicate attendance clerk, Shift-in-charge and Manager of the plant.

The person shall be withdrawn in an orderly manner and without creating any panic.

### **3) ATTENDANCE CLERK**

On receiving information of emergency shall give a SIREN or WHISTLE of ten blasts. Send information to the Manager, Agent/Project Officer and all the members of the consultative committee.

- i) President & Secretary of Trade Unions
- ii) Safety Officer
- iii) Operation Incharge
- iv) Chief Manager (E&M)
- vi) Medical Officer
- vii) Depot/Store Officer
- viii) Personnel Officer
- ix) Telephone Operator

Prepare a list of person who is present at the time of incident. Send this list to all the three Control Rooms.

Not allow anybody to proceed in plant without authorization of Incident Control Room.

### **4) DUTY OF TELEPHONE OPERATOR**

On hearing of an emergency from plant, he shall try to establish contact with plant if possible and collect detail and send information over telephone to the following :

- i) All members of Consultative Committee
  - ii) Manager of Kargali OCP
  - iii) Manager of Khas Mahal Project OCP
  - iv) Manager of Kargali UG ( BSIncl.)
- Keep a record of all outgoing and incoming calls.

### **5) DUTY OF WASHERY ENGINEER**

- i) Immediately report to the Manager / Chief Manager for information and instruction
- ii) Take charge of Surface Control Room
- iii) Send messenger / call from the plant to such workmen and mechanics as are required
- iv) Obtain from the Attendance Clerk the number of workmen in the plant and inform the Incident Control Room. Organize telephone exchange for making telephone line to be made available. All rescue and recovery work shall be conducted in plant under the control, direction and supervision of the management.

### **6) DUTY OF STORE KEEPER**

On hearing the emergency siren he shall immediately

- i) Proceed to the Store
- ii) Check the material according to emergency list
- iii) Send a list to the Incident Control Room
- iv) Arrange procuring additional material from Central Store in consultation with Incident Control Room

### **7) DUTY OF MANAGER / CHIEF MANAGER**

As per Mines Rescue Rules and Factory Act & Rules, on receiving information of any emergency likely to require the services of a rescue team, shall immediately

- i) Inform the rescue room or rescue station and about the nature of the occurrence
- ii) Summon rescue trained persons employed in the plant
- iii) Inform the Agent / Project Officer
- iv) Inform the General Manager
- v) Inform the Manager of nearby mines to make available the services of rescue trained persons employed therein
- vi) Summon the medical assistance
- vii) Send information of the occurrence to the Dy. Director of Mines Safety, Koderma Region
- viii) Factory Inspector, Bokaro Steel City, Circle-II

All rescue and recovery work at plant shall be conducted under the control, direction and supervision of the Manager,

An accident involving number of persons, the Manager, in taking decisions regarding rescue and recovery operations, take guidance from a group of senior management and Incident Control Room.

#### **8) DUTY OF SECURITY- IN-CHARGE**

- i) Control crowd and maintain law and order
- ii) Appoint security men to direct vehicles to the parking place. Approach roads to the plant should be clear for rescue van and ambulance
- iii) Arrangement for identification of bodies
- iv) Supervise mortuary arrangement

#### **9) DUTY OF WELFARE / PERSONNEL OFFICER**

- i) To deal with relatives of casualties
- ii) Assist in preparation of following accommodation :
  - a) Stretcher casualty
  - b) Walking casualties
  - c) Mortuary arrangement
- iii) Room for rescue team and their sleeping arrangement
- iv) Co-operate with police for identification of bodies
- v) Deal with enquiries with relatives of victims
- vi) Co-operate with Canteen-in-charge regarding food supply
- vii) Time-to-time relevant press release in consultation with Incident Control Room

**CENTRAL COALFIELDS LIMITED**  
**KARGALI WASHERY**

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**IMPORTANT TELEPHONE NUMBERS**

| <b><u>Designation</u></b>                    | <b><u>Name</u></b>         | <b><u>Contact Nos.</u></b> |
|----------------------------------------------|----------------------------|----------------------------|
| Dy. Director of Mines Safety, Koderma Region | Sri. Jay Kumar -----       | 06534 – 222579             |
| Director of Mines Safety, Koderma Region     | ,, Arvind Kumar -----      | 06534 – 222401             |
| CGM (Safety), Ranchi                         |                            |                            |
| GM (B&K), Kargali                            | ,, R.V.Singh -----         | 8987784720                 |
| Area Safety Officer (B&K), Kargali           | ,, A.K.Choudhary -----     | 8987784726                 |
| Project Officer, Kargali Washery             | ,, B.K.Jha -----           | 8987784768                 |
| Staff Officer (Ws), Kargali Washery          | ,, R.R.Makhija -----       | 8987784769                 |
| Safety Officer, Kargali Washery              | ,, A.L.Singh -----         | 8987784824                 |
| Safety Officer, Kargali Washery              | ,, T.N.Sharma -----        | 8987786833                 |
| Asst. Manager (CP)/ Env. Officer, KGW        | ,, Tarun Kumar -----       | 8987786838                 |
| Manager (Personnel), Kargali Washery         | ,, Pratul Kumar -----      | 8987784735                 |
| Welfare Officer, Kargali Washery             | ,, S.S.Das -----           | 8987786835                 |
| Area Medical Officer, KRH                    | ,, A.N.Singh -----         | 8987784731                 |
| Medical Officer, KRH                         |                            |                            |
| Security-in-Charge, Kargali Washery          |                            |                            |
| Telephone Attendant, Kargali washery         |                            |                            |
| Depot / Store Keeper, Kargali Washery        | ,, S.B.Sinha Roy -----     | 8987784775                 |
| Rescue Station, Kathara                      | ,, V.B.Choudhary -----     | 8987785442                 |
| Shift Engineer, Kargali Washery              | ,, Raman Kumar -----       | 8987784778                 |
| --do--                                       | ,, Vikram -----            | 8797912668                 |
| --do--                                       | ,, Vishwapati Pandey ----- | 7766999982                 |
| Manager, Kargali OCP                         | ,, Mithilesh Kumar -----   | 8987784749                 |
| Manager, Khas Mahal Project                  | ,, Prashant Sajan -----    | 8987784807                 |
| Factory Inspector, B.S.City Circle-II        |                            |                            |

*Note : Copy of Emergency Organization distributed to all members*

Project Officer  
Kargali Washery

Safety Officer  
Kargali Washery



Main Office with Garden



# Main gate kargali washery



**Near new thicknar**



A photograph showing a complex network of black cables and wires bundled together, running across a metal framework. The structure appears to be part of an electrical installation or a utility structure. The background is filled with lush green foliage, suggesting an outdoor setting. The text "Near electrical section" is overlaid on the image in a black, serif font.

**Near electrical section**

# T.K Office with store



# Laboratory and plante office





**In side plantanation laboratory**

# Canteen With Mainoffice

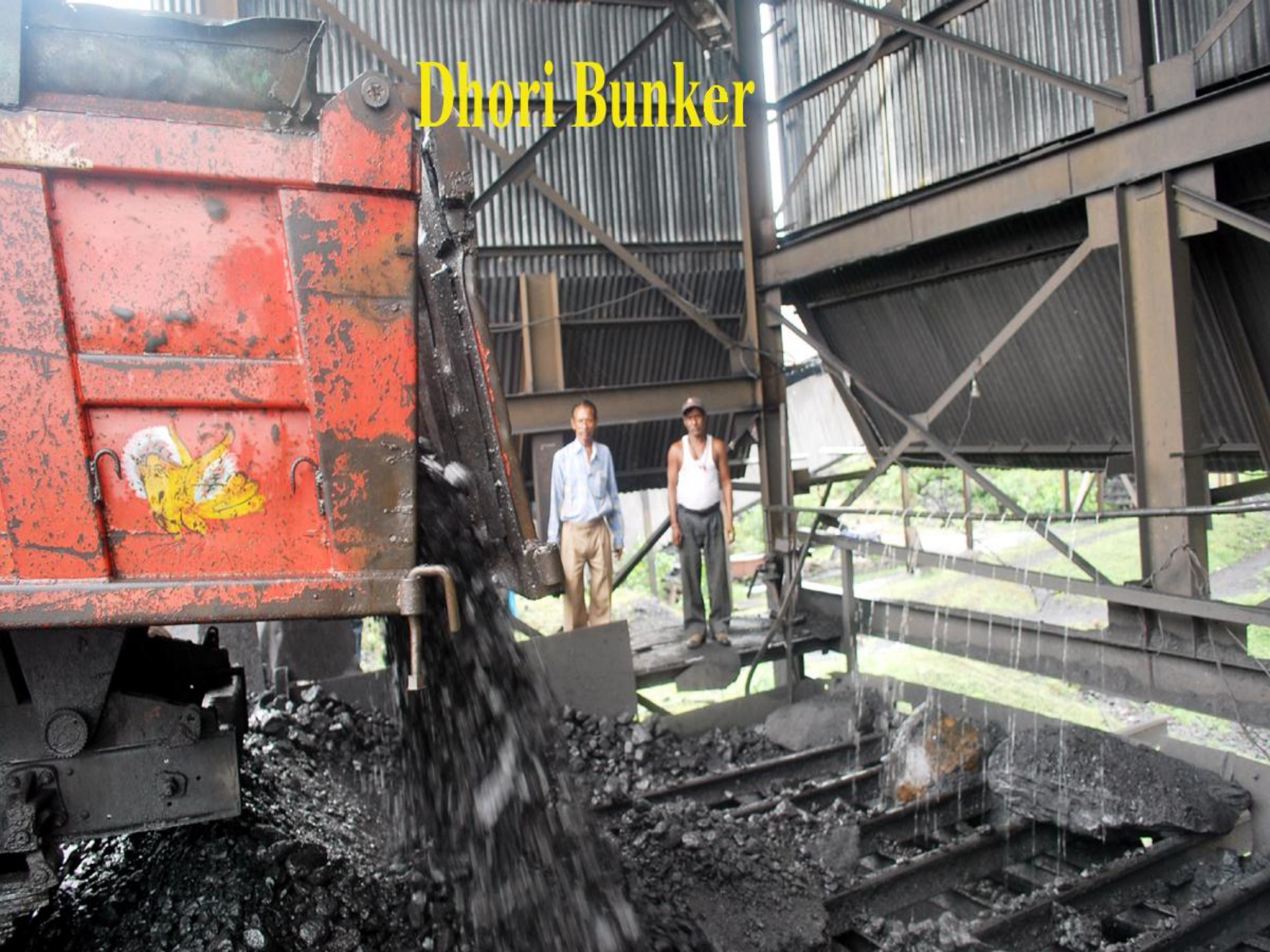


# Plantanation Near Dhorī Belt





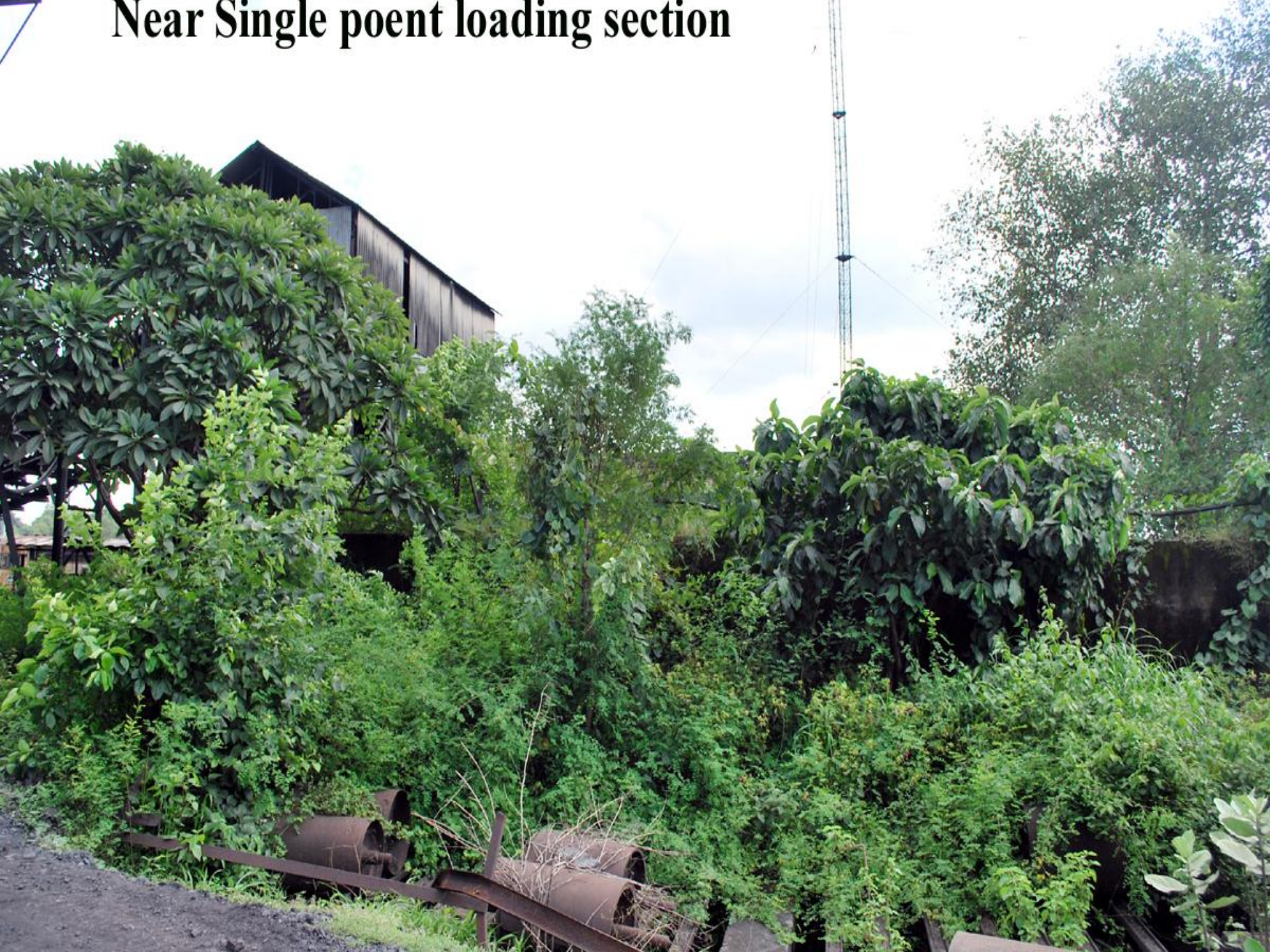
# Dhori Bunker



**Bc4 Belt**



# Near Single point loading section



**Marshalling yard out sides clean coal bunker**



# Pump house (Revar side)



**Loading office**



**Near old weigh bridge**



# Reject site near Rambilash high school





# plantation enterances road



# Water tanker



**Near Rambilash high school**



A close-up photograph of a bouquet of vibrant red roses. The roses are in various stages of bloom, with some showing deep red and others with lighter, almost white, variegated petals. The bouquet is wrapped in a light-colored, textured paper, and a red ribbon is visible at the bottom. Overlaid on the center of the bouquet is the word "THANKS" in large, bold, purple letters with a white outline and a slight 3D effect. The background is a soft, out-of-focus pinkish-red.

**THANKS**

## TEST REPORT

Job No. : 094313025 Date of Issue: 15/07/13  
 Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13  
 Sample Description : Air  
 Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Date of receipt of sample : 01/07/13 Date of performance of Test: 01/07/13 to 15/07/13

### TEST RESULT

The sample has been tested with the following results:-

**Area** : **Bokaro Coalfields Washeries** **Year** 2013  
**Project** : **Kargali Washery** **Quarter Ending June** '2013

**Name of the Sampling Station** *Rest House*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 21/06/2013 - 22/06/2013 | 197 | 101 | 11              | 41              |         |

**Name of the Sampling Station** *Phusro W/S*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 22/06/2013 - 23/06/2013 | 228 | 131 | 10              | 39              |         |

**Name of the Sampling Station** *Subhas Nagar Colony*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 28/06/2013 - 29/06/2013 | 140 | 76  | 11              | 42              |         |

**Name of the Sampling Station** *Dhori GM Office*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 28/06/2013 - 29/06/2013 | 120 | 52  | 10              | 41              |         |

Analysed By

Checked By

**G.M (Chemist)**  
 Env. Lab., CMPDI(HQ)  
 Job No: 094313025

BCW - I

- Note:
- 1) This Report refers to the values obtained at the time of testing and results related to the items tested
  - 2) This Report cannot be reproduced in part or full without written permission of the management.
  - 3) Liability for return of samples ceases as samples cannot be retained for retests.

## TEST REPORT

Job No. : 094313025 Date of Issue: 01/07/13  
 Name of the Customer : CCL  
 Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13  
 Sample Description : Noise  
 Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Date of receipt of sample : 01/07/13 Date of performance of Test: -

### TEST RESULT

The sample has been tested with the following results:-

**Area** : **Bokaro Coalfields Washeries** **Year** 2013  
**Project** : **Kargali Washery** **Quarter Ending June** '2013

**Sampling Stations**  
 1 Subash Nagar Colony  
 2 Dhori G.M.Office

| Station Name        | Date of Sampling | Noise Level |
|---------------------|------------------|-------------|
| Subhas Nagar Colony | 28/06/2013       | 52.3        |
| Dhori G.M.Office    | 28/06/2013       | 50.5        |

*Permissible Limit of Noise Level vide Gazette Notification G.S.R. 742(E) Dt. 25th Sep '2K*

|             |                     |                     |
|-------------|---------------------|---------------------|
|             | 6.00 AM to 10.00 PM | 10.00 PM to 6.00 AM |
| Noise Level | Leq 75 dB(A)        | Leq 70 dB(A)        |

Checked By

BCW - 2

**G.M (Chemist)**  
**Env. Lab., CMPDI(HQ)**  
**Job No: 094313025**

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## TEST REPORT

Job No. : 094313025 Date of Issue: 07/10/13  
 Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13  
 Sample Description : Air  
 Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Date of receipt of sample : 23/09/13 Date of performance of Test: 23/09/13 to 07/10/13

### TEST RESULT

The sample has been tested with the following results:-

Area : **Bokaro Coalfields Washeries** Year 2013  
 Project : **Kargali Washery** Quarter Ending Sept. '2013

**Name of the Sampling Station** *Rest House*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 10/09/2013 - 11/09/2013 | 233 | 88  | <25             | 22              |         |

**Name of the Sampling Station** *Phusro W/S*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 11/09/2013 - 12/09/2013 | 191 | 163 | <25             | 21              |         |

**Name of the Sampling Station** *Subhas Nagar Colony*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 12/09/2013 - 13/09/2013 | 96  | 29  | <25             | 20              |         |

**Name of the Sampling Station** *Dhori GM Office*

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 12/09/2013 - 13/09/2013 | 86  | 38  | <25             | 19              |         |

Analysed By

Checked By

G.M (Chemist)  
 Env. Lab., CMPDI(HQ)  
 Job No: 094313025

BCW - 1

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**TEST REPORT**

Job No. : 094313025 Date of Issue: 23/09/13  
 Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13  
 Sample Description : Noise  
 Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Date of receipt of sample : 23/09/13 Date of performance of Test: -

**TEST RESULT**

The sample has been tested with the following results:-

**Area** : **Bokaro Coalfields Washeries** **Year** 2013  
**Project** : **Kargali Washery** **Quarter Ending Sept.** '2013

**Sampling Stations**  
 1 Subash Nagar Colony  
 2 Dhori G.M.Office

| Station Name        | Date of Sampling | Noise Level |
|---------------------|------------------|-------------|
| Subhas Nagar Colony | 12/09/2013       | 50.5        |
| Dhori G.M.Office    | 12/09/2013       | 49.7        |

Permissible Limit of Noise Level vide Gazette Notification G.S.R. 742(E) Dt. 25th Sep '2K

|             |                     |                     |
|-------------|---------------------|---------------------|
|             | 6.00 AM to 10.00 PM | 10.00 PM to 6.00 AM |
| Noise Level | Leq 75 dB(A)        | Leq 70 dB(A)        |

Checked By

**G.M (Chemist)**  
**Env. Lab., CMPDI(HQ)**  
**Job No: 094313025**

BCW - 2

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**TEST REPORT**

Job No. : 094313025 Date of Issue: 17/01/14  
 Name of the Customer : CCL  
 Customer Letter Ref. No. (if any): CCL/DGM-HOD(E&F)/2013/1570 Dt. 22/11/13  
 Sample Description : Air  
 Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Date of receipt of sample : 02/01/14 Date of performance of Test: 02/01/14 to 17/01/14

**TEST RESULT**

The sample has been tested with the following results:-

**Area : B & K Year 2013**  
**Project : Kargali Washery Quarter Ending Dec. '2013**

All parameters are in  $\mu\text{g}/\text{m}^3$

**Name of the Sampling Station Rest House**

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 20/12/2013 - 21/12/2013 | 255 | 144 | <25             | 22              |         |

**Name of the Sampling Station Phusro W/S**

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 23/12/2013 - 24/12/2013 | 405 | 279 | <25             | 23              |         |

**Name of the Sampling Station Subhas Nagar Colony**

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 30/12/2013 - 31/12/2013 | 291 | 163 | <25             | 22              |         |

**Name of the Sampling Station Dhori GM Office**

| Date of Sampling        | SPM | RPM | SO <sub>2</sub> | NO <sub>x</sub> | Remarks |
|-------------------------|-----|-----|-----------------|-----------------|---------|
| 30/12/2013 - 31/12/2013 | 194 | 84  | <25             | 23              |         |

Analysed By

Checked By

G.M (Chemist)  
 Env. Lab, CMPDI(HQ)  
 (Authorized Signatory)

B&K – 24

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## TEST REPORT

Job No. : 094313025 Date of Issue: 02/01/14  
 Name of the Customer : CCL  
 Customer Letter Ref. No. (if any): CCL/DGM-HOD(E&F)/2013/1570 Dt. 22/11/13  
 Sample Description : Noise  
 Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept.'2000  
 Date of receipt of sample : 02/01/14 Date of performance of Test: -

### TEST RESULT

The sample has been tested with the following results:-

**Area** : **B & K** **Year** 2013  
**Project** : **Kargali Washery** **Quarter Ending Dec.** '2013

**Sampling Stations**  
 1 Subash Nagar Colony  
 2 Dhori G.M.Office

| Station Name        | Date of Sampling | Noise Level |
|---------------------|------------------|-------------|
| Subhas Nagar Colony | 30/12/2013       | 50.4        |
| Dhori G.M.Office    | 30/12/2013       | 49.6        |

*Permissible Limit of Noise Level vide Gazette Notification G.S.R. 742(E) Dt. 25th Sep '2K*

|             | 6.00 AM to 10.00 PM | 10.00 PM to 6.00 AM |
|-------------|---------------------|---------------------|
| Noise Level | Leq 75 dB(A)        | Leq 70 dB(A)        |

**Checked By**

**B&K – 25**

**G.M (Chemist)**  
**Env. Lab, CMPDI(HQ)**  
**(Authorized Signatory)**

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## TEST REPORT

|                              |                                                                               |                            |                   |
|------------------------------|-------------------------------------------------------------------------------|----------------------------|-------------------|
| <b>Lab No. T-2187</b>        | <b>Job No. 094313025</b>                                                      | <b>Year</b>                | <b>2013-14</b>    |
| Type of Sample:              | Ambient Air                                                                   | Quarter Ending             | March '14         |
| Customer / W. O. no. & Date: | CCL/DGM-HOD (E&F)/2013/ 1570<br>Dt. 22/11/13                                  | Date of Receipt of Sample: | 03.04.14          |
| Mode of Receipt of Sample:   | Jointly sampling with customer                                                | Date of Analysis:          | 03.04.14-17.04.14 |
| Sampling Protocol:           | IS 5182 (part 14): 2000 ,R -2010,<br>Methods for Measurement of Air Pollution | Date of Reporting:         | 17.04.14          |
| Testing Protocol:            | Gazette Notification no. G.S.R 742(E) dt.25 <sup>th</sup> Sept. '2000         |                            |                   |
| Remarks & Observation:       | All samplers placed 1.5 m above ground level                                  |                            |                   |

### TEST RESULT

The sample has been tested with the following results:-

|                  |                                                                                |                          |                                                                  |
|------------------|--------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------|
| <b>Area :</b>    | <b>B&amp;K</b>                                                                 | <b>Project:</b>          | <b>Kargali Washery</b>                                           |
| <b>Stations:</b> | 1. Rest House<br>2. Phusro W/S<br>3. Subhas Nagar Colony<br>4. Dhori GM Office | <b>Date of Sampling:</b> | 24-24/03/2014<br>24-24/03/2014<br>31-31/03/2014<br>31-31/03/2014 |

| S.No      | Test Parameters                                                 | Units             | Test Method                            | TEST RESULT |     |     |     |
|-----------|-----------------------------------------------------------------|-------------------|----------------------------------------|-------------|-----|-----|-----|
|           |                                                                 |                   |                                        | 1           | 2   | 3   | 4   |
| Stations: |                                                                 |                   |                                        |             |     |     |     |
| 1         | Total Particulate Matter (PM <sub>10+</sub> >PM <sub>10</sub> ) | µg/m <sup>3</sup> | Lab.SOP 4 based on – IS: 5182/23, 2006 | 391         | 679 | 219 | 195 |
| 2         | Particulate Matter (PM <sub>10</sub> )                          | µg/m <sup>3</sup> | IS: 5182/23 2006                       | 159         | 242 | 170 | 121 |
| 3         | Sulphur Dioxide (SO <sub>2</sub> )                              | µg/m <sup>3</sup> | IS: 5182 /02 2001 R-2006               | <25         | <25 | <25 | <25 |
| 4         | Nitrogen Oxides (as NO <sub>x</sub> )                           | µg/m <sup>3</sup> | IS: 5182 /02 1975 R-1998               | 21          | 20  | 20  | 19  |

**Note:** Gazette Notification no. G.S.R 742(E) dt.25<sup>th</sup> Sept. '2000 is enclosed along for reference

**Analysed By**

**Checked By**

**B&K – 24**

**G.M (Chemist)  
Env. Lab, CMPDI(HQ)  
(Authorized Signatory)**

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## TEST REPORT

|                              |                                                                      |                            |                |
|------------------------------|----------------------------------------------------------------------|----------------------------|----------------|
| <b>Lab No. T-2187</b>        | <b>Job No. 094313025</b>                                             | <b>Year</b>                | <b>2013-14</b> |
| Type of Sample:              | Noise                                                                | Quarter Ending             | March '14      |
| Customer / W. O. no. & Date: | CCL/DGM-HOD(E&F)/2013/ 1570<br>Dt. 22/11/13                          | Date of Receipt of Sample: | 03.04.14       |
| Mode of Receipt of Sample:   | Jointly sampling with customer                                       | Date of Analysis:          | -              |
| Testing Protocol:            | Gazette Notification no. G.S.R 742(E) dt.25 <sup>th</sup> Sept.'2000 | Date of Reporting:         | -              |
| Remarks:                     |                                                                      |                            |                |

### TEST RESULT

The sample has been tested with the following results:-

**Area :** **B&K** **Project:** **Kargali Washery**

**Stations:**

1. Subash Nagar Colony
2. Dhori G.M.Office
- 3.
- 4.

| Station Name        | Date of Sampling | Noise Level |
|---------------------|------------------|-------------|
| Subhas Nagar Colony | 31/03/2014       | 48.6        |
| Dhori G.M.Office    | 31/03/2014       | 48.5        |

*Permissible Limit of Noise Level vide Gazette Notification G.S.R. 742(E) Dt. 25th Sep '2K*

|             |                     |                     |
|-------------|---------------------|---------------------|
| Noise Level | 6.00 AM to 10.00 PM | 10.00 PM to 6.00 AM |
|             | Leq 75 dB(A)        | Leq 70 dB(A)        |

**Checked By**

**B&K – 25**

**G.M (Chemist)**  
**Env. Lab, CMPDI(HQ)**  
**(Authorized Signatory)**

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