

# **ACTION PLAN FOR CLUSTERS OF DHANBAD**



---

**JHARKHAND STATE POLLUTION CONTROL BOARD  
T A BUILDING, HEC COMPLEX, RANCHI 834004**

## 1.0 INTRODUCTION

- 1.1 The territorial area of Nirsa block , industrial area of Govindpur block, municipal area of Dhanbad Sadar block, municipal area of Jharia block and industrial area of Sindri are included in the cluster of Dhanbad
- 1.2 Location: Satellite imagery is as given below.

### SATELLITE IMAGERY OF INDUSTRIAL CLUSTER OF DHANBAD

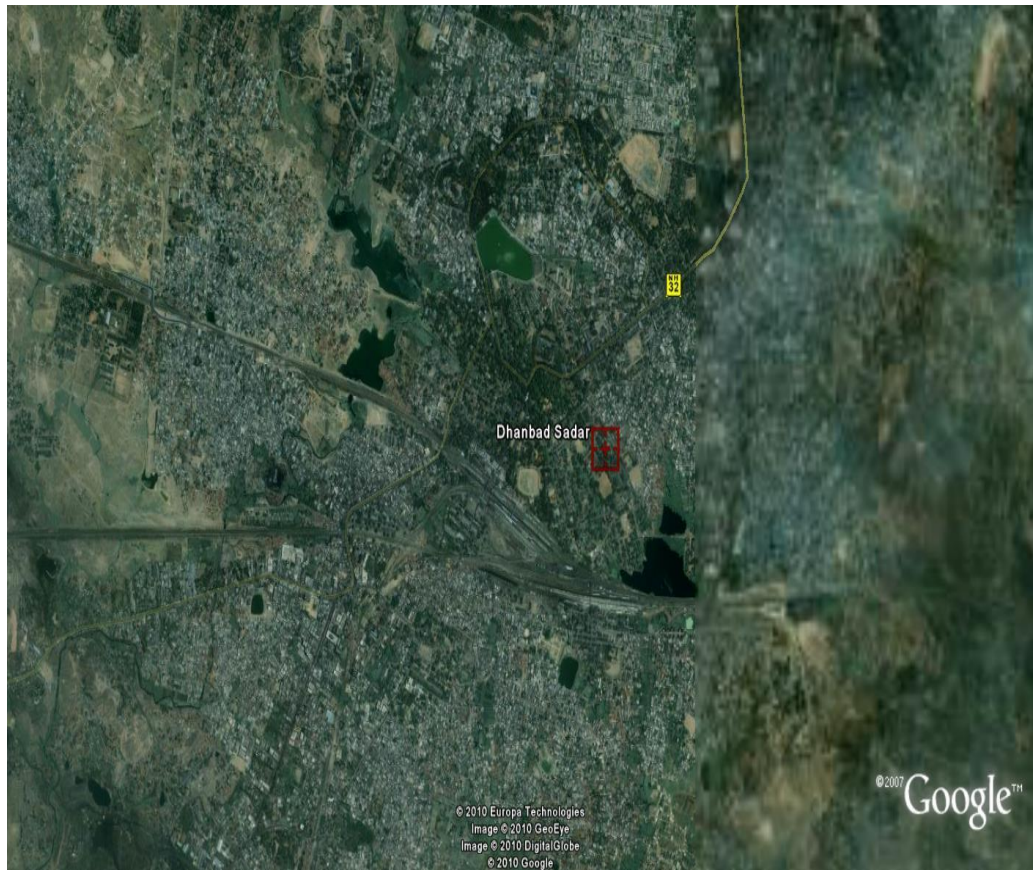


### SATELLITE IMAGERY OF THE AREA OF NIRSA BLOCK

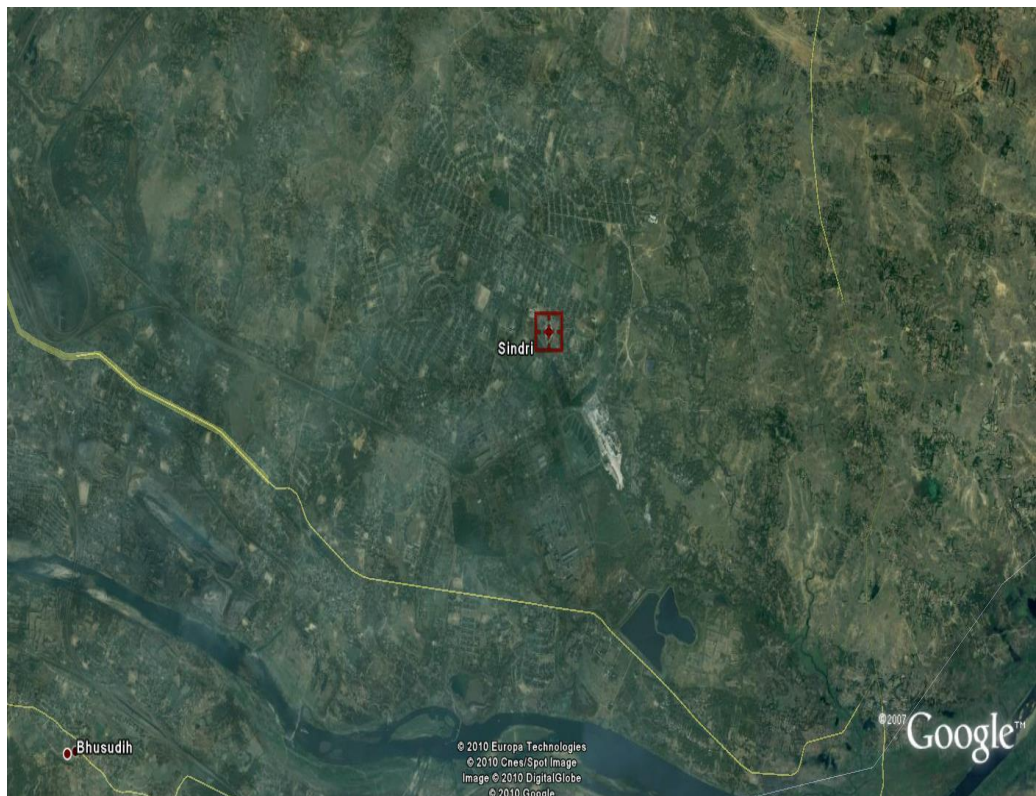




## SATELLITE IMAGERY OF DHANBAD SADAR BLOCK

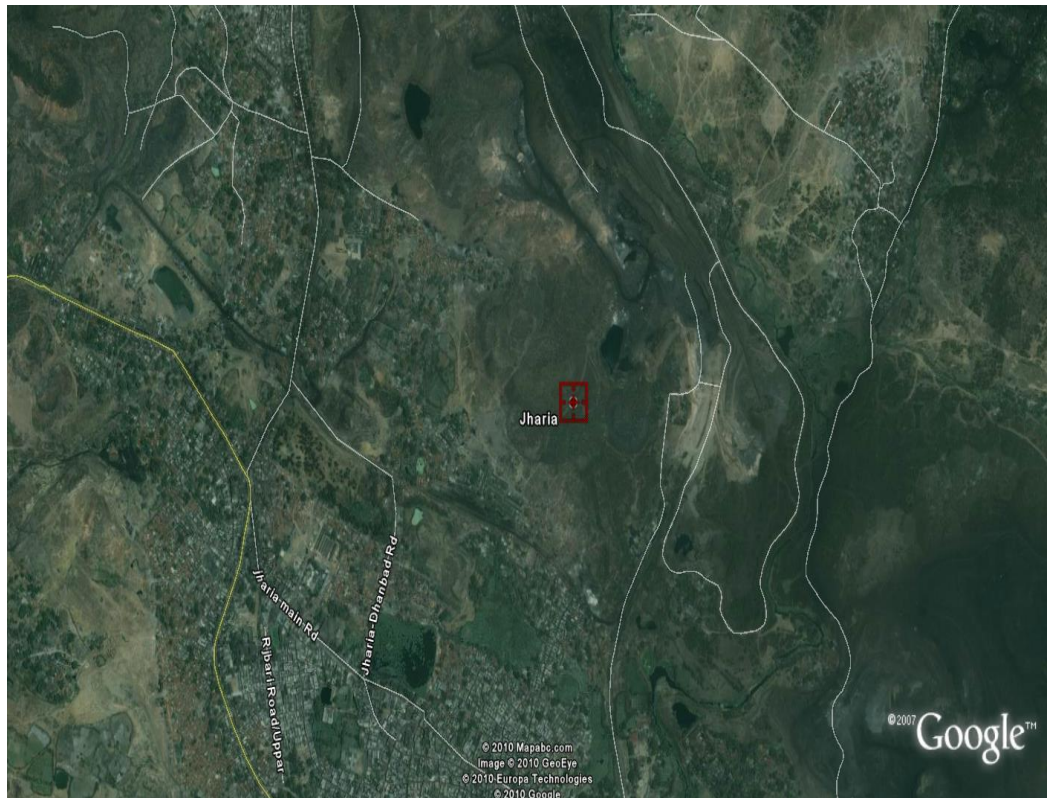


## SATELLITE IMAGERY OF INDUSTRIAL AREA OF SINDRI





## SATELLITE IMAGERY OF JHARIA BLOCK



## SATELLITE IMAGERY OF THE AREA OF GOBINDPUR



1.3 Digital map with demarcation of geographical boundaries and impact zones is as given below.

## Map of Designated Problem Area of Dhanbad



1.4 CEPI Score: Air- 64.50, Water- 59.00, Land -65.50, Total- 78.63

1.5 Total populations and sensitive receptors

### **Hospital –**

Patliputra Medical College & Hospital, Dhanbad; Central Hospital, Jagjivan Nagar; Jamadoba Hospital; Fertilizer Hospital, Sindri

### **Educational Institution –**

BIT Sindri, ISM Dhanbad, Patliputra Medical College, Dhanbad, RS More College, Govindpur, Sindri College, RSP College, Jharia, PK Roy College, SSLNT Womens College, BS College, Govt. Polytechnic, Dhanbad, Mining Institute, Dhanbad, Govt. Polytechnic, Bhaga; Mining institute, Bhaga; and around ten other colleges. Besides, there are around 500 schools.

### **Court -**

The court of District and Session Judge is there at Dhanbad.

### **TABLE-1**

**Details of population, its density, major surface water bodies, tourist spots, schools and the health care units**

Name of block areas	Sadar	Jharia	Govindpur	Nirsa
Area (Sq. Km)	128.82	90.77	334.44	416.85
Population (2001)	564468	475341	201876	376843
Density	4382	5224	604	904
Major Surface water body	Damodar, Barakar	Damodar, Barakar	Damodar, Barakar	Damodar, Barakar
Tourist Spot	NA	NA	NA	Panchet & Maithan Dam
Primary & Middle School	155	119	144	215
Healthcare unit	93	44	4	22

Source -- Govt. of Jharkhand

## 1.6

### co- Geological Features Impact Zones

#### 1.6.1 Major water bodies –

Rivers Damodar, Katrijore, Karijore, Khudiajore, Jamunia, Ekrajore, Bagdihijore, Barakar etc. and Maithan Dam, Panchet Dam, Bekarbandh, Domgarh water works, Jamadoba water works, Raibandh, Raja talab, Pampu Talab, Rajlibandh.

#### 1.6.2 Ecological Parks, Sanctuaries, Flora & Fauna or any Eco- Sensitive Zones

Besides above water bodies few patches of hills, hillocks, forests etc. are eco-sensitive.

**1.6.3** There is no building or monument of historical, archeological or religious importance.

## 1.7 Industry Classification and Distribution

#### 1.7.1 Highly polluting industries (17 categories)

There are 4 highly polluting industries of 17 categories

#### 1.7.2 Red category industries (54 categories)

There are 586 industries of 54 categories

#### 1.7.3 Orange and Green category industries

There are around 1000 industries under these categories

#### 1.7.4 Grossly polluting industries

High density of Coal mines ( 103) Coal washeries (8) Captive Thermal power plants(3) Beehives coke oven plants

(126) Soft coke plants(25) Refractory plants (72), Coke briquette plants (25), Stone crusher (110), Brick Kilns (118). List of industries with their latitudes and longitudes are in Annexure 1.

No of Notified industrial area – 1.Kandra Industrial Area, 2.Sindri Industrial Area

## **2.0 WATER ENVIRONMENT**

### **2.1 Present status of water environment**

2.1.1 Rivers like Damodar, Katrijore, Karijore, Khudijore, Jamunia, Ekrajore, Bagdihijore, Barakar etc; dams like Maithan and Panchet; ponds like Bekarbandh, Raibandh, Raja talab, Pampu Talab and Rajlibandh and water works of Domgarh and Jamadoba on Damodar are important for quality monitoring.

2.1.2 Report showing present level of pollution are given Table 2

2.1.3 Predominant sources contributing to various pollutants

Coal mines (103), Coal washeries (8), Captive Thermal power plants (3), and Beehives coke oven plants (126) Soft coke plants (25), Municipal Sewage etc.

### **2.2 Sources of water pollution**

#### **2.2.1 Industrial**

Coal mines (103), Coal washeries (8), Captive Thermal power plants (3), Bee hives coke oven plants (126) Soft coke plants (25)

#### **2.2.2 Domestic**

Sewage and sullage of municipal areas and the townships of the aforesaid mines and plants.

#### **2.2.3 Others**

Agricultural runoff, leachate from municipal solid wastes, coal mine over burden dumps and coal washery reject dumps, ash slurry of thermal power plants etc.

## **2.2.4 Impact on surrounding area other than CEPI area**

Adverse

## **2.3 Details of Water polluting industries of the cluster**

Coal mines (103), Coal washeries (8) and Thermal power plants (3) of BCCL, ECL, TISCO, IISCO etc.

## **2.4 Effluent disposal methods- recipient water bodies**

As stated in above paragraphs collieries, coal washeries, and thermal power plants are main industries that pollute the area. Their water pollutant is suspended solid. It is because of non-addition of coagulant to effluents and their inadequate settling and non-close circuit operation.

The over burden of mines, the rejects of coal washeries and the ash of TPPs are kept either on the river bed or near the river. They sooner or later go to the river. Besides, the streams have been either diverted or encroached by them. The sewage of towns, township and suburbs finds way to downstream through septic tank and soak pit.

Automobile servicing centers and hotel industry are discharging their untreated wastewater to open drains. The entire cluster of Dhanbad lies in the catchment of R Damodar and so all go to it or its tributaries.

## **2.5 Quantification of waste water pollution load and relative contribution by different sources**

The quantification of wastewater pollution load and relative contribution by different sources could not be done.

## **2.6 Action plan for compliance and control of pollution**

### **2.6.1 Infrastructure facilities – waste water quality monitoring network, ETPs, CETPs, Sewerage Treatment plant of industry, surface drainage system, effluent conveyance channels / outfalls etc are there.**

Jharkhand State Pollution Control Board regularly monitors the water quality of river Damodar at Jamadoba water works, Domgarh water works, Gadbad village and downstream of Panchet dam. There is no CETP in this region. The status of treatment of effluent and sewage is as stated in previous paragraph. There is no provision for surface water run-off drainage. All wastewaters go to river or rivulet of downstream.



Jharkhand State Pollution Control Board shall continue its function of monitoring. Action plan for prevention and control of pollution are given in Annexures.

### **2.6.2 Pollution control measures installed by industries are there, but they are not adequate**

The status of pollution control measures installed by industries is as stated in paragraph 2.4.

### **2.6.3 Technological intervention**

2.6.3.1 All stake holders suffer from technological gaps

2.6.3.2 Close circuit operation of plants: Nil

### **2.6.4 Infrastructure renewal**

2.6.4.1 The status of existing infrastructure facilities is as stated in paragraph 2.4

2.6.4.2 The need of up gradation of existing facilities is as follows

- **Maintenance of minimum ecological base flow 250 cubic meter per second of water in river Damodar**
- **Removal of all 14 OB dumps from bed of surface water bodies in the region**
- 2. ➤ **Implementation of zero discharge system for complete utilisation of washery wastewater.**
- **Utilisation of mine water for domestic / industrial purposes after proper treatment and adoption of zero discharge concepts.**
- **System for treatment of sewage and utilisation of its treated one for agricultural purpose**
- **Treatment of wastewater emanating from the activities of Railways.**
- **Rejuvenation of Water Ponds in City area with implementation of measures to abate any intrusion of domestic sewage or solid waste**
- **OB Dumps to management with garland drain and settling ponds**

ng of water tanks, drains, rivulets, etc is as given in related Annexures.

2.6.4.4 Information as given below in related Annexures.

2.6.4.5 Information as given below in related Annexures.

2.6.4.6 Information as given below in related Annexures.

2.6.4.7 Information as given below in related Annexures.

2.6.4.8 Information as given below in related Annexures.

### **2.6.5 Managerial and Financial aspects**

2.6.5.1 Information as given below in related Annexures

2.6.5.2 Information as given below in related Annexures

2.6.5.3 Information as given below in related Annexures

2.6.5.4 Information as given below in related Annexures

### **2.6.6 Self monitoring system in industries (ETPs etc) will continue.**

### **2.6.7 Data linkage to SPCB / CPCB (of monitoring devices) will be introduced.**

## **3.0 AIR ENVIRONMENT**

### **3.1 Present status of air environment is given in Table 3**

3.1.1. Critical locations for air quality monitoring are Dhanbad, Bankmore, Jharia, Sindri, Bastacola, Kusunda, Ratanpura, Panchet etc.

3.1.1 Present level of pollutants in air is as given in Table 3

3.1.2 Predominant sources contributing to various pollutants are High density of Coal mines ( 103) Coal washeries (8) Captive Thermal power plants(3) Beehives coke oven plants (126) Soft coke plants(25) Refractory plants (72), Coke briquette plants (25), Stone crusher (110), Brick Kilns (118).

### **3.2 Sources of air pollution**

Leakage of industries, open burning of coal, smoke of under ground fire of mines, process emission of industries, exhausts of diesel generator sets, exhausts of vehicle, airborne dusts of ground, OB dumps, reject dumps, ash dumps, etc. due to natural wind and due to manmade activities.

- 3.3 Air polluting industries in the area / cluster are Coal mines (103), Coal washeries (8), Captive Thermal power plants(3), Beehives coke oven plants (126), Soft coke plants(25), Refractory plants (72), Coke briquette plants (25), Stone crusher (110), Brick Kilns (118).
- 3.4 There is an adverse effect of nearby areas on CEPI area as the emission of the industries of Bokaro district come to the area and adds pollution to it.
- 3.5 No quantification of air pollution load and relative contribution by different sources has been assessed.

### **3.6 Action plan for compliance and control of pollution**

3.6.1 Infrastructure facilities-AAQM network is there.

3.6.2 Pollution control measures are installed, but are not adequate.

3.6.3 Technological intervention

3.6.3.1 All stake holders suffer from technological gaps.

3.6.3.2 ISM Dhanbad and Hazra Associates were engaged for developing system for reduction of particulate emission of bee- hive coke oven plants. ISM Dhanbad submitted the same. They were requested to quantify the residence time of flue gas and particulate emission and certify their customer plants modified their respective systems according to ISM design. TPPs are shifting to dry ash collection systems and utilization of these ashes in cement making.

3.6.3.3 Introduction of and switch over to cleaner fuel is as indicated in related Annexure.

#### **3.6.4 Need of infrastructure renovation is as in related Annexures.**

3.6.4.1 Development of roads is as in related Annexures.

#### **3.6.5 There will be positive impact on CEPI Score after installation / commissioning of fully fledged air pollution control System.**

#### **3.6.6 Managerial and Financial aspects cost and time estimates**

3.6.6.1 Cost and time estimate is as in related Annexures.



- 3.6.6.2 Identified private / public sector potential investor & their contribution and obligation are as in related Annexures.
- 3.6.6.3 Government budgetary support requirement is as in related Annexure.
- 3.6.6.4 Hierarchical and structured managerial system for efficient implementation may be as required in related Annexures.

**3.6.7 There shall be system in each industry for self monitoring of stack and ambient air quality**

**3.6.8 The monitoring devices shall be connected to SPCB / CPCB through net.**

**4 LAND ENVIRONMENT (Soil and ground water)**

**4.1 Soil contamination**

- 4.1.1 The present status of land environment is as indicated in table 4.
- 4.1.2 The critical locations for land / soil pollution assessment and ground water quality monitoring are as given in table 4.
- 4.1.3 Present levels of pollutants in land soil ground level quality are as indicated in table 4.
- 4.1.4 Inscientific disposal of hazardous, biomedical, municipal and industrial (mining) solid wastes, dispersion of polluted water with rain water or other wise on land surface and its infiltration to ground through under ground fire holes,, broken aquifers predominatly contribute to the pollution of land and ground water
- 4.1.5 Sources of soil contamination are mine OB, coal wahsery rejects, sanitary septic tanks and soak pits, municipal solid wastes, municipal sewage, industrial effluent etc.
- 4.1.6 The types of existing pollution are bacteriological, oxygen demanding, heavy metal containing, toxicological etc.
- 4.1.7 Remedies for abatement, treatment and restoration of normal soil quality is as given in related Annexures

**4.2 Ground water contamination**

- 4.2.1 Present status/ quality of ground water are as given in table 4.
- 4.2.2 The sources of ground water pollution are industrial effluent, domestic sewage, municipal solid wastes, hazardous wastes, bio-medical wastes, sanitary soak pits, mines etc.
- 4.2.3 Ground water quality monitoring programme is as given in related Annexures.
- 4.2.4 Action plan for control of pollution including cost /time aspects are given in related Annexures.
- 4.2.5 Treatment and management of contaminated ground water bodies are given in related Annexures
- 4.2.6 The CEPI score may go down after abatement of pollution.

### **4.3 Solid waste generation and management**

#### 4.3.1 Waste classification and quantification

4.3.1.1.1 Around 35336.6 TPA of landfill hazardous wastes, 4302.21 TPA of incinerable hazardous wastes and 304374.80 TPA of recyclable hazardous wastes are generated in the State. It is estimated that its one third is generated in this cluster.

4.3.1.1.2 Around 1.5 TPD of Bio Medical wastes are generated in the area that lies within the industrial cluster of Dhanbad.

4.3.1.1.3 Electronic wastes are not quantified. However, their management is proposed.

4.3.1.1.4 Around 2 TPD of municipal wastes/ domestic wastes etc. are generated in the area that lie within the industrial cluster of Dhanbad.

4.3.1.1.5 Around 5 TPM of plastic wastes are generated in the area that lie within the industrial cluster of Dhanbad.

4.3.1.1.6 Quantification of waste and relative contribution from different sources is not made.

4.3.2 Identification of waste minimization and waste exchange options are as given in related Annexures.

4.3.3 Reduction / reuse etc. are as given in related Annexures.

4.3.4 Infrastructure facilities

4.3.4.1 There is no TSDF / Incineration facility in the region

4.3.4.2 There is a need of installation of TSDF/ Incineration facility in the region.

4.3.4.3 The treatment and management of contaminated wastes disposal sites is as given in related Annexures .

4.3.4.4 The CEPI score will go down after proper management of solid wastes.

## **5 PPP Model**

5.1 The project proposals are indentified for implementation.

5.2 The daitails are as given in related Annexures

## **6 Other infrastructural renewal measures:**

6.1 Green belt development is as given in table.

6.2 There is no proposal to develop industrial estate.

**6.3 There is aproposal to shift 25 industries that are located in Dhanbad Municipal area. Their list is given in related Annexure.**

## **7 Specific schemes:**

7.1 GIS GPS system is being introduced.

7.2 Hydrogeological fracturing is being implemented through consent management.

7.3 In-Situ remediation of sewage is as given in related Annexure

7.4 Utilization of MSW is as given in related Annexures



7.5 Co-processing of wastes in cement industries is as given in strategy and action plan.

## **8 Public awareness and traing programmes**

Public awareness and traing programmes will be organized during execution of the action plan.

- 9 The CEPI score will go down to below 50 after installation of pollution control equipment and measures.
- 10 Techno-economical feasibility of pollution control systems in clusters of small / medium industries are being gets done through ISM, Dhanbad and Hazara associates.
- 11 Noted the content for execution
- 12 Summary of proposed action points
  - 12.1 Short term action points are as shown in related Annexures.
  - 12.2 Long term action points are as shown in related Annexures.

## Table 2: Surface water quality of Dhanbad

### Surface Water Quality in Dhanbad Region

S. NO.		1	2	3	4	5
Area		Nirsa	Nirsa	Jharia	Jharia	Baghmara
Location		Maithan Dam	Panchet Dam	Domgarh	Jamadoba	Teclmucho
Type of waterbody		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
pH	Max.	7.7	7.5	7.5	7.5	7.6
	Min.	6.8	6.7	6.8	2.5	6.5
Total Hardness (as CaCO <sub>3</sub> )	Max.	64	58	68	72	90
	Min.	32	38	52	50	48
	Avg.	49.33	50	60.33	62.5	70.5
Chloride	Max.	28	24	36	30	32
	Min.	18	12	24	14	20
	Avg.	21.66	18.33	29	23	26.5
Total Dissolved Solid	Max.	92	98	96	98	115
	Min.	28	32	48	46	44
	Avg.	59.83	59.5	68.5	68.5	78.41
Calcium	Max.	21	16.4	19.6	20.4	25.6
	Min.	9.6	11.2	14.8	14.8	14.4
	Avg.	14.22	14.2	16.47	17.4	19.83
Magnesium	Max.	46	4.64	6.83	5.61	6.34
	Min.	1.95	2.44	3.42	3.17	2.93
	Avg.	7.09	3.42	4.67	4.63	5.1
Alkalinity (as CaCO <sub>3</sub> )	Max.	56	50	49	50	61
	Min.	40	28	42	40	38
	Avg.	46.16	42.33	45.33	45.5	53.08
BOD (3,27)	Max.	2.6	2.4	2.8	2.9	3.9
	Min.	1.2	1.3	1.9	1.6	1.6
	Avg.	1.91	1.8	2.3	2.25	2.6
DO (mg/l)	Max.	7.9	8	7.6	7.6	7.4
	Min.	7.3	7.2	6.9	6.9	6.2
	Avg.	7.5	7.6	7.3	7.2	7.06
TSS (mg/l)	Max.	562	534	556	544	638
	Min.	218	244	304	308	312
	Avg.	462.33	449.33	481.17	487.83	516.25
COD (mg/l)	Max.	80	72	80	84	108
	Min.	28	28	48	44	36
	Avg.	52.17	52.33	61	64.67	76.33

Source - Jharkhand State Pollution Control Board, Dhanbad

# Table 3: Monitoring Reports of Ambient Air Quality

**Table 3 (A): April 2009**

S.No.	Point	SO2	Nox	RSPM	SPM
1	Regional Office, Dhanbad	20.24	48.58	204.17	264.67
2	MADA, Jharia	16.96	43.56	303.74	360.66
3	PDIL, Sindri	15.26	37.45	169.89	219.85
4	EMTI, Bastacola	15.00	37.20	192.11	240.96

**Table 3 (B): April 2009**

S.No.	Point	SO2	Nox	RSPM	SPM
1	Regional Office, Dhanbad	12.22	28.81	56.86	102.33
2	MADA, Jharia	18.15	38.93	205.35	266.63
3	PDIL, Sindri	16.6	39.51	96.52	150.10
4	EMTI, Bastacola	15.15	36.68	149.76	202.31
5	CGMO, Kusunda	14.5	37.12	131.47	175.23

**Table 3(C): October, 2009**

S.No.	Point	SO2	Nox	RSPM	SPM
1	Regional Office, Dhanbad	15.19	38.87	122.30	203.65
2	MADA, Jharia	14.61	38.35	172.49	230.77
3	PDIL, Sindri	16.07	46.22	125.25	166.31
4	EMTI, Bastacola	15.28	38.11	145.96	206.98
5	CGMO, Kusunda	15.45	37.63	132.26	172.34

**Table 3(D): April, 2010**

S.No.	Point	SO2	Nox	RSPM	SPM
1	Regional Office, Dhanbad	13.73	37.17	180.60	279.72
2	MADA, Jharia	16.47	37.63	223.16	277.52
3	PDIL, Sindri	16.44	40.18	146.87	202.93
4	EMTI, Bastacola	17.95	39.44	249.69	333.67
5	CGMO, Kusunda	15.6	35.91	228.53	303.10



**Table 3 (E)****Ambient Air Quality in Dhanbad Region**

Area	Value (Range)	Jharia	Dhanbad	Nirsa	Nirsa	Nirsa	Govindpur	Govindpur
Location		MADA	Housing Colony	Pandra	Panchet	Maithan	Bhita	Ratanpura
Period		2008-09	2008-09	2009-10	2009-10	2009-10		
RSPM	Max.	305	272	NA	NA	NA	NA	NA
RSPM	Min.	108	83	NA	NA	NA	NA	NA
RSPM	Avg.	211	155	NA	NA	NA	NA	NA
SPM	Max.	406	325	326	389	329	381	396
SPM	Min.	189	116	281	269	301	357	341
SPM	Avg.	280	210	303	329	315	369	368
SO <sub>2</sub>	Max.	30	20	17	20	17	18	22
SO <sub>2</sub>	Min.	15	17	13	14	15	13	16
SO <sub>2</sub>	Avg.	19	18	14	16	16	15	20
NO <sub>x</sub>	Max.	66	48	30	21	29	25	31
NO <sub>x</sub>	Min.	40	41	25	16	23	21	26
NO <sub>x</sub>	Avg.	45	44	28	19	26	22	28

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

**Table 4: Analysis report showing ground water quality of Dhanbad****Ground Water Quality in Dhanbad Region**

Area	Dhanbad Sadar	Dhanbad Sadar	Dhanbad Sadar	Nirsa
location	Bagula Village	Bhitia Village	Bhelatand Village	Jhirka
Type of source	Ground water	Ground water	Ground water	Ground water
depth (m)				
pH	6.94	7.16	7.05	7.1
T hardness	202	258.6	351.5	221
Cl	23.1	44.4	77.1	85.4
TDS	326	418	556	
Ca	42.1	55.1	74.5	54
Mg	23.6	29.5	40.3	167
SO <sub>4</sub>	21.5	24	24.5	59
NO <sub>3</sub>	<0.5	0.7	0.8	
Flouride (mg/l)	0.46	BDL	BDL	
Alkalinity	191.1	218.9	250.7	123
Phenolic	<0.001	<0.001	<0.001	<0.001

Source -- JSPCB Record

## ANNEXURE - 1

### LIST OF INDUSTRIES WITH LATITUDE AND LONGITUDE

S.No.	LIST OF INDUSTRIES WITH LATITUDE AND LONGITUDE					
	Name Of Industries	AT	PO	Dist	Degree (N)	Degree(E)
	<b>Coke Plants</b>					
1.	M/s Jyoti Enterprises.	Jangalpur	Govindpur	Dhanbad	23°-40.979' N	86°-33.872' E
2.	M/s. Ganesh Fuel coke Ind.	Bardaha	Baliapur	Dhanbad	23°-41.633' N	86°-29.917' E
3.	M/s Jai Mata Di Soft Coke Industries	Raghunathpur	Baliapur	Dhanbad	23°-41.700' N	86°-29.744' E
4.	M/s. Pritpal Singh	Dudhiya	Moko	Dhanbad	23°-42.590' N	86°-33.243' E
5.	M/s Prabhu Coke Mfg.	Govindpur	K.G.Ashram	Dhanbad	23°-28.708' N	86°-49.431' E
6.	M/s. K.K. Enterpirses	Moko	Baliapur	Dhanbad	23°-42.643' N	86°-33.280' E
7.	M/s. Krishna Enterprises	Moko	Baliapur	Dhanbad	23°-42.651' N	86°-33.293' E
8.	M/s. Jai Mata Dee Enterprises	Moko	Baliapur	Dhanbad	23°-42.673' N	86°-33.352' E
9.	M/s. Harjeet Singh	Moko	Baliapur	Dhanbad	23°-42.696' N	86°-33.435' E
10.	M/S Jairam coke Ind	Moko	Baliapur	Dhanbad	23°-42.715' N	86°-32.292' E
11.	M/s. Metro Hard Coke	Baliapur	Baliapur	Dhanbad	23°-43.235' N	86°-30.888' E
12.	M/s Friends Coke Industries	Dudhio	Moko	Dhanbad	23°-42.734' N	86°-34.280' E
13.	M/s Laxmi H/C Co.	Vikhrajpur	Baliapur	Dhanbad	23°-43.263' N	86°-30.833' E
14.	M/s Saraswati H/C Ind	Amjhore	Baliapur	Dhanbad	23°-43.593' N	86°-29.827' E
15.	M/s. R.K. Pandey	Amjhore	Pargha	Dhanbad	23°-43.795' N	86°-29.536' E
16.	M/s. Maha Laxmi Hard Coke	Amjhore	Baliapur	Dhanbad	23°-43.613' N	86°-30.028' E
17.	M/S Uttamchand Virbhan Das, & Co.	Pargha	Baliapur	Dhanbad	23°-43.621' N	86°-29.065' E
18.	M/S Chhotanagpur H/C Ind.	Pargha	Baliapur	Dhanbad	23°-43.644' N	86°-28.911' E
19.	M/s Trimurti Soft Coke Industries	Laladih	Baliapur	Dhanbad	23°-43.652' N	86°-31.870' E
20.	M/s Vijay Laxmi Coke Industries	Laladih	Baliapur	Dhanbad	23°-43.687' N	86°-31.730' E
21.	M/s OSD Coke Pvt. Ltd.	Amjhore	Baliapur	Dhanbad	23°-43.700' N	86°-29.998' E
22.	M/s Ambika H/C Mfg. Co	Amjhore	Baliapur	Dhanbad	23°-43.703' N	86°-29.951' E
23.	M/s. G.S. Duggal & Brothers	Hasmatand	Pargha	Dhanbad	23°-43.776' N	86°-28.677' E
24.	M/S Shree Ganesh Laxmi Ind.	Amjhore	Baliapur	Dhanbad	23°-43.597' N	86°-29.777' E
25.	M/s Dynamic H/C Mfg. Co.	Sindurpur	Baliapur	Dhanbad	23°-44.439' N	86°-31.196' E
26.	M/s. Shree Krishna Gopal Ind.	Sindurpur	Baliapur	Dhanbad	23°-44.165' N	86°-31.351' E
27.	M/s. R.K. Industries	Nehru Road	Chirkunda	Dhanbad	23°-44.166' N	86°-47.554' E
28.	M/S Rani Sati Coke Mfg, Co.	Sindurpur	Baliapur	Dhanbad	23°-44.169' N	86°-31.303' E
29.	M/s. Asha Industries	Nehru Road	Chirkunda	Dhanbad	23°-44.232' N	86°-47.635' E
30.	M/s. Kuldeep Agrawal & Co.	Sitalpur	Baliapur	Dhanbad	23°-44.293' N	86°-35.152' E
31.	M/s. Perfect Industries	Dudhiapani	Kumardhubi	Dhanbad	23°-44.412' N	86°-46.080' E
32.	M/S Royal Ind, Carporation	Nehru Road	Chirkunda	Dhanbad	23°-44.428' N	86°-47.574' E
33.	M/S Sanjay Ind.	Sindurpur	Baliapur	Dhanbad	23°-44.029' N	86°-31.428' E
34.	M/s. Shanto Udyog	Markeva	Mugma	Dhanbad	23°-44.885' N	86°-47.818' E
35.	M/S Shivam Industries	Dudhiapani	Kumardhubi	Dhanbad	23°-44.678' N	86°-46.222' E
36.	M/s Maha Kali H/C Ind,	Sindurpur	Baliapur	Dhanbad	23°-44.746' N	86°-31.294' E
37.	M/s. Santosh Industries	Merha	Chirkunda	Dhanbad	23°-44.885' N	86°-47.818' E
38.	M/s. Maa Vaisnodevi Industries	Dudhiapani	Kumardhubi	Dhanbad	23°-44.658' N	86°-46.189' E

39.	M/s Mugma Coke Oven Pvt. Ltd.	Mugma	Mugma	Dhanbad	23°-45.699' N	86°-45.248' E
40.	M/s. Sharad International	Merha	Chirkunda	Dhanbad	23°-45.218' N	86°-47.707' E
41.	M/s. G.N. Coke Ind. (P) Ltd.	Merha	Chirkunda	Dhanbad	23°-45.226' N	86°-47.453' E
42.	M/S Binod Coke Ind.	Station Road	Mugma	Dhanbad	23°-45.439' N	86°-45.119' E
43.	M/s Shree Dwarika Bee hive Plant Pvt. Ltd.	Kumardhubi	Kumardhubi	Dhanbad	23°-45.442' N	86°-46.127' E
44.	M/s. Mahuda H/C	Mahuda	Mahuda	Dhanbad	23°-45.443' N	86°-19.411' E
45.	M/s Dwarika Bee Hive Plant Pvt. Ltd.,(W.D)	Egarcoor	Kumardhubi	Dhanbad	23°-45.446' N	86°-46.173' E
46.	M/s Gopal Ind & Co,	Kumardhubi	Kumardhubi	Dhanbad	23°-45.462' N	86°-45.835' E
47.	M/s. Piyush Industries	Maithon Road	Chirkunda	Dhanbad	23°-45.475' N	86°-47.202' E
48.	M/S Premier Coal Mfg. Co.	Mugma	Mugma	Dhanbad	23°-45.555' N	86°-45.341' E
49.	M/s Gee Tee H/C Traders	Egarcoor	Kumardhubi	Dhanbad	23°-45.663' N	86°-46.109' E
50.	M/S Mugma Coke Oven	Kumardhubi	Mugma	Dhanbad	23°-45.699' N	86°-45.248' E
51.	M/S G.N. Coke Mfg. Co. Pvt. Ltd.	Merha	Chirkunda	Dhanbad	23°-45.201' N	86°-47.486' E
52.	M/S Bihar Coke Oven	Kanchandih	Mugma	Dhanbad	23°-45.966' N	86°-44.792' E
53.	M/s Arun Coke Pvt. Ltd.	Chirkunda	Chirkunda	Dhanbad	23°-44.967' N	86°-47.373' E
54.	M/S Bhagwati Ind, Carporation	Gulferbari Road	Kumardhubi	Dhanbad	23°-44.977' N	86°-46.021' E
55.	M/s Arpan Industries	Kesar Kudar	Maithon	Dhanbad	23°-46.358' N	86°-46.503' E
56.	M/S Shree Shyam Coal Co. Ltd.	Nirsa	Nirsa	Dhanbad	23°-46.609' N	86°-45.312' E
57.	M/S Continental Product	Nirsa	Nirsa	Dhanbad	23°-46.659' N	86°-43.196' E
58.	M/s Pasupati Indhan Uddyog	Deviana	Nirsa	Dhanbad	23°-47.209' N	86°-40.394' E
59.	M/s. Ratan Briquette Udyog	Hathbari	Nirsa	Dhanbad	23°-47.226' N	86°-41.629' E
60.	M/s Kamakhaya Briquette & Soft Coke Udyog	Hathbari	Nirsa	Dhanbad	23°-47.230' N	86°-41.650' E
61.	M/s Babli Soft Coke Industries	Gopalganj	Nirsa	Dhanbad	23°-47.261' N	86°-40.451' E
62.	M/s Kalyaneshri Coke Pvt. Ltd.	Ramkanali	Nirsa	Dhanbad	23°-47.530' N	86°-40.222' E
63.	M/s Jai Ambay Soft Coke Industris	Deviana	Nirsa	Dhanbad	23°-47.670' N	86°-41.182' E
64.	M/s Shree Ganesh Hard Coke Ind.	Ramkanali	Barwa East	Dhanbad	23°-47.679' N	86°-39.716' E
65.	M/s Tetulia Coke Plant Pvt. Ltd.	Tetulia	Barwa East	Dhanbad	23°-47.742' N	86°-39.416' E
66.	M/S Maa Aanpurna Coke Ind.	Barwa East	Barwa East	Dhanbad	23°-47.800' N	86°-38.335' E
67.	M/s. Raunak Enterprises (P) Ltd.	Tetulia	Nirsa	Dhanbad	23°-47.841' N	86°-38.741' E
68.	M/s. Durgs Indhan Udyog	Barwa	Barwa East	Dhanbad	23°-47.842' N	86°-38.245' E
69.	M/s Kalyaneshwary Coke Pvt. Ltd. (W.D)	Nirsa	Nirsa	Dhanbad	23°-47.871' N	86°-39.546' E
70.	M/s. Raju Coke Briquette Ind.	Barwa East	Barwa East	Dhanbad	23°-47.877' N	86°-37.960' E
71.	M/s. Royal Coke Briquette Ind.	Barwa East	Barwa East	Dhanbad	23°-47.878' N	86°-37.671' E
72.	Ms/ Supreme Hard Coke Mfg.	Barwa East	Barwa East	Dhanbad	23°-47.889' N	86°-38.244' E
73.	M/s. Kalyaneswari Briquette Udyog	Tetulia	Nirsa	Dhanbad	23°-47.895' N	86°-39.496' E
74.	M/s. Bajrangbali Coke Fuels	Tetulia	Nirsa	Dhanbad	23°-48.100' N	86°-38.863' E
75.	M/s Maithan Coal Co. Pvt. Ltd.	Tetulia	Barwa East	Dhanbad	23°-48.129' N	86°-38.875' E
76.	M/S Shivam Coke Pvt. Ltd.	Kharkabad	Barwa East	Dhanbad	23°-48.137' N	86°-37.432' E
77.	M/S Mahadeo Coke Ltd.	Kharkabad	Barwa East	Dhanbad	23°-48.157' N	86°-37.378' E
78.	M/S Maa Bhadrakali Coke Ind.	Ramkanali	Deoli	Dhanbad	23°-48.246' N	86°-35.123' E
79.	M/S Shree Ram Krishna Ind.	Gahira	Govindpur	Dhanbad	23°-48.291' N	86°-35.524' E
80.	M/S Valley H/C carporaton of India	Pandra	Nirsa	Dhanbad	23°-48.452' N	86°-43.112' E
81.	M/S Shree Durga H/C Mfg. Co. Ind.	Jangalpur	Deoli	Dhanbad	23°-48.466' N	86°-35.059' E
82.	M/S 'Pandra H/C Ind.	Pandra	Nirsa	Dhanbad	23°-48.475' N	86°-43.023' E
83.	M/s. J.M.D. Traders	Ambona More	Govindpur	Dhanbad	23°-48.490' N	86°-35.099' E
84.	M/s Delta Premium H/c Ind.	Gahira	Govindpur	Dhanbad	23°-48.516' N	86°-56.691' E
85.	M/s Rajhans Coke Producers	Katras	Katrasragh	Dhanbad	23°-48.581' N	86°-17.644' E
86.	M/S Amit Coke Ind.	Gahira	Govindpur	Dhanbad	23°-48.585' N	86°-35.724' E
87.	M/s Sri Paras Nath Industries	Gahira	Govindpur	Dhanbad	23°-48.636' N	86°-37.690' E

88.	M/s. Ashish Kiran H/C	Ambona More	Govindpur	Dhanbad	23°-48.659' N	86°-35.139' E
89.	M/s. Ashish Kiran S/C	Ambona More	Govindpur	Dhanbad	23°-48.721' N	86°-35.152' E
90.	M/s. Manu Alam S/Crusher	Jangalpur	Govindpur	Dhanbad	23°-48.665' N	86°-34.880' E
91.	M/S Rani Sati Ind.	Pandra	Nirsa	Dhanbad	23°-48.744' N	86°-43.368' E
92.	M/s Loharika Industries	Deoli	Govindpur	Dhanbad	23°-48.766' N	86°-34.063' E
93.	M/S Akash coke Ind, Pvt. Ltd.	Deoli	Govindpur	Dhanbad	23°-48.853' N	86°-34.057' E
94.	M/s. Rasain Udyog	Jangalpur	Govindpur	Dhanbad	23°-48.889' N	86°-34.880' E
95.	M/S Industrial H/C	Deoli	Deoli	Dhanbad	23°-48.902' N	86°-33.875' E
96.	M/.s Shree Krishna Udyog	Jangalpur	Govindpur	Dhanbad	23°-48.904' N	86°-34.752' E
97.	M/S Shree Ram H/C & Alided Ind, Pvt.	Deoli	Jangalpur	Dhanbad	23°-48.915' N	86°-33.828' E
98.	M/S Shree Shyam Coke Mfg. Co.	Deoli	Jangalpur	Dhanbad	23°-48.965' N	86°-33.808' E
99.	M/S K.M. Coke	Bagsuma	Govindpur	Dhanbad	23°-49.001' N	86°-33.585' E
100.	M/S Shree Krishna H/C Ind.	Deoli	Govindpur	Dhanbad	23°-49.014' N	86°-33.850' E
101.	M/S Bharat H/C Industries	Jangalpur	Govindpur	Dhanbad	23°-49.081' N	86°-33.841' E
102.	M/s Rahul Coke Pvt. Ltd.	Rangdih	Govindpur	Dhanbad	23°-49.091' N	86°-33.739' E
103.	M/s Sanjay H/C Ind, Jangalpur	Jangalpur	Deoli	Dhanbad	23°-49.109' N	86°-34.021' E
104.	M/s Shree Gopal Coke Ind.	Bagsuma	Govindpur	Dhanbad	23°-49.151' N	86°-33.172' E
105.	M/S Shree Bankey Bihari Coke Ind.	Bagsuma	Govindpur	Dhanbad	23°-49.197' N	86°-33.135' E
106.	M/S Shree Balajee Coke Ind.	Bagsuma	Govindpur	Dhanbad	23°-49.230' N	86°-31.509' E
107.	M/s Pawan H/C Industries (Soft Coke Division)	Ratanpur	Govindpur	Dhanbad	23°-49.318' N	86°-32796' E
108.	M/s Pawan H/C Ind.	Ratanpure	Govindpur	Dhanbad	23°-49.318' N	86°-32.790' E
109.	M/S Maa Parbati Coke Ind.	Gahira	Jangalpur	Dhanbad	23°-49.344' N	86°-32.742' E
110.	M/S Friends Coal Carbonisation	Rajganj Road	Katrasragh	Dhanbad	23°-49.358' N	86°-17.659' E
111.	M/s Damodar Valley Hard Coke Product Pvt. Ltd.	Katras	Katrasragh	Dhanbad	23°-49.361' N	86°-17.104' E
112.	M/s Krishna Coke Pvt. Ltd.	Ratanpur	Govindpur	Dhanbad	23°-49.374' N	86°-32.864' E
113.	M/S Pradeep Coke Ltd.	Ratapure	Govindpur	Dhanbad	23°-49.381' N	86°-32.747' E
114.	M/s. Sri Krishna Coke (Soft Coke)	Ratanpur	Govindpur	Dhanbad	23°-49.398' N	86°-32.789' E
115.	M/s Ganpati Udyog	Jealgora	Govindpur	Dhanbad	23°-49.406' N	86°-32.760' E
116.	M/s Kaphila Ind.	Rajganj Road	Katrasragh	Dhanbad	23°-49.438' N	86°-18.026' E
117.	M/S Modern Coal Carbonisation	Khudendih	Katrasragh	Dhanbad	23°-49.489' N	86°-17.884' E
118.	M/s Aurama Coke Ltd.	Amarpur	Govindpur	Dhanbad	23°-50.198' N	86°-30.354' E
119.	M/s Auroma Coke Pvt. Ltd. (W.D)	Amarpur	Govindpur	Dhanbad	23°-50.198' N	86°-30.354' E
120.	M/s Priyesh Coke Ind.	Jealgora	Govindpur	Dhanbad	23°-50.293' N	86°-29.761' E
121.	M/s Jagdhatri Coke Mfg.	G.T.Road	Govindpur	Dhanbad	23°-50.324' N	86°-30.218' E
122.	M/s Bihar Coke Mfg. Co.	Kandra	Govindpur	Dhanbad	23°-50.495' N	86°-29.520' E
123.	M/s Shiv Shakti Coke Ind.	KIA	Govindpur	Dhanbad	23°-50.573' N	86°-28.794' E
124.	M/s Patliputra Ind.	Kandra	Govindpur	Dhanbad	23°-50.589' N	86°-29.491' E
125.	M/s Shiv Shakti Enterprises	Simla Bera	Bhitia	Dhanbad	23°-50.430' N	86°-27.367' E
126.	M/s Black Diamond Ind.	Jealgora	Govindpur	Dhanbad	23°-50.402' N	86°-29.614' E
127.	M/s Industrial Engg. Co.	Jealgora	Govindpur	Dhanbad	23°-50.387' N	86°-29.701' E
128.	M/s Shiv Shankar Coke Ind.	Kandra	Govindpur	Dhanbad	23°-50.601' N	86°-28.822' E
129.	M/s Oriental Coke Mfg. Co. Pvt. Ltd.	Kandra	Govindpur	Dhanbad	23°-50.602' N	86°-29.513' E
130.	M/s Khetawat Coke Mfg. Co.	Tundi Road	Govindpur	Dhanbad	23°-50.693' N	86°-31.127' E
131.	M/s Shree Jagdamba Coke Mfg. Enter.	Tundi Road	Govindpur	Dhanbad	23°-50.700' N	86°-31.025' E
132.	M/s Smriti Saurabh Ind. Pvt. Ltd.	Panduki	Nag Nagar	Dhanbad	23°-50.704' N	86°-27.320' E
133.	M/s Saurabh Coke Ind.	Panduki	Nag Nagar	Dhanbad	23°-50.724' N	86°-30.168' E
134.	M/s Rahul Coke Pvt. Ltd. (W.D)	Rangdih	Govindpur	Dhanbad	23°-50.741' N	86°-30.198' E
135.	M/s Bhawani Coke Ind.	Panduki	Nag Nagar	Dhanbad	23°-50.743' N	86°-27.148' E
136.	M/s Inder Hard Coke Industries	Tundi Road	Govindpur	Dhanbad	23°-50.781' N	86°-31.160' E

137.	M/s Basanti Mata Hard Coke Int.	Panduki	Nag Nagar	Dhanbad	23°-50.786' N	86°-26.628' E
138.	M/s. Fogla Industries (P) Ltd.	KIA	Bhitia	Dhanbad	23°-50.804' N	86°-28.271' E
139.	M/s. Jai Maa Sakambari Industries	KIA	Bhitia	Dhanbad	23°-50.912' N	86°-28.284' E
140.	M/s. Sharma & Co., Tumadaha, K,I,A	KIA	Bhitia	Dhanbad	23°-50.931' N	86°-28.375' E
141.	M/s Anand Industries Traders	KIA	Bhitia	Dhanbad	23°-51.021' N	86°-28.233' E
142.	M/s Jharkhand Udyog	Tumadaha	Bhitia	Dhanbad	23°-51.096' N	86°-27.503' E
143.	M/s Jaiswal Coal Carbonisation	Tumadaha	Bhitia	Dhanbad	23°-51.213' N	86°-27.488' E
144.	M/s. Maa Durga Coke	Tumdaha	Bhitia	Dhanbad	23°-51.101' N	86°-27.462' E
145.	M/s. Rajganj H/C,	Madhugora	Madhugora	Dhanbad	23°-51.330' N	86°-20.405' E
146.	M/s Bihar H/C Mfg. Co.	Jorapipar	Kalyapur	Dhanbad	23°-51.377'N	86°-24.001' E
147.	M/s. Maithon Power Ltd.	Nirsa	Nirsa	Dhanbad	23°-49.045' N	86°-45.386' E
148.	M/s Shiv Shambhu Hard Coke	Tundi Road	Govindpur	Dhanbad	23°-52.045' N	86°-31.557' E
149.	M/s. Premier Coal Carbonisation	Bardar	Rajganj	Dhanbad	23°-52.772' N	86°-18.239' E
150.	M/s. Payal Industries Corporation	Nehru Road	Chirkunda	Dhanbad	23°-44.428' N	86°-47.574' E
151.	M/s. McNally Sayaji Engg. Co. (Unit-1)	Kumardhubi	Chirkunda	Dhanbad	23°-44.239' N	86°-6.721' E
152.	M/s. McNally Sayaji Engg. Co. (Unit-II)	Kumardhubi	Chirkunda	Dhanbad	23°-44.542' N	86°-46.549' E
153.	M/s South Bihar Coke Mfg. Co.	Tundi Road	Govindpur	Dhanbad	23°-51.979' N	86°-23.509' E
154.	M/s. Premier Briquette Ind.	Mugma	Mugma	Dhanbad	23°-46.101' N	86°-44.804' E
155.	M/s Shree Jagdamba Coke Mfg. Enterprises	Tundi Road	Tundi	Dhanbad	23°-51.748' N	86°-31.451' E
	<b>Coal washeries</b>					
156.	M/s. Sudamdih Washey	Sudamdih	Sudamdih	Dhanbad	23°-39'30" N	86°-26'00" E
157.	M/s. Patherdih Washery	Patherdih	Patherdih	Dhanbad	23°-40'30" N	86°-26'30" E
158.	M/s Chasnala Coal Washery	Chasnala	Chasnala	Dhanbad	23°-39.142' N	86°-26.940' E
159.	M/s. Dugdha Washery	Dugdha	Dugdha	Bokaro	23°-44'00" N	86°-10'00" E
160.	M/s. Mahuda Washery	Mahuda	Mahuda	Dhanbad	23°-44'00" N	86°-16'30" E
161.	M/s. Moonidih Washery	Moonidih	Moonidih	Dhanbad	23°-44'30" N	86°-21'00" E
162.	M/s Bhelatand Coal Washery, Tisco	Bhelatand	Bhelatand	Dhanbad	23°-46.481' N	86°-19.159' E
163.	M/s. Madhubandh Washery	Madhuband	Baghmara	Dhanbad	23°-47'30" N	86°-11'30" E
	<b>Cement Plants</b>					
164.	M/s. ACC Ltd.	Sindri	Sindri	Dhanbad	23°-39.693' N	86°-30.140' E
165.	M/s. Shree Vinayaka Cement	Amjhore	Baliapur	Dhanbad	23°-43.640' N	86°-30.025' E
	<b>Opencast Coalmines</b>					
166.	M/s. Bhowra South (OCP), 3 Pits	Eastern Jharia	Bhowra	Dhanbad	23°-40'26.43" N	86°-25'13.69" E
167.	M/s. Rajapur OCP	Jharia	Jharia	Dhanbad	23°-39.958' N	86°-30.022' E
168.	M/s. South Tisra/NTST OCP	Tisra	Tisra	Dhanbad	23°-43'00" N	86°-27'00" E
169.	M/s. Baramuri OCP, ECL	Chirkunda	Nirsa	Dhanbad	23°-45.054' N	86°-48.128' E
170.	M/s. South Jharia/ROCP	Jharia	Jharia	Dhanbad	23°-45'00" N	86°-25'30" E
171.	M/s. Goluckdih OCP	Goluckdih	Jharia	Dhanbad	23°-44'30" N	86°-26'00" E
172.	M/s. Block-II OC	Jamunia	Baghmara	Dhanbad	23°-46'22.11" N	86°-12'21.12" E
173.	M/s. Damuda BJ OCP	Damoda	Baghmara	Dhanbad	23°-46'30" N	86°-10'00" E
174.	M/s. Kankanee OCP	Kankanee	Katrasragh	Dhanbad	23°-46'30" N	86°-20'30" E
175.	M/s. Jamunia OC	Jamunia	Jamunia	Dhanbad	23°-46'38.13" N	86°-11'08.12" E
176.	M/s. Nichitpur (OC)	Nichitpur	Nichitpur	Dhanbad	23°-47'56.71" N	86°-21'24.34" E
177.	M/s. Damoda (Albion) OCP	Damoda	Baghmara	Dhanbad	23°-47'00"N	86°-10'00" E
178.	M/s. Muraidih OCP	Muraidih	Muraidih	Dhanbad	23°-47'10.33" N	86°-13'04.11" E
179.	M/s. Shatabdi OC	Baghmara	Bhagmara	Dhanbad	23°-47'25.91" N	86°-14'20.03" E
180.	M/s. Sendra Bansjora OCP	Bansjora	Bansjora	Dhanbad	23°-47'30" N	86°-21'00" E

181.	M/s. Damuda (Ghutway) OCP	Damoda	Baghmara	Dhanbad	23°-47'00" N	86°-09'30" E
	<b>Underground Coalmines</b>					
182.	M/s. Sudamdih Shaft Mines	Sudamdih	Sudamdih	Dhanbad	23°-40'00.86" N	86°-24'53.14" E
183.	M/s. Patherdih Colliery	Eastern Jharia	Patherdih	Dhanbad	23°-40'08.62" N	86°-25'56.61" E
184.	M/s. Sudamdih Inclines Mines	Eastern Jharia	Sudamdih	Dhanbad	23°-40'30" N	86°-25'00" E
185.	M/s. Amlabad UG	Amlabad	Amlabad	Dhanbad	23°-41'00" N	86°-23'00" E
186.	M/s. Bararee Colliery	Bararee	Bhulan Bararee	Dhanbad	23°-41'51.42" N	86°-25'30.90" E
187.	M/s. Bhowra North (UG) Mines	Eastern Jharia	Bhowra	Dhanbad	23°-41'09.81" N	86°-23'43.73" E
188.	M/s. Digwadih Colliery, TISCO	Jamadoba	Jamadoba	Dhanbad	23°-42' N	86°-25' E
189.	M/s. Jamadoba Colliery, TISCO	Jamadoba	Jamadoba	Dhanbad	23°-41' N	86°-22' E
190.	M/s. Jeenagora Colliery	Khas Jeenagora	Khas Jeenagora	Dhanbad	23°-42'30" N	86°-27'00" E
191.	M/s. Jealgora Colliery	Eastern Jharia	Jealgora	Dhanbad	23°-42'30" N	86°-25'00" E
192.	M/s. Bagdigi Colliery	Lodna	Lodna	Dhanbad	23°-42'27.67" N	86°-25'32.52" E
193.	M/s. 6&7 Pits Colliery, TISCO	Jamadoba	Jamadoba	Dhanbad	23°-44' N	86°-26' E
194.	M/s. Dahibari Colliery	CV Area No.XII	Mugma	Dhanbad	23°-43.916' N	86°-45.084' E
195.	M/s. Bhatdee UG	Lohapatti	Lohapatti	Dhanbad	23°-43'00" N	86°-15'00" E
196.	M/s. Begunia UG	Chanch Victoria	Chirkunda	Dhanbad	23°-43'00" N	86°-49'00" E
197.	M/s. Jairampur (UG)	Jairampur	Bastacola	Dhanbad	23°-43'19.13" N	86°-26'40.14" E
198.	M/s. Lodna Colliery	Lodna	Lodna	Dhanbad	23°-43'24.98" N	86°-25'30.90" E
199.	M/s. North Tisra Colliery Project	Khas Jeenagora	Khas Jeenagora	Dhanbad	23°-43'46.23" N	86°-26'47.09" E
200.	M/s. Basantimata Colliery, BCCL	CV Area No.XII	Mugma	Dhanbad	23°-43.881' N	86°-45.084' E
201.	M/s. Burragarh Colliery	Burragarh	Jharia	Dhanbad	23°-44'10.61" N	86°-23'20.71" E
202.	M/s. Kujama Colliery	Jharia	Jharia	Dhanbad	23°-44'00" N	86°-26'00" E
203.	M/s. Hurriladih UG	Huralidih	Jharia	Dhanbad	23°-44'00" N	86°-24'00" E
204.	M/s. Singra UG	Singra	Pootkee	Dhanbad	23°-44'00" N	86°-20'00" E
205.	M/s. Murlidih 20/21 pits UG	Murlidih	Murlidih	Dhanbad	23°-44'00" N	86°-15'00" E
206.	M/s. Moonidih (UG)	Moonidih	Moonidih	Dhanbad	23°-44'19.33" N	86°-20'49.11" E
207.	M/s. Simlabahal UG	Simlabahal	Khas Jeenagora	Dhanbad	23°-44'30" N	86°-24'30" E
208.	M/s. Muchriadih UG	Muchriadih	Mahuda	Dhanbad	23°-44'30" N	86°-15'00" E
209.	M/s. Lohapatti (UG)	Lohapatti	Lohapatti	Dhanbad	23°-44'30.51" N	86°-12'53.77" E
210.	M/s. Bhagabandh Colliery (UG)	Bhagaband	Bhagaband	Dhanbad	23°-44'52.36" N	86°-21'56.09" E
211.	M/s. Kuya Colliery	Bastocola	Jharia	Dhanbad	23°-44'56.22" N	86°-26'34.52" E
212.	M/s. Ghandudih Colliery	Ghanudih	Jharia	Dhanbad	23°-44'36.17" N	86°-26'34.52" E
213.	M/s. Sijua Colliery	Sijua	Sijua	Dhanbad	23°-45' N	86°-16' E
214.	M/s. Kumardhubi Colliery,ECL	Chirkunda	Nirsa	Dhanbad	23°-44.893' N	86°-48.049' E
215.	M/s. Dobaari Colliery, Area-X	Jharia	Jharia	Dhanbad	23°-45'00" N	86°-26'00" E
216.	M/s. Godhar Colliery	Eastern Jharia	Kusunda	Dhanbad	23°-46.481' N	86°-19.159' E
217.	M/s. Ena Colliery	Kustore Area	Dhansar	Dhanbad	23°-45'20.04" N	86°-24'26.84" E
218.	M/s. Madhubandh (UG)	Madhuband	Baghmara	Dhanbad	23°-45'17.10" N	86°-12'18.91" E
219.	M/s. Pootkee UG	Pootkee	Pootkee	Dhanbad	23°-45'30" N	86°-21'30" E
220.	M/s. Kapuria UG	Kapuria	Kapuria	Dhanbad	23°-45'30" N	86°-19'00" E
221.	M/s. Bera Colliery,	Bastocola	Dhansar	Dhanbad	23°-45'31.02" N	86°-25'38.25" E
222.	M/s. Bastacola Colliery	Dhasar	Dhansar	Dhanbad	23°-45'57.51" N	86°-25'14.60" E



223.	M/s. Alkusa (UG)	Pootkee	Pootkee	Dhanbad	23°-45'57.79" N	86°-23'16.74" E
224.	M/s. Bhurungiya UG	Bhurungia	Jharia	Dhanbad	23°-45'00" N	86°-14'30" E
225.	M/s. Bhelatand A Colliery	Bhelatand	Bhelatand	Dhanbad	23°-47' N	86°-21' E
226.	M/s. Kharkharee (UG)	Kharkharee	Sijua	Dhanbad	23°-46'10.47" N	86°-14'48.25" E
227.	M/s.Dhansar (M)	Eastern Jharia	Dhansar	Dhanbad	23°-46'19.07" N	86°-23'51.04" E
228.	M/s. Kusunda Colliery	Kusunda	Kusunda	Dhanbad	23°-46'30" N	86°-23'30" E
229.	M/s. Kenduadih Colliery	Kusunda	Kusunda	Dhanbad	23°-46'30" N	86°23'00" E
230.	M/s. Gopalichak Colliery	Kusunda	Kusunda	Dhanbad	23°-46'30" N	86°-22'00" E
231.	M/s. Block-II UG	Jamunia	Baghmara	Dhanbad	23°-46'30" N	86°-11'30" E
232.	M/s. Damuda UG	Damoda	Baghmara	Dhanbad	23°-46'30" N	86°-10'30" E
233.	M/s. Dharmaband UG	Dharmaband	Katrasragh	Dhanbad	23°-46'30" N	86°-16'00" E
234.	M/s. Basdepur Colliery (M)	Basdeopur	Katrasragh	Dhanbad	23°-46'47.68" N	86°-21'50.63" E
235.	M/s. Phularitand UG	Phularitand	Sijua	Dhanbad	23°-46'00" N	86°-13'30" E
236.	M/s. Maheshpur UG	Mahespur	Katrasragh	Dhanbad	23°-47'00" N	86°-15'00" E
237.	M/s. Katras Choitodih (UG)	Katras	Katrasragh	Dhanbad	23°-47'14.88" N	86°-18'05.27" E
238.	M/s. Bassuria (UG)	Bassuria	Bassuria	Dhanbad	23°-47'27.68" N	86°-22'24.37" E
239.	M/s. Khash Kusunda Colliery	Kusunda	Kusunda	Dhanbad	23°-47'30" N	86°-23'30" E
240.	M/s. Bassariya Colliery	Kusunda	Kusunda	Dhanbad	23°-47'30" N	86°-22'30" E
241.	M/s. Ramkanali (UG)	Angrapathra	Sijua	Dhanbad	23°-48'31.06" N	86°-19'09.06" E
242.	M/s. East Bassariya Colliery	Kusuda	Bhuli	Dhanbad	23°-48'00" N	86°-22'00" E
243.	M/s. Block-IV (M)	Govindpur	Katrasragh	Dhanbad	23°-48'08.05" N	86°-16'07.11" E
244.	M/s. Govindpur (UG)	Govindpur	Govindpur	Dhanbad	23°-48'09.23" N	86°-16'29.21" E
245.	M/s. Angarpathra Colliery (UG)	Angrapathra	Sijua	Dhanbad	23°-48'09.28" N	86°-18'56.19" E
246.	M/s. Mudidih M	Mudidih	Sijua	Dhanbad	23°-48'10.17" N	86°-20'40.23" E
247.	M/s. Jogidih (UG)	Jogidih	Sijua	Dhanbad	23°-48'14.09" E	86°-15'43.14" E
248.	M/s. New Akashkinaree (M)	Katras	Katrasragh	Dhanbad	23°-48'21.15" N	86°-17'18.23" E
249.	M/s. Salanpur (M)	Salanpur	Katrasragh	Dhanbad	23°-48'21.16" N	86°-18'39.24" E
250.	M/s. Tetulmari M	Tetulmari	Sijua	Dhanbad	23°-48'24.15" N	86°-20'50.13" E
251.	M/s. Gondudih Colliery	Jharia	Jharia	Dhanbad	23°-48'00" N	86°-23'00" E
	<b>Hospitals</b>					
252.	M/s. Regional Hospital, BCCL	Bhowra	Bhowra	Dhanbad	23°-41.117' N	86°-23.942' E
253.	M/s. TISCO Hospital	Jamadoba	Jamadoba	Dhanbad	23°-43.015' N	86°-24.135' E
254.	M/s. Regional Hospital, BCCL	Lodna	Lodna	Dhanbad	23°-43.307' N	86°-24.647' E
255.	M/s. Matri Seva Sadan Hospital	Jharia	Jharia	Dhanbad	23°-44.320' N	86°-25.015' E
256.	M/s. Regional Hospital, EJ Area, BCCL	Moonidih	Moonidih	Dhanbad	23°-44.210' N	86°-20.672' E
257.	M/s. Regional Hospital, Kustore Area	Kustore	Kustore	Dhanbad	23°-45.745' N	86°-23.248' E
258.	M/s. Asarfi Hospital	Hirak Road	Bhuli	Dhanbad	23°-49.272' N	86°-24.839' E
259.	M/s. East Central Railway Hospital	Station Road	Dhanbad	Dhanbad	23°-47.523' N	86°-26.141' E
260.	M/s. Sadar Hospital	Court More	Dhanbad	Dhanbad	23°-47.890' N	86°-26.093' E
261.	M/s. Dwarkadas Jalan Memorial Hospital	Bartand	CMRI	Dhanbad	23°-48.380' N	86°-25.845' E
262.	M/s. Regional Hospital, Area-IV, BCCL	Katras	Katrasragh	Dhanbad	23°-48.752' N	86°-17.201' E
263.	M/s. Regional Hospital, PB Area, BCCL	Pootkee	Pootkee	Dhanbad	23°-47.068' N	86°-23.761' E
264.	M/s. Central Hospital, BCCL	Jagjivan Nagar	Saraidhela	Dhanbad	23°-48.347' N	86°-27.042' E

<b>Stone Crusher</b>						
265.	M/s. Kamal Kr. Das, Stone Crusher	Moko	Baliapur	Dhanbad	23°-42.597' N	86°-33.264' E
266.	M/s. Jagdeep Agrawal, Stone Crusher	Dudhiya	Moko	Dhanbad	23°-42.644' N	86°-33.332' E
267.	M/s. Jagjit Singh, Stone Crusher	Dudhiya	Moko	Dhanbad	23°-42.662' N	86°-33.384' E
268.	M/s. C.M. Grover Stone Crusher	Dudhiya	Moko	Dhanbad	23°-42.759' N	86°-33.254' E
269.	M/s. Shabhi Stone Crusher	Amjhore	Baliapur	Dhanbad	23°-43.092' N	86°-29.774' E
270.	M/s. Dhanjay Pramanik Stone Crusher	Amjhore	Baliapur	Dhanbad	23°-43.518' N	86°-29.869' E
271.	M/s. Birbhan Das Stone Crusher	Amjhore	Baliapur	Dhanbad	23°-43.601' N	86°-30.931' E
272.	M/s. Ram Kumar Mandal Stone Crusher	Pargha	Baliapur	Dhanbad	23°-43.804' N	86°-28.620' E
273.	M/s. Jai Laxmi Stone	Loladih	Pargha	Dhanbad	23°-43.735' N	86°-31.828' E
274.	M/s. Kamlakar Mandal Stone Crusher	Pargha	Baliapur	Dhanbad	23°-43.670' N	86°-29.002' E
275.	M/s. Sanjay Stone Crusher	Pandeydih		Dhanbad	23°-44.646' N	86°-31.485' E
276.	M/s. Nimai Chandra Mandal Stone Crusher	Pargha	Kalyapur	Dhanbad	23°-44.092' N	86°-29.554' E
277.	M/s. Jagdeep Agrawal, Stone Crusher	Sitalpur	Baliapur	Dhanbad	23°-44.349' N	86°-34.930' E
278.	M/s. Shree Durga Stone Inc.	Pargha	Baliapur	Dhanbad	23°-44.063' N	86°-29.594' E
279.	M/s. Baidyanath Modak Stone Crusher	Pradhankhata	Pradhankhanta	Dhanbad	23°-45.683' N	86°-31.995' E
280.	M/s. Mahesh Stone Wroks	Damodarpur	Damodarpur	Dhanbad	23°-47.361' N	86°-28.041' E
281.	M/s. Maa Saraswati Stone Works	Gopalganj	Debiana	Dhanbad	23°-47.409' N	86°-40.618' E
282.	M/s. Barwa Stone Works	Barwa East	Govindpur	Dhanbad	23°-47.909' N	86°-37.546' E
283.	M/s. K.K. Stone	Phuphuadih	Nirsa	Dhanbad	23°-48.098' N	86°-36.430' E
284.	M/s. Husain Stone Works	Govindpur	Govindpur	Dhanbad	23°-48.506' N	86°-35.643' E
285.	M/s. Pradeep Stone Works	Bagsuma	Nirsa	Dhanbad	23°-48.761' N	86°-33.790' E
286.	M/s. Sadanand Stone Crusher	Rangabad	Govindpur	Dhanbad	23°-48.788' N	86°-36.644' E
287.	M/s. Chandra Shekar Satri Stone Crusher	Rangabad	Govindpur	Dhanbad	23°-48.794' N	86°-33.684' E
288.	Dr. S/Crusher	Jangalpur	Govindpur	Dhanbad	23°-48.795' N	86°-34.952' E
289.	M/s. R.N. Choudhary Stone	Rangabad	Govindpur	Dhanbad	23°-48.814' N	86°-33.669' E
290.	M/s. Krishna Stone Chips	Rangabad	Govindpur	Dhanbad	23°-48.832' N	86°-33.612' E
291.	M/s. Tara pad Mahto Stone Crusher	Katras	Katrasragh	Dhanbad	23°-49.142' N	86°-17.879' E
292.	M/s. Behind of Khalsa Hotel Stone Crusher	Govindpur	Govindpur	Dhanbad	23°-49.776' N	86°-32.515' E
293.	M/s. West side of Alks Ispat Stone Crusher	Ratanpur	Govindpur	Dhanbad	23°-50.021' N	86°-32.261' E
294.	M/s. Manbodh Mahto Stone Crusher	Kakomath	Kamomath	Dhanbad	23°-50.441' N	86°-18.377' E
295.	M/s. Pramod Kr. Sharma Stone Works	Rangdih	Bhitia	Dhanbad	23°-50.865' N	86°-29.971' E
296.	M/s. Jai Bajrang Bali Stone	Asanbani	Bhitia	Dhanbad	23°-50.893' N	86°-29.944' E
297.	M/s. Gayasuddin Crusher	Rangdih	Govindpur	Dhanbad	23°-50.916' N	86°-29.960' E
298.	M/s. Amitabh Munshi Stone Crusher	Rajganj	Rajganj	Dhanbad	23°-51.497' N	86°-19.255' E
299.	M/s. Delta Stone Works	Dulalsol	Madanpur	Dhanbad	23°-47.776' N	86°-46.108' E
300.	M/s. Om Black Stone	Salukchapra	Baliapur	Dhanbad	23°-43.006' N	86°-35.254' E
<b>Fuel and Minerals</b>						
301.	M/S Liberty Fuels	Sindurpur	Baliapur	Dhanbad	23°-44.128' N	86°-31.316' E
302.	M/s. Chandni Minerals	Nehru Road	Chirkunda	Dhanbad	23°-44.072' N	86°-47.643' E
303.	M/s Arun Fuels, Cirkunda, Dhanbad	Merha	Chirkunda	Dhanbad	23°-44.967' N	86°-47.373' E
304.	M/s. Mineral & Engineering Syndicate	Station Road	Mugma	Dhanbad	23°-45.186' N	86°-45.088' E
305.	M/s. Balaji Fuel Ind.	Bardaha	Baliapur	Dhanbad	23°-41.952' N	86°-30.595' E
306.	M/s Sumit Fuels	Station Road	Mugma	Dhanbad	23°-45.491' N	86°-45.104' E
307.	M/s Ganpati Fuels	Station Road	Mugma	Dhanbad	23°-45.417' N	86°-44.916' E

308.	M/s. Bhoomi Minerals	Chirkunda	Chirkunda	Dhanbad	23°-45.627' N	86°-48.178' E
309.	M/s. Sharda Fuel	Ramkanali	Nirsa	Dhanbad	23°-47.695' N	86°-40.074' E
310.	M/s Maa Tara Fuels	Hathbari	Nirsa	Dhanbad	23°-47.160' N	86°-41.678' E
311.	M/s Fuel India	Karmatand	Damodarpur	Dhanbad	23°-47.178' N	86°-28.493' E
312.	M/s. M.S. Chemical	Godhar	Kusunda	Dhanbad	23°-47.123' N	86°-23.795' E
313.	M/s. Model Fuel	Kudandih	Katrasragh	Dhanbad	23°-49.231' N	86°-17.826' E
314.	M/s Arbindo Fuels	K.G. Ashram	K.G.Ashram	Dhanbad	23°-49.766' N	86°-29.603' E
315.	M/S Foundary Fuels Products	Jealgora	Govindpur	Dhanbad	23°-50.364' N	86°-29.648' E
316.	M/s. Dudhani Fuels (P) Ltd.	Bagula	Bhitia	Dhanbad	23°-50.422' N	86°-24.388' E
317.	M/s Ganpati Fuels	Rangdih	Govindpur	Dhanbad	23°-50.553' N	86°-30.156' E
318.	M/s Borio Fuels Co.	Tundi Road	Govindpur	Dhanbad	23°-50.781' N	86°-31.160' E
319.	M/s Mahavir Fuels, (Aurangabad) Pvt.Ltd.	Udaypur	Kalyapur	Dhanbad	23°-51.696' N	86°-36.341' E
320.	M/s. Chandi Minerals	Chirkunda	Chirkunda	Dhanbad	23°-44.072' N	86°-47.642' E
321.	M/s A.C.N. Fuels Ltd.	Kasitand	Govindpur	Dhanbad	23°-51.504' N	86°-23.597' E
<b>Iron and Steel</b>						
322.	M/s. Natraj Iron & Steel (P) Ltd.	Chirkunda	Chirkunda	Dhanbad	23°-43.792' N	86°-47.853' E
323.	M/s. Kunj Iron (P) Ltd.	Merha	Kumardhubi	Dhanbad	23°-45.136' N	86°-47.350' N
324.	M/s. Kumardhubi Steel (P) Ltd,	Kumardhubi	Kumardhubi	Dhanbad	23°-45.746' N	86°-45.974' E
325.	M/s. Golden Steel	Nehru Road	Chirkunda	Dhanbad	23°-46.245' N	86°-47.559' E
326.	M/s. Ridhi Sidhi Iron (P) Ltd.	Nirsa	Nirsa	Dhanbad	23°-46.882' N	86°-44.317' E
327.	M/s. Ekta Ferro Alloys (P) Ltd.	Kumardhubi	Kumardhubi	Dhanbad	23°-46.520' N	86°-44.523' E
328.	M/s. Ridhi Sidhi Iron (P) Ltd.	Kanchandih	Mugma	Dhanbad	23°-46.882' N	86°-44.317' E
329.	M/s. Ekta Iron & Steel Co. (P) Ltd.	Kanchandih	Mugma	Dhanbad	23°-46.482' N	86°-44.564' E
330.	M/s. Malcona Alloys (P) Ltd.	Tetulia	Nirsa	Dhanbad	23°-47.800' N	86°-38.479' E
331.	M/s. Ganpati Ispat	Barwa	Barwa East	Dhanbad	23°-47.764' N	86°-38.362' E
332.	M/s. Parth Ispat (P) Ltd.	Amaghata	Govindpur	Dhanbad	23°-49.431' N	86°-30.063' E
333.	M/s. Bihar Ispat Udyog,	Amaghata	Govindpur	Dhanbad	23°-49.625' N	86°-30.031' E
334.	M/s. Vishwakarma Steel Rolling Mills	Amaghata	Govindpur	Dhanbad	23°-49.888' N	86°-30.450' E
335.	M/s. Alks Ispat	Ratanpur	Govindpur	Dhanbad	23°-49.947' N	86°-32.311' E
336.	M/s. Arising Ispat	Kauwabandh	Govindpur	Dhanbad	23°-50.179' N	86°-30.298' E
337.	M/s. Prabhat Ispat	Panduki	Nag Nagar	Dhanbad	23°-50.779' N	86°-26.655' E
338.	M/s. Renuka Ispat	Rajganj Road	Rajganj	Dhanbad	23°-57.578' N	86°-20.262' E
339.	M/s. Jai Prabhu Iron (P) Ltd., KIA, Dhanbad	KIA	Bhitia	Dhanbad	23°-50.921' N	86°-28.714' E
<b>Refractories and Ceramics</b>						
340.	M/s. Bharat Ceramic Works	Chirkunda	Chirkunda	Dhanbad	23°-44.279' N	86°-47.707' E
341.	M/s. Rekson Ceramic	Petlabair	Benagaeria	Dhanbad	23°-42.917' N	86°-45.737' E
342.	M/s. Yash Refractories	Laladih	Baliapur	Dhanbad	23°-43.691' N	86°-31.806' E
343.	M/s. Maa Tara Ceramic	Dudhiapani	Kumardhubi	Dhanbad	23°-44.439' N	86°-46.175' E
344.	M/s. Chirkunda Ceramic Works	Chirkunda	Chirkunda	Dhanbad	23°-44.463' N	86°-47.688' E
345.	M/s. Mamta Refractories	Dudhiapani	Kumardhubi	Dhanbad	23°-44.434' N	86°-46.107' E
346.	M/s. Chirkunda Refractories & Ceramic Works	Bandrabad	Nirsa	Dhanbad	23°-44.463' N	86°-47.688' E
347.	M/s. Associated Ceramic Ltd. Unit-1	Maithon Road	Chirkunda	Dhanbad	23°-44.524' N	86°-47.906' E
348.	M/s. Sharad Refractories	Chirkunda	Chirkunda	Dhanbad	23°-44.573' N	86°-47.829' E
349.	M/s. Ganesh Ceramic	Dudhiapani	Kumardhubi	Dhanbad	23°-44.779' N	86°-45.993' E
350.	M/s. Shyama Ceramics & Monoethics	Merha	Chirkunda	Dhanbad	23°-44.891' N	86°-47.968' E
351.	M/s. N.K. Refractories	Egarcoor	Kumardhubi	Dhanbad	23°-44.911' N	86°-45.969' E
352.	M/s. Arun Refractories	Chirkunda	Chirkunda	Dhanbad	23°-44.983' N	86°-47.557' E
353.	M/s. Tirupati Ceramic	Merha	Chirkunda	Dhanbad	23°-45.082' N	86°-48.016' E

354.	M/s. New Silica Refractories	Egarcoor	Kumardhubi	Dhanbad	23°-45.105' N	86°-46.041' E
355.	M/s. H.K. Ceramic	Egarcoor	Kumardhubi	Dhanbad	23°-45.144' N	86°-46.233' E
356.	M/s. Maithan Ceramic Ltd., Unit-2	Maithon Road	Chirkunda	Dhanbad	23°-45.304' N	86°-47.345' E
357.	M/s. Aradhana Ceramic Works	Chirkunda	Chirkunda	Dhanbad	23°-45.309' N	86°-47.606' E
358.	M/s. Valley Refractories (Iron Div.)	Maithon Road	Chirkunda	Dhanbad	23°-45.314' N	86°-47.486' E
359.	M/s. Maa Kali Ceramic	Station Road	Mugma	Dhanbad	23°-45.405' N	86°-44.943' E
360.	M/s. Kumardhubi Ceramic Pvt. Ltd.	Egarcoor	Kumardhubi	Dhanbad	23°-45.457' N	86°-46.097' E
361.	M/s. Valley Refractories	Chirkunda	Chirkunda	Dhanbad	23°-45.501' N	86°-47.522' E
362.	M/s. M.K. Refractories	Maithon Road	Chirkunda	Dhanbad	23°-45.528' N	86°-47.139' E
363.	M/s. Amba Ceramic Works	Maithon Road	Chirkunda	Dhanbad	23°-45.557' N	86°-47.141' E
364.	M/s. Associated Ceramic Ltd., Unit-2	Maithon Road	Chirkunda	Dhanbad	23°-45.581' N	86°-47.472' E
365.	M/s. Maa Tara Monoethic Ceramic	Egarcoor	Kumardhubi	Dhanbad	23°-45.631' N	86°-46.169' E
366.	M/s. Modi Ceramic	Maithon Road	Chirkunda	Dhanbad	23°-45.648' N	86°-47.553' E
367.	M/s. Ram Kanali Briquette & Ceramic	Tetulia	Nirsa	Dhanbad	23°-45.697' N	86°-39.682' E
368.	M/s. Raju Refractories	Barwa	Barwa East	Dhanbad	23°-45.842' N	86°-37.958' E
369.	M/s. New M.G.M. Refractories	Mugma	Mugma	Dhanbad	23°-45.858' N	86°-45.015' E
370.	M/s. Bombay Refractories	Bye Pass Road	Maithon	Dhanbad	23°-45.900' N	86°-45.607' E
371.	M/s. Pyro Ceramic Works	Maithon	Maithon	Dhanbad	23°-46.150' N	86°-47.098' E
372.	M/s. Pamposh Refractory & Ceramic Works	Maithon	Maithon	Dhanbad	23°-46.177' N	86°-47.159' E
373.	M/s. Fatka Refractories Pvt. Ltd.	Nirsa	Nirsa	Dhanbad	23°-46.270' N	86°-41.613' E
374.	M/s. Golden Ceramic Works Pvt. Ltd.	Nehru Road	Chirkunda	Dhanbad	23°-46.288' N	86°-47.313' E
375.	M/s. Nirsa Refractories & Ceramics Works	Nirsa	Nirsa	Dhanbad	23°-46.396' N	86°-41.483' E
376.	M/s. Ashok Refractories Pvt. Ltd.	Nirsa	Nirsa	Dhanbad	23°-46.455' N	86°-43.301' E
377.	M/s. Maithan Ceramic Ltd., Unit-1	Maithon Road	Chirkunda	Dhanbad	23°-47.230' N	86°-47.230' E
378.	M/s. Oriental Refractories	Saranbiria	Mugma	Dhanbad	23°-47.493' N	86°-41.191' E
379.	M/s. Kumardhubi Refractories	Ramkanali	Nirsa	Dhanbad	23°-47.631' N	86°-39.970' E
380.	M/s. Jharkhand Ceramics	Barwa	Barwa East	Dhanbad	23°-47.831' N	86°-37.928' E
381.	M/s. Shree Shankar Cermaic	Kharkabad	Barwa East	Dhanbad	23°-48.320' N	86°-36.627' E
382.	M/s. Katras Ceramic & Refractories Pvt. Ltd.	Tilatand	Rajganj	Dhanbad	23°-49.788' N	86°-20.903' E
383.	M/s. Brahma Refractories	Madhugoda	Bhitia	Dhanbad	23°-51.432' N	86°-20.423' E
384.	M/s. Eagle Ceramic & General Ind.	Udaypur	Kalyapur	Dhanbad	23°-51.493' N	86°-23.601' E
385.	M/s. Chandi Ceramics	Chirkunda	Chirkunda	Dhanbad	23°-44.060' N	86°-47.559' E
	<b>Others</b>					
386.	M/s. Ashok Chemical	Chirkunda	Chirkunda	Dhanbad	23°-44.379' N	86°-47.749' E
387.	M/s. Dolphin Engineering Works	Kumardhubi	Nirsa	Dhanbad	23°-44.909' N	86°-47.181' E
388.	M/s. Balihari Or 10/12 Kachhi Balihari	Balihari	Pootkee	Dhanbad	23°-45'00" N	86°-22'30" E
389.	M/s. P.B. Project	Putki Balihari	Kusunda	Dhanbad	23°-45'00" N	86°-23'00" E
390.	M/s. MGTS	Maithon	Maithon Dam	Dhanbad	23°-46.840' N	86°-48.736' E
391.	M/s Sharma Bee Hive Plant	Tetulia	Barwa East	Dhanbad	23°-47.949' N	86°-38.741' E
392.	M/s. Shree Shyam Udyog	Tetulia	Govindpur	Dhanbad	23°-48.014' N	86°-38.558' E
393.	M/s. NIR	Barwa	Barwa East	Dhanbad	23°-48.016' N	86°-38.404' E
394.	M/s. Nitrate Producers	Bagsuma	Bagsuma	Dhanbad	23°-49.115' N	86°-33.189' E
395.	M/s. West Mudidih	Keshalpur	Sijua	Dhanbad	23°-48'30" N	86°-19'00" E
396.	M/s Karn Carbon Co. Pvt. Ltd.	Gahira	Govindpur	Dhanbad	23°-48.470' N	86°-35.737' E
397.	M/s Jai Maa Kali Uddyog Ltd.	Jealgora	Govindpur	Dhanbad	23°-50.116' N	86°-29.686' E
398.	M/s. Shivam Bricks	Raghunathpur	Baliapur	Dhanbad	23°-41.692' N	86°-29.856' E
399.	M/s. Jharia Fire Bricks & Pottery Works	Dhasar	Dhansar	Dhanbad	23°-46.796' N	86°-24.640' E

400.	M/s. Jai Mata Di Fire Bricks	Panchet Road	Chirkunda	Dhanbad	23°-43.186' N	86°-46.153' E

## **Annexure II**

### **List of industries which are in Dhanbad Municipal area and are to be shifted from**

1. M/s. Shree Shyam Met-Coke, Bhuli Road, Dhanbad.
2. M/s. S.K. PVC Pipe Industries, Matkuria, Dhanbad.
3. M/s. IOC Ltd., Oil Depot, Rly Cinema Road, Dhanbad.
4. M/s. HPCL, Oil Depot, Rly Cinema Road, Dhanbad.
5. M/s. BPCL, Oil Depot, Rly Cinema road, Dhanbad.
6. M/s. Gulf of Corp. Ltd., IDL Industrial Ltd., Dhansar, Dhanbad.
7. M/s. Ajay Metal Ware, Hirapur, Dhanbad.
8. M/s. Vivek Industries, Bhuli Road, Dhanbad.
9. M/s. Jharia Fire Bricks (P) Ltd., Dhansar, Dhanbad.
10. M/s. J.P. Singh Soap, Binod Nagar, Chiragora, Dhanbad.
11. M/s. Bolbam Soap Factory, Sri Hanuman Singhal, Godhar, Dhanbad.
12. M/s. Mudurai Tyre Resoling, Mithu Road, Krishna Katra, Bank More, Dhanbad.
13. M/s. Lal Mohammed Tyre Resoling, Kabari Patti, Naya Bazar, Dhanbad.
14. M/s. Phulam Tyre Re-soling, Kabripatti, Naya Bazar, Dhanbad.
15. M/s. Champion Tyre Repairing, Mithu Road, Bank More, Dhanbad.
16. M/s. Shroff Rubber, Bhuli Road, Dhanbad.
17. M/s. Hind Electrical & General Ind. Ltd., Joraphatak Road, Dhanbad.
18. M/s. Narang Coke Mfg. Co., Barwadda, Dhanbad.
19. M/s. Premier Hard Coke Supplier (P) Ltd., Near Krishi Bazar, Nag Nagar, Dhanbad.
20. M/s. Prabhu Coke Mfg. Co., K.G. Ashram, Bhuipore, Dhanbad.
21. M/s. Hill Birquette Ind., K.G. Ashram, Bhuipore, Dhanbad.
22. M/s. Aurobindo Fuel, Kangola, K.G. Ashram, Bhuipore, Dhanbad.

23. M/s. Ambient Liquor, Kangola, K.G. Ashram, Bhuipore, Dhanbad.
24. M/s. Bhagwati Casting, Kangola, K.G. Ashram, Bhuipore, Dhanbad.
25. M/s. Bharat Fire Bricks & Pottery Works, Jharia, Dhanbad.

## Annexure-III

### Sectors and Issues Related to Their Pollution Control

SN	Name of Sector	No. of Units	Stake Holders	Main Issues
01	Collieries	103	(i) Bharat Coking Coal Limited (BCCL) (ii) Eastern Coalfields Limited (ECL) (iii) Tata Iron & Steel Company Ltd. (TISCO) (iv) Indian Iron & Steel Company Limited (IISCO)	(i) Dusty ambient air (a) Air borne dust (b) Boiler emission (ii) Polluted water (a) Surface run-off (b) Mine water (c) Process wash water (iii) Solid wastes (a) Mine overburden (b) Hazardous solid wastes (iv) Ground water table depletion (a) Disturbance of ground water aquifers (b) Pumping of mine water (v) Under ground fire in 41 collieries (vi) Depletion in bio diversity index (a) Forest species (b) Aquatic life (c) Terrestrial animals
02	Coal washeries	08	(i) Bharat Coking Coal Limited (BCCL) (ii) Tata Iron & Steel	(i) Dusty ambient air (a) Air borne dust (ii) Polluted water



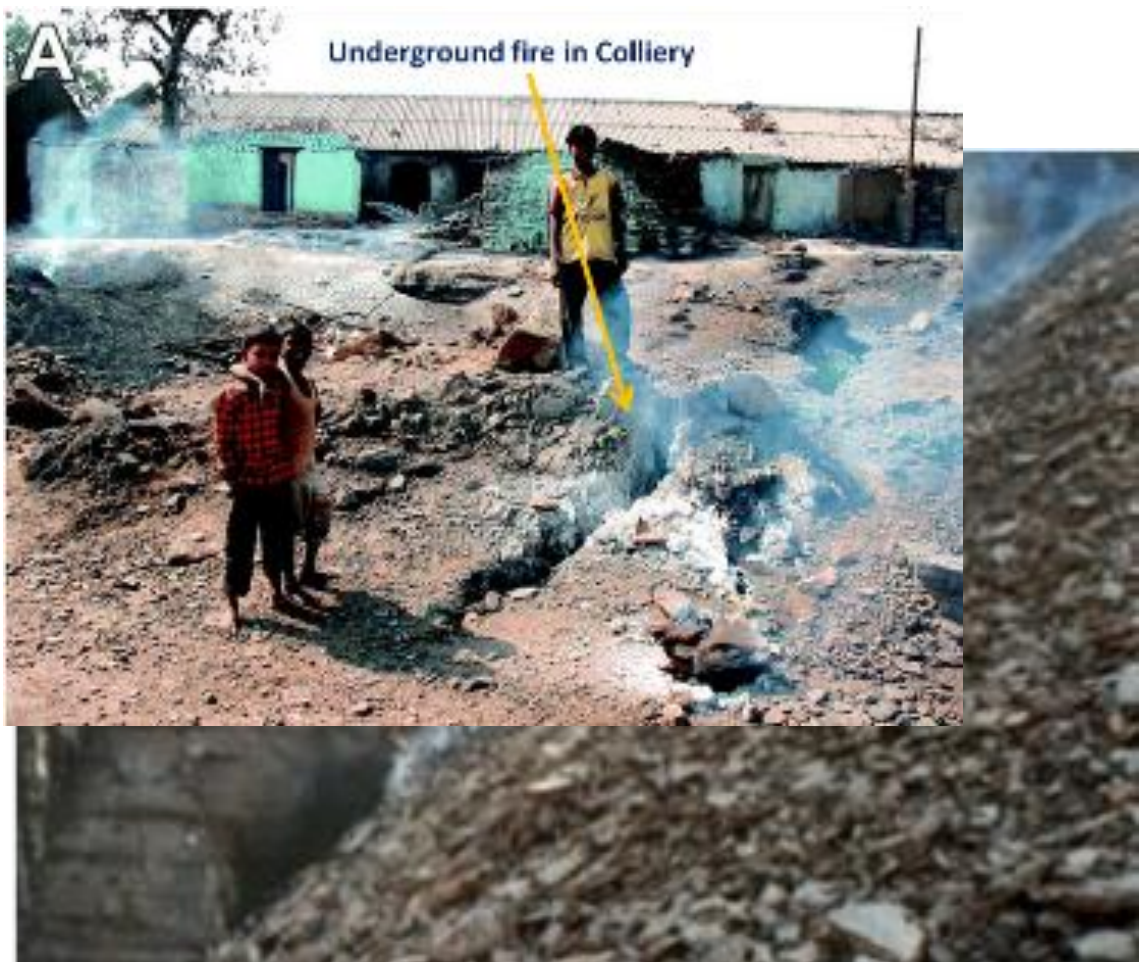
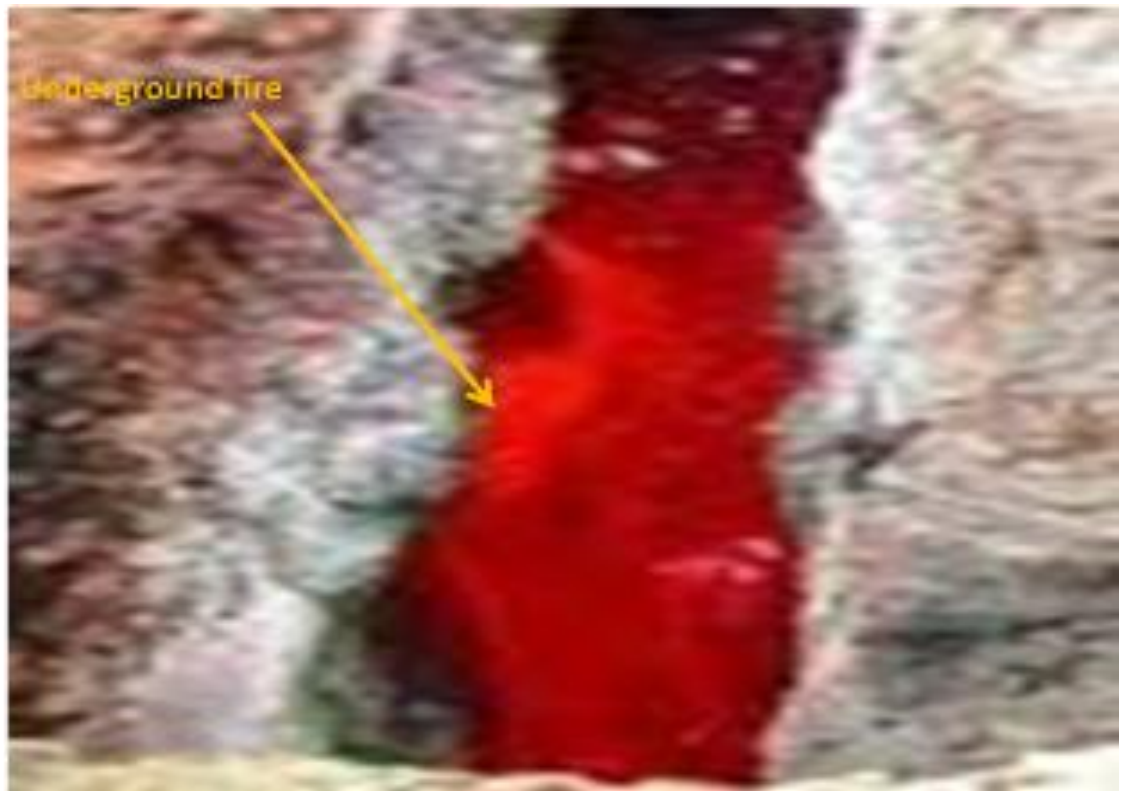
			(iii) Company Ltd. (TISCO) Indian Iron & Steel Company Limited (IISCO)	(a) Surface run-off (b) Process wash water (iii) Solid wastes (a) Coal washery rejects (b) Hazardous solid wastes (iv) Depletion in bio diversity index (a) Forest species (b) Aquatic life (c) Terrestrial animals
03	TPPs	03	(i) Tata Iron & Steel Company Ltd. (TISCO) (ii) Tata Power Limited	(i) Dusty ambient air (a) Air borne dust (b) Process dust (c) Boiler emission (ii) Polluted water (a) Surface run-off (b) Ash slurry (c) Process wash water/ effluent (iii) Solid wastes (a) Ash (b) Hazardous solid wastes (iv) Depletion in bio diversity index (a) Forest species (b) Aquatic life (c) Terrestrial animals
04	Bee hive coke oven plants	126	(i) Bharat Coking Coal Limited (BCCL) (ii) Under Private Ownership	(i) Dusty ambient air (a) Air borne dust (b) Process emission (ii) Polluted water (a) Surface run-off (b) Process quench water (iii) Solid wastes (a) Hazardous solid wastes
05	Soft coke plants	25	All under private ownership	(i) Dusty ambient air (a) Air borne dust (b) Process emission (ii) Polluted water (a) Surface run-off (b) Process quench water (iii) Solid wastes (a) Hazardous solid wastes
06	Refractory plants	72	All under private ownership	(i) Dusty ambient air (a) Air borne dust (b) Process emission (ii) Polluted water (a) Surface run-off

				(b) Process water (iii) Solid wastes (a) Hazardous solid wastes
07	Stone Crushers	110	All under private ownership	(i) Dusty ambient air (a) Air borne dust (b) Process fugitive emission
08	Brick Kilns	118	All under private ownership	(i) Dusty ambient air (a) Air borne dust (b) Fugitive emission (c) Process flue gas emission (ii) Reduction of live soil
09	Municipal solid waste Generators		(i) Dhanbad Municipal Corporation (ii) All Notified Area Committees of the area (iii) Townships of BCCL, ECL, IISCO, TISCO, FCI, PDIL, ISM, CIMFR etc.	(i) Dusty ambient air (a) Air borne dust & microorganisms (b) Emission of DG sets (ii) Polluted water (a) Surface run-off (b) Domestic sewage (iii) Solid wastes (a) Garbage (b) Plastic wastes (iv) Depletion in bio diversity index (a) Forest species (b) Aquatic life (c) Terrestrial animals
10	Bio medical wastes Generators		Health Care Units	(i) Ambient air (a) Air borne microorganisms (ii) Polluted water (a) Surface run-off (b) Bio medical wastes stained waste water (iii) Solid wastes (a) Bio medical wastes (b) Plastic wastes (iv) Health hazard to life
11	Transport Vehicular		Transport department	Vehicular emission
12	Sponge Iron Plants	02	Private / Public Ownership	(i) Dusty ambient air (a) Air borne dust (b) Kiln emission (c) Fugitive dust  (ii) Polluted water (a) Surface run-off (b) Process wash water  (iii) Solid wastes (a) Coal char and other wastes

				<p>(b) Hazardous solid wastes</p> <p>(iv) Ground water table depletion</p> <p>(a) Disturbance of ground water aquifers</p> <p>(v) Depletion in bio diversity index</p> <p>(d) Forest species</p> <p>(e) Aquatic life</p> <p>(f) Terrestrial animals</p>
13	Indian Railways			<p>(i) Dusty ambient air</p> <p>(a) D G Set Exhausts</p> <p>(ii) Polluted water</p> <p>(c) Surface run-off</p> <p>(d) Process wash water</p> <p>(iii) Solid wastes</p> <p>(c) Workshop rejects</p> <p>(d) Hazardous solid wastes</p> <p>(iv) Depletion in bio diversity index</p> <p>(d) Forest species</p> <p>(e) Aquatic life</p> <p>(f) Terrestrial animals</p>
14	Industries located in populated areas	25	Owners of industries / District Administration	<p>(i) Dusty ambient air</p> <p>(a) Air borne dust</p> <p>(b) Process dust</p> <p>(c) Boiler emission</p> <p>(ii) Polluted water</p> <p>(a) Surface run-off</p> <p>(b) Process wash water/ effluent</p> <p>(iii) Solid wastes</p> <p>(c) Ash</p> <p>(d) Hazardous solid wastes</p> <p>(iv) Depletion in bio diversity index</p> <p>(d) Forest species</p> <p>(e) Aquatic life</p> <p>(f) Terrestrial animals</p>
15	Protection of Green / Agricultural lands		Govt of Jharkhand / JSPCB	Moratorium on establishment of green field projects above 10 lacs' investment.

# Annexure-IV (A)

## IMAGES SHOWING POLLUTION BY COLLIERIES















## Annexure-IV (B)

### Summary of proposed action plan for collieries

SN	Action point	Action plans for stake holders	Date of completion
01	The ambient air of the collieries remains dusty due to pliance of uncovered trucks and those too on kutcha haul roads and on OB dumps and due to drilling & blasting and uncontrolled emission of their boilers	<p>(a) The covering of loaded transport vehicles will be compulsory.</p> <p>(b) All haul roads will be made pucca, by. New haul roads will be taken in use after making it pucca,</p> <p>(c) All OB dumps will be enclosed by pucca boundary wall to prevent entry through them..</p> <p>(d) All drillings shall be done with dust containment and suppression systems, from. The fixed type sprinklers will be installed in all dust prone areas.</p> <p>(e) The prudent operational practices will be adopted to control.</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>31.03.2011 (ST)</p>
02	The receiving water bodies get polluted from surface run off of the collieries and from their discharges.	<p>(a) The abandoned or inoperative mines shall be converted into water bodies and mine water / wastewater shall be pumped to them.</p> <p>(b) The direction of surface run-off of the premises of collieries shall be diverted to abandoned or inoperative mines.</p> <p>(c) The wastewater shall be passed through oil separator-cum-filtration system, by and then discharged to newly created</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p>

		water bodies. (d) Township-wise STP shall be installed.	31.03.2012 (ST)
03	The mine overburden is the main problem in open cast mines. The OBs of collieries are dumped either on riverbed or on their banks at least at 14 places in river Damodar or its tributaries. Besides, the hazardous solid wastes are also generated in the wokshops. They are recyclable and incinerable in ovens.	(a) All over burden dumps shall be removed from river bed or its proximity. (b) The removed OBs shall, as far as possible, be utilized for low landfilling in place of live soil or for making roads. (c) Tree plantation on the dumps of left out removed OBs (which could not be utilized for low landfilling or for road making). (d) All hazardous wastes shall be disposed of to its reprocessor or coprocessor.	30.04.2011 (ST) 30.06.2011 (ST) 15.07.2011 (ST) 31.03.2011(ST)
04	Due to deep mining of coal and the pumping out of water of the mines, many of the ground water aquifers are disturbed and ground water table has depleted. Because of which river Damodar and its tributaries of this area are not charged from the ground during rainy seasons. Due to which the flow of river has become to be minimum. Their flows are day by day decreasing.	(a) All abandoned / inoperative mines will be earmarked. (b) All outflow points of abandoned / inoperative mines will be blocked. (c) The orientation of flow of surface runoff of mines to abandoned / inoperative mines shall be completed. (d) The setting of pipe lines to abandoned / inoperative mines for pumping out mine water.	31.03.2011(ST) 30.06.2011(ST) 30.06.2011(ST) 30.06.2011(ST)
05	Due to operation of collieries, the bio diversity of plant species, terrestrial animals and aquatic organism have adversely been affected.	(a) The plantation of saplings for creation of tree and forest cover of local species. (b) The conversion of abandoned / inoperative mines into water bodies. (c) The charging of seeds of	31.07.2011(ST) 31.07.2011(ST) 30.09.2011(ST)

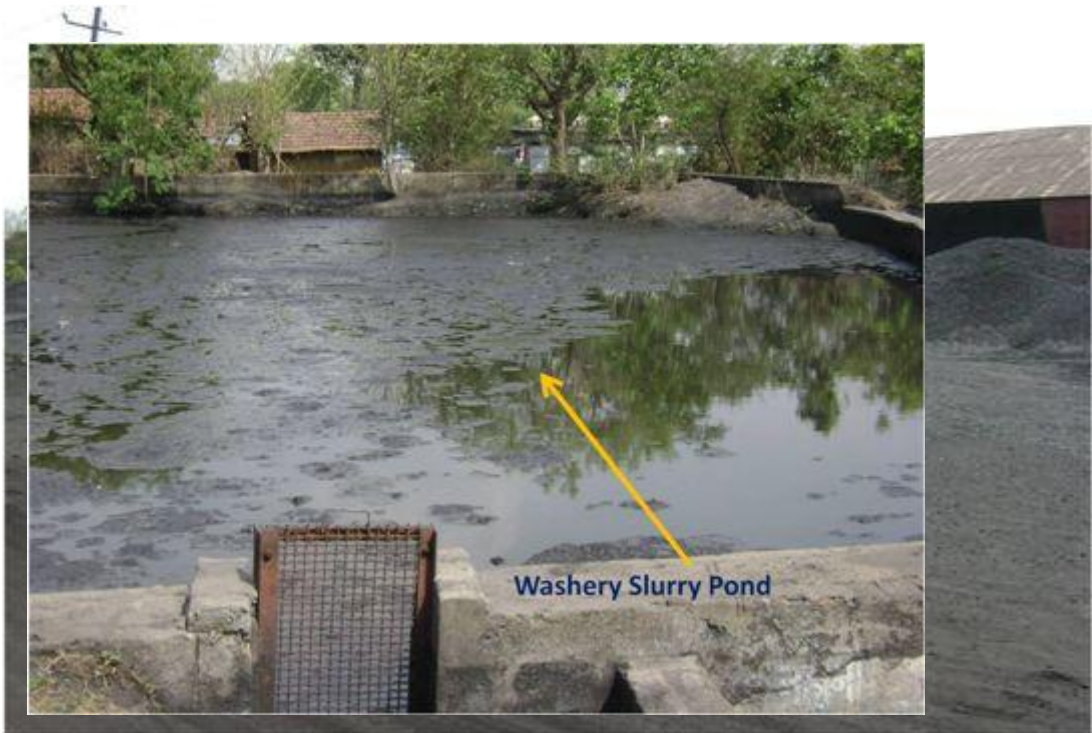
		local aquatic organisms.	
06	There is an under ground fire in the areas of 41 collieries of BCCL. It was with the collieries of Tata Steel, Jharia Division also. They, however, quenched by stowing under ground mines, developing water bodies, etc.	<p>(a) Alienation of under ground affected mines.</p> <p>(b) Stowing of of all unstowed U/G mines.</p> <p>(c) Development of water bodies over them.</p> <p>(d) Final quenching of fire by charging nitrogen, etc.</p>	<p>31.03.2011(ST)</p> <p>30.06.2011(ST)</p> <p>30.06.2011(ST)</p> <p>30.09.2011(ST)</p>
07	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	<p>(a) Monitoring of ambient air-reporting every month, effluent- reporting every month, surface water-reporting every month, ground water- reporting every month, disposal of OBs- reporting every quarter, hazardous wastes-reporting every six months, fire extinguishing-reporting every month and tree plantation- reporting every year:Assurance</p> <p>(b) Introduction of GIS/ GPS for continuous recording: Assurance</p> <p>(c) Every week broadcasting through TV and radio : Assurance</p>	<p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p>

Note: 4.38 lakhs of saplings of plants of various species shall be planted in 175.417 ha of area by March, 2015.



## Annexure-V (A)

### PICTURES SHOWING POLLUTION FROM COAL WASHERIES











## Annexure-V (B)

### Summary of proposed action plan for coal washeries

SN	Action point	Action plans for stake holders	Date of completion
01	The ambient air of the premises of coal washeries remains dusty due to pliance of uncovered trucks and those too on kutchha haul roads and on reject dumps and due to uncovered processing of coal.	<p>(a) The covering of loaded transport vehicles will be compulsory..</p> <p>(b) All haul roads will be made pucca, by. New haul roads will be taken in use after making it pucca..</p> <p>(c) All reject dumps will be enclosed by pucca boundary to prevent entry through them.</p> <p>(d) All processing (Crushing, screening etc.) chambers of coal will covered.</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p>
02	The receiving water bodies gets polluted from surface run off of the collieries and from their mine water pumped for mining of coal and from the waste water emanating from workshops, etc.	<p>(a) The abandoned or inoperative mines shall be converted into water bodies and mine water shall be pumped to them.</p> <p>(b) The direction of surface run-off of the premises of coal washeries shall be diverted to abandoned or in operative mines</p> <p>(c) The wastewater shall be passed through oil</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>31.03.2011 (ST)</p>

		separator-cum-filtration system and then discharged to newly created water bodies.  (d) Township-wise STP shall be installed.	31.03.2012 (LT)
03	The rejects of coal washeries is the main problem. They are dumped. Besides, the hazardous wastes are also generated. They are recyclable and incinerable in ovens.	(a) All rejects of these dumps shall be removed from river bed or its proximity.  (b) The removed rejects shall be disposed of by utilization or sale.  (c) All hazardous wastes shall be disposed of to its reprocessor or coprocessor.	31.03.2011 (ST)  30.06.2011 (ST)  31.03.2011 (ST)
04	Due to discharge of wastewater of coal washeries, the bio diversity of aquatic organisms has adversely been affected.	(a) The conversion of abandoned / inoperative mines into water bodies.  (b) The charging of seeds of local aquatic organisms.	31.07.2011(ST)  30.09.2011(ST)
05	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(a) Monitoring of ambient air-reporting every month, effluent- reporting every month, downstream surface water- reporting every month, ground water-reporting every month, disposal of rejects-reporting every quarter, hazardous wastes-reporting every six months and tree plantation-reporting every year : Assurance  (b) Introduction of GIS/ GPS for continuous recording: Assurance  (c) Every week broadcasting through TV and radio : Assurance	31.03.2011(ST)  31.03.2011(ST)  31.03.2011(ST)

## **Annexure-VI (A)**

**PICTURE SHOWING POLLUTION FROM A TYPICAL TPP**





## Annexure-VI (B)

### Summary of proposed action plan for TPPs

SN	Action point	Action plans for stake holders	Date of completion
01	The ambient air of the premises of TPPs remains dusty due to pliance of uncovered trucks and those too on kutchha haul roads and on ash dumps and due to uncovered processing of ash. The chimneys of boilers too emit dust.	<p>(a) The covering of loaded transport vehicles will be compulsory, from.</p> <p>(b) All haul roads will be made pucca, by. New haul roads will be taken in use after making it pucca, from.</p> <p>(c) All ash dumps will be enclosed by pucca boundary to prevent entry through them</p> <p>(e) All processing of ash will be done in covered space.</p> <p>(f) The chimneys of all boilers will be equipped with ESPs</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>31.03.2012 (LT)</p>

		with on line monitoring systems.	
02	Surface run-off , ash slurry, cooling water blow down, boiler blow down and wash water/ effluent later or sooner find way to the river and pollute them	<p>(a) The flow of surface run-off of the premises of TPPs shall be directed to abandoned or in operative mines, which will be converted into water bodies.</p> <p>(b)The wastewater shall be passed through oil separator-cum-filtration system and then discharged to newly created water bodies.</p> <p>(c) The other wastewater shall be in close-circuit.</p> <p>(d ) Township-wise STP shall be installed</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>31.03.2011 (ST)</p> <p>31.03.2012 (ST)</p>
03	Ash and hazardous solid wastes are main problems of TPPs. Dry ash has use in cement making, in brick making and as landfill. Besides, the hazardous wastes are also generated. They are recyclable and incinerable in ovens.	<p>(a) Dry ash collection system shall be installed and dry ash sale cement mills shall be resumed.</p> <p>(b) All ash shall be disposed of by utilization or sale and it will be continued from.</p> <p>(c)All hazardous wastes shall be disposed of to its reprocessor or coprocessor and its continuity shall be resumed.</p>	<p>31.03.2012 (LT)</p> <p>30.06.2011 (ST)</p> <p>31.03.2011 (ST)</p>
04	Due to discharge of emission and wastewater of TPPs, the bio diversity of plant species, terrestrial animals and aquatic organism have adversely been affected.	<p>(a) The plantation of saplings for creation of tree and forest cover of local species.</p> <p>(b) The conversion of abandoned / inoperative mines into water bodies.</p> <p>(c) The charging of seeds of local aquatic organisms.</p>	<p>31.07.2011(ST)</p> <p>30.09.2011(ST)</p> <p>30.09.2011(ST)</p>

05	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	<p>(a) Monitoring of online ambient air-reporting every month, online emission-reporting every month, online effluent- reporting every month, downstream surface water- reporting every month, ground water- reporting every month, disposal of fly ash-reporting every quarter, hazardous wastes-reporting every six months and tree plantation-reporting every year : Assurance</p> <p>(d) Introduction of GIS/ GPS for continuous recording: Assurance</p> <p>(e) Every week broadcasting through TV and radio : Assurance</p>	<p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p>
----	--	---	---

# Annexure-VII (A)

PICTURE SHOWING POLLUTION FROM A BEE-HIVE COKE OVEN PLANTS



# Annexure-VII (B)

Summary of proposed action plan for bee-hive coke oven plants

SN	Action point	Action plans for stake holders	Date of completion
01	The ambient air of the premises of bee-hive coke oven plants remains dusty due to pliance of uncovered trucks and those too on kutchha haul roads and due to uncovered processing of coal. The chimneys of plants too emit dust.	(a) The covering of loaded transport vehicles will be compulsory, from. All haul roads will be made pucca, by.  (b) New haul road will be taken in use after making it pucca, from.	31.03.2011 (ST)  30.06.2011 (ST)

		(c) The space of processing of coal or coke will be kept covered.  (d) All plants will be modified to ensure emission of particulate matter to below 150 micro gm per cubic meter.	30.06.2011 (ST)  30.03.2011 (ST)
02	Surface run-off and quench water find way to down stream.	(a) The rain water of the premises shall be harvested.  (b) The other wastewater shall be in close-circuit.	31.06.2011 (ST)  30.06.2011 (ST)
03	Due to discharge of emission and wastewater, the bio diversity of plant species, terrestrial animals and aquatic organism have adversely been affected..	The plantation of saplings for creation of tree and forest cover of local species.	31.07.2011(ST)
04	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(a) Monitoring of ambient air-reporting every quarter, emission- reporting every quarter, effluent- reporting every quarter, downstream surface water- reporting every year, ground water-reporting every year, disposal of hazardous wastes- reporting every six months and tree plantation-reporting every year : Assurance  (b) Introduction of GIS/ GPS for continuous recording: Assurance  (c) Every month broadcasting through TV and radio : Assurance	31.03.2011(ST)  31.03.2011(ST)  31.03.2011(ST)



## Annexure-VIII

### Summary of proposed action plan for soft coke plants

SN	Action point	Action plans for stake holders	Date of completion
01	The ambient air of the premises of soft coke plants remains dusty due to pliance of uncovered trucks and those too on kutchha haul roads and due to uncovered processing of coal. The chimneys of plants too emit dust.	<p>(a) The covering of loaded transport vehicles will be compulsory, from.</p> <p>(b) All haul roads will be made pucca, by. New haul road will be taken in use after making it pucca, from.</p> <p>(c) The space of processing of coal or coke will be kept covered.</p> <p>(d) All plants will be modified to ensure emission of particulate matter to below 150 micro gm per cubic meter.</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.03.2011 (ST)</p>
02	Surface run-off and quench water find way to down stream.	<p>(a) The rain water of the premises shall be harvested.</p> <p>(b) The other wastewater shall be in close-circuit.</p>	<p>31.06.2011 (ST)</p> <p>30.06.2011 (ST)</p>
03	Coal tar is the by product / waste of this plant. It is hazardous in nature.	All coal tar will be disposed of, by and continued later as well.	31.03.2011 (ST)
04	Due to discharge of emission and wastewater, the bio diversity of plant species, terrestrial animals and aquatic organism have adversely been affected..	The plantation of saplings for creation of tree and forest cover of local species.	31.07.2011(ST)

05	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	<p>(a) Monitoring of ambient air-reporting every quarter, emission- reporting every quarter, effluent- reporting every quarter, downstream surface water- reporting every year, ground water-reporting every year, disposal of hazardous wastes- reporting every six months and tree plantation-reporting every year : Assurance</p> <p>(d) Introduction of GIS/ GPS for continuous recording: Assurance</p> <p>(e) Every month broadcasting through TV and radio : Assurance</p>	<p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p>
----	--	---	---

## Annexure-IX (A)

### PICTURE SHOWING POLLUTION FROM REFRACTORY PLANTS



## Annexure-IX (B)

### Summary of proposed action plan for refractory plants

SN	Action point	Action plans for stake holders	Date of completion
01	The ambient air of the premises of refractory plants remains dusty due to pliance of uncovered trucks and those too on kutchha haul roads and due to uncovered processing of raw materials. The chimneys of plants too emit dust.	<p>(i) The covering of loaded transport vehicles will be compulsory, from.</p> <p>(i) All haul roads will be made pucca, by. New haul road will be taken in use after making it pucca, from.</p> <p>(ii) The space of processing of coal or coke will be kept covered.</p> <p>(iii) All plants will be modified to ensure emission of particulate matter to below 150 micro gm per cubic meter.</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.03.2011 (ST)</p>
02	Surface run-off and quench water find way to down stream.	<p>(c) The rain water of the premises shall be harvested.</p> <p>(d) The other wastewater shall be in close-circuit.</p>	<p>31.06.2011 (ST)</p> <p>30.06.2011 (ST)</p>
03	Ash is the waste of this plant.	All ash will be disposed of by utilization or sale, by and continued later as well.	31.03.2011 (ST)
04	Due to discharge of emission and wastewater, the bio diversity of plant species, terrestrial animals and aquatic organism have adversely been affected..	The plantation of saplings for creation of tree and forest cover of local species.	31.07.2011(ST)
05	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(a) Monitoring of ambient air-reporting every quarter, emission-reporting every quarter, effluent- reporting every quarter, downstream surface water- reporting every year, ground water-reporting every year, disposal of hazardous wastes- reporting every six	31.03.2011(ST)

		months and tree plantation- reporting every year : Assurance	31.03.2011(ST)
		(b) Introduction of GIS/ GPS for continuous recording: Assurance	31.03.2011(ST)
		(c) Every month broadcasting through TV and radio : Assurance	

## Annexure-X

### Summary of proposed action plan for stone crushers

SN	Action point	Action plans for stake holders	Date of completion
01	The operation of a stone crusher produces fugitive dust due to uncovered operation of crusher and screen and loading and unloading of materials.	(a)The covering of loaded transport vehicles will be compulsory, from.  (b)All haul roads will be made pucca, by. New haul road will be taken in use after making it pucca, from.  (c)The space of processing of stone will be kept covered.  (d)A pucca wind breaking wall of 10 ft height will be constructed.	31.03.2011 (ST)  30.06.2011 (ST)  30.06.2011 (ST)  30.03.2011 (ST)
02	Surface run-off and quench water find way to down stream.	The rain water of the premises shall be harvested.	31.06.2011 (ST)
03	Due to discharge of fugitive dust, the bio diversity have adversely been affected..	The plantation of saplings for creation of tree and forest cover of local species.	31.07.2011(ST)
04	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(a) Monitoring of ambient air-reporting every year and tree plantation- reporting every year : Assurance  (b) Introduction of GIS/ GPS for continuous recording: Assurance	31.03.2011(ST)  31.03.2011(ST)

		(c) Every six month broadcasting through TV and radio : Assurance	31.03.2011(ST)
--	--	---	----------------

## Annexure-XI

### Summary of proposed action plan for clay brick kilns

SN	Action point	Action plans for stake holders	Date of completion
01	The operation of a clay brick kiln produces fugitive dust from its cover and loading and unloading of materials in addition to flue gas.	(a) The kiln of CBRI approved design only will be established. (b) The covering of loaded transport vehicles will be compulsory, from. (c) All haul roads will be made pucca, by. New haul road will be taken in use after making it pucca, from. (d) The top layer of kiln will be kept covered.	31.03.2011 (ST) 30.06.2011 (ST) 30.06.2011 (ST) 30.03.2011 (ST)
02	Ash is not used in due proportion	Ash will used due proportion in brick making.	30.03.2011 (ST)
03	Surface run-off and quench water find way to down stream.	The rain water of the premises shall be harvested.	31.06.2011 (ST)
04	Due to discharge of fugitive dust, the bio diversity have adversely been affected..	The plantation of saplings for creation of tree and forest cover of local species.	31.07.2011(ST)
05	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(b) Monitoring of ambient air quality-reporting every year and tree plantation- reporting every year : Assurance (d) Introduction of GIS/ GPS for continuous recording: Assurance (e) Every six month broadcasting through TV and radio : Assurance	31.03.2011(ST) 31.03.2011(ST) 31.03.2011(ST)

--	--	--	--

## Annexure-XII (A)



# Annexure-XII (B)

## SUMMARY OF PROPOSED ACTION PLAN FOR SPONGE IRON PLANTS

SN	Purpose	Action plans for stake holders	Date of completion
01	The operation of a sponge iron plants produces fugitive dust due to uncovered operation of crushers and screens and loading and unloading of materials.	<p>(a) The covering of loaded transport vehicles will be compulsory, from.</p> <p>(b) All haul roads will be made pucca, by. New haul road will be taken in use after making it pucca, from.</p> <p>(c) The spaces of processing of materials will be kept covered.</p> <p>(d) ESP shall be installed in all stacks.</p> <p>(e) All waste dumps will be enclosed by pucca boundary to prevent entry through them.</p> <p>(f) All processing (Crushing, screening etc.) chambers of coal, dolomite etc. will covered.</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>30.03.2011 (ST)</p> <p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p>

02	Creation and maintenance of clean water environment	<p>(a) The direction of surface run-off of the premises of coal washeries shall be diverted to abandoned or in operative mines</p> <p>(b) The wastewater shall be passed through oil separator-cum-filtration system and then discharged to newly created water bodies.</p> <p>(c) Township-wise STP shall be installed.</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p> <p>31.03.2011 (ST)</p>
03	The solid wastes of sponge iron plants and their hazardous wastes are main pollutant	<p>(a) The solid wastes shall be disposed of by utilization or sale.</p> <p>(b) All hazardous wastes shall be disposed of to its reprocessor or coprocessor.</p>	<p>31.03.2011 (ST)</p> <p>30.06.2011 (ST)</p>
04	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	<p>(a) Monitoring of ambient air-reporting every month, effluent- reporting every month, downstream surface water- reporting every month, ground water- reporting every month, disposal of rejects- reporting every quarter, hazardous wastes- reporting every six months and tree plantation- reporting every year : Assurance</p> <p>(b) Introduction of GIS/ GPS for continuous recording: Assurance</p> <p>(c) Every week broadcasting through TV and radio : Assurance</p>	<p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p> <p>31.03.2011(ST)</p>



## Annexure-XIII (A)



## Annexure-XIII (B)

### Summary of proposed action plan for municipal solid wastes

SN	Action point	Action plans for stake holders	Date of completion
01	Maintenance of clean ambient air	Improvement of the conditions of roads	31.03.2011 (ST)
		Stoppage of open burning of coal / municipal solid wastes in un-organised sector	31.03.2011 (ST)
		Compliance of DG set norms by its occupiers	31.03.2011 (ST)
02	Maintenance of clean water environment	Installation of STPs for treatment of sewage of urban areas and resumption of their operation	30.06.2012 (LT)
		Organisation of treated sewage for use for agricultural purposes and resumption of their operation	30.09.2012 (LT)
		Rejuvenation of water ponds in city area with implementation of measures to abate any intrusion of domestic sewage or solid waste	30.06.2011 (ST)
		Enforcement of Rain water harvesting system with each household/ commercial / institution	30.06.2011 (ST)

		bodies by local bodies  Use of defunct shallow tube wells for ground water recharge	30.06.2011 (ST)
03	Municipal solid wastes disposal	Selection of sites for disposal of inorganic garbage and treatment plant for its leachate and composting bio-degradable wastes  Development of sites for disposal of inorganic garbage and treatment plant for its leachate and composting bio-degradable wastes and resumption of their operation  Resumption of utilization of digested garbage or bio-degradable wastes as an organic manure  Collection of plastic wastes for utilization in cement kilns, in blast furnaces and road making.	30.03.2011 (ST)  31.03.2012 (LT)  31.03.2012 (LT)  30.03.2011 (ST)
04	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(a) Monitoring of ambient air-reporting every month, noise level-reporting every month, effluent- reporting every month, ground water- reporting every month, surface water- reporting every month, garbage disposal- reporting every quarter and tree plantation-reporting every year : Assurance  (b) Introduction of GIS/ GPS for continuous recording: Assurance  (c) Every month broadcasting through TV and radio : Assurance	31.03.2011(ST)  31.03.2011(ST)  31.03.2011(ST)

## Annexure-XIV

### Summary of proposed action plan for vehicular transport

SN	Action point	Action plans for stake holders	Date of completion
01	Maintenance of clean ambient air quality	Prohibition on pliance of 15 year old vehicles  Prohibition on pliance of pollutionally unfit vehicles  Restriction on pliance of heavy vehicles	30.06.2011 (ST)
02	Maintenance of clean water environment	Setting of vehicle washing stations with installation of water treatment system.	30.06.2012 (LT)
03	Disposal of hazardous wastes	Enforcement of the HW (MH&TB) Rules	30.06.2011 (ST)
04	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(a) Monitoring of ambient air-reporting every month, noise level-reporting every month, effluent- reporting every month, ground water- reporting every month, surface water- reporting every month, garbage disposal- reporting every quarter and tree plantation- reporting every year : Assurance  (b) Introduction of GIS/ GPS for continuous recording: Assurance  (c) Every month broadcasting through TV and radio : Assurance	31.03.2011(ST)  31.03.2011(ST)  31.03.2011(ST)

## Annexure-XV

### Action plan for shifting of industries located in populated areas

SN	Action point	Action plans for stake holders	Date of completion
01	The industries that are located are listed in Annexure – II. They are to be shifted to appropriate sites.	(a) Identification of industries to be shifted (b) Identification of sites to be allotted to these industries. (c) Completion of legal formalities. (d) Completion of shifting of industries	31.03.2011(ST) 30.06.2011(ST) 30.09.2011(ST) 30.09.2012(LT)

## Annexure-XVI

### Summary of proposed action plan for Indian Railways

SN	Action point	Action plans for stake holders	Date of completion
01	Creation and maintenance of clean ambient air quality	Identification of DG set installation Completion of statutory formalities Compliance of DG set norms	31.03.2011 (ST) 30.06.2011(ST) 30.09.2011(ST)
02	Creation and maintenance of clean water environment	Identification of sources of water pollution Completion of statutory formalities Construction of STP and ETP for complying waste water quality norms	31.03.2011 (ST) 30.06.2011 (ST) 31.03.2012(LT)
03	Creation and maintenance of land environment	Identification of sources of land pollution Completion of statutory formalities Completion of scientific disposal of solid wastes / hazardous wastes / bio-medical wastes / municipal	31.03.2011 (ST) 30.06.2011 (ST) 31.03.2012(LT)

		solid wastes and continuity for future	
04	Action for maintenance and continuity of the condition of good and aesthetic environment and compliance of legal provisions.	(a) Monitoring of ambient air-reporting every month, noise level-reporting every month, effluent- reporting every month, ground water- reporting every month, surface water-reporting every month, garbage disposal- reporting every quarter and tree plantation- reporting every year : Assurance  (b) Introduction of GIS/ GPS for continuous recording: Assurance  (c) Every month broadcasting through TV and radio : Assurance	31.03.2011(ST)  31.03.2011(ST)  31.03.2011(ST)

## Annexure-XVII

### MORATORIUM FOR CREATION OF CLEAN ENVIRONMENT & ITS MAINTENANCE

SN	Action point	Action plans for stake holders	Date of completion
01	Moratorium on establishment of non-site specific green field projects of polluting industries	Identification of polluting industries for which the moratorium should be allowed.  Completion of legal formalities	30.06.2011 (ST)  31.12.2011 (ST)
02	Moratorium on expansion of defaulting projects of mines industries	Identification of the extent of default for which the moratorium should be allowed.  Completion of legal formalities	30.06.2011 (ST)  31.12.2011 (ST)

## Annexure-XVIII

### Financial Aspects of Dhanbad Action Plan

S. N.	Proposed Activities	Executing Agency	Financial requirement (In Lakhs)
1	Preparation of Environmental Master Plan	Dhanbad Municipal	50.00

		Corporation	
2	Upgradation of Monitoring Network	JSPCB	100.00
3	Upgradation of Emission Control Systems of Bee-hive Coke Oven Plants	Hard Coke Plant Owners	20.00/unit
4	Afforestation – in Lake/Pond Catchments Areas	Dhanbad Corporation	200.00
5	Reclamation of Degraded Land (abandoned Open Cast Mines) for Urban Forest and Creation of Green Belt	Mining Companies and Forest Department	1,000.00
6	River Front Development - Damodar River (Removal of OB, Washery rejects etc.)	BCCL, Tata Steel, IISCO, etc	15,000.00
7	Green Belt Development for Noise Attenuation along major Transportation Corridor	BCCL, Tata Steel, IISCO, etc	75.00
8	Soil and Water Conservation Measures	BCCL, Tata Steel, IISCO, etc	100.00
9	Biological Park at Birsa Munda Park & Dhanghi Pahad	Dhanbad Corporation	2000.00
10	Ecological Park at Damodarpur, Dhanbad	Forest Department	
11	Topchanchi Lake – beautification, improvement to approach roads and development of parks	MADA	1 500.00
12	Development of Amusement Park at Rejili Bondh	MADA	1 2,000.00
13	Beautification and boating facility for Maithon Dam and Bekar Band	DVC and Distt. Admn.	1 200.00
14	De- Silting of Topchanchi Lake	MADA	800.00
15	Construction of Storage Reservoirs	PHED and Mining Companies	3000.00
15	Reuse of Pit Water	-do-	100.00
16	Converting Abandoned Open Cast Mines for Drinking Water Storage Tank	MADA & PHED	1,000.00
17	Laying of Sewer Networks	Corporation	19,000.00
18	Construction of STP	-do-	10,000.00
19	Primary collection Vehicles(Pushcarts & Containerized tricycle)	MADA & Corporation	400.00
20	Secondary Collection	-do-	150.00
21	Dual Loaded Dumper Placers for Transportation	-do-	340.00
22	Land Fill Site Development	-do-	3,700.00
23	Incineration Plant for MWM	Hospitals ( Govt. & Privates)	25.00
24	Strengthening of Natural drains/ Channels	Corporation	2,000.00
25	Upgradation and Widening of roads	Corporation & PWD	20,000.00
26	Construction of Pucca Haul Roads	Colliery Management	50.00
27	Formulation of Bye Pass Road	PWD	50000

## Annexure-XIX

### Upgradation of Environmental Monitoring Network

S.No.	Head	Description	Cost (Rs. In lacs)
1	Equipments	Upgradation of Zonal Laboratory	50
		Dedicated Mobile Lab	22
		2 Vehicles for increased surveillance	12
		6 ambient air monitoring kits for monitoring all the parameters as prescribed in new ambient air quality standards vide notification dated 16\11\2009	35
		Fugitive emission detectors	20

		2 no. of vehicular emission testing kit (diesel as well as petrol)	8
		2 no. sound level (dB) meter	5
		Total	152
2	Operation & Maintenance cost of equipment & vehicle for 5 yrs	@ 20% per year of the capital cost	30.4
3	Man power requirement on contract basis for 5 years	* 3 Jr. Scientific officer  * 5 Scientific Asst. * 8 Field Asst. * 3 driver Total	12  12.5 12 5.4 41.9 (for each year)
4		Total fund requirement during the implementation of Action Plan for five years	=513.5 Lacs

---

[1Compiled Action Plan(On Process)]