ENVIRONMENT STATEMENT

AMLO OPEN CAST PROJECT CENTRAL COAFILEDS LIMITED DHORI AREA

FOR 2013-14

SUBMITTED TO JHARKHAND POLLUTION CONTROL BOARD

FORM – V (See rule 14)

Environmental Statement for the financial year ending the 31st March.

PART- A.

I	Name and address of the Project.	Amlo Opencast Project.,	
		PO: Dhori,	
		Dist: Bokaro	
		State: Jharkhan	
ii.	Industry category primary – (STC- Code)	Primary	
iii	Production capacity	3.00 MTPA	
		(as per Approved EC)	
		J-11015/35/2007-IA.II(M)	
		DT. 30-09-2010.	
		Production (13-14)=2.30MTe	
iv	Date of last environment statement submitted.	On 18/23.09.13 (2012-13).	

PART-B.

Water and Raw material composition:

Water Consumption (Avg)	
1. Mining	500 cum/Day
2 Domestic	500 cum/day
Total	1000 cum/day

2. Raw material consumption:

Name of Raw material	Name of product	Consumption of Raw materials per unit of product output		
		During the previous During the current		
		Financial year Financial year		
		(12-13) (13-14)		
POL (Liter/ton of coal)		0.07	0.05	
Explosive (Kg/ton of coal)		0.089 0.08		

PART-C

Pollution discharged to Environment / unit of output

(parameters as specified in the consent issued)

Pollution	Quantity of	Percentage of variation from prescribed
	pollutants	stack with reason.
	discharged	
	(Cum/day)	
a) water	870 (mine disch)	The quality of mine water is meeting the
		prescribed standard.
b) Air	-	The qualities of SPM/RPM/SOx & NOx
		generated are well within the prescribed
		standard.

Amlo OCP









PART- D.

 $\frac{\text{Hazardous Waste (As specified under Hazardous Waste / management and}}{\text{Handling rules} - 1989.}$

The project does not produce and/ or release any hazardous waste which is governed by Hazardous Waste Management & Handling rule 1989.

PART - E

SOLID WASTE:

Solid Waste	Total Quantity (M.cum)			
	During the previous During the current			
	Financial year (12-13)	Financial year (13-14)		
a) From process (OB)	1.724	2.52		
b) From pollution control	Nil	Nil		
facility				

PART - F

Please specify the Characteristics in terms of concentration and quantity of Hazardous as well as solid waste and indicate, disposal practice adopted for both these categories of wastes.

• <u>1. HAZARDOUS WASTES</u>:

• Hazardous wastes is not being produced either from mining operation or from any pollution control facilities.

• 2. SOLID WASTES:

• During opencast mining over burden produced as solid wastes temporarily as these materials are used for land reclamation. During the year 2013-14, 2.52 Million cubic meter of overburden was generated. The overburden material are more or less homogeneous comprising mainly shale, sand, silt, clay and gravel.

• 3. DISPOSAL PRACTICE :

• Presently, the OB material is being filled in decoaled area of quarry. The external O.B dump of previous year is used in back filling and reclamation of land.

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PART-G

Impact of pollution control measures on conservation of natural resources and consequently on cost of production.

Following pollution control measures have been adopted by the mine management:

1) Air [Pollution Control Measures:

- i) Regular water sprinkling of water on haul roads and other roads.
- ii) Dust suppression at all transfer points
- iii) Vegetation of OB dumps
- iv) Regular monitoring of all environment parameters.

2) Water Pollution control measures:

- i) The mine water collected in the lagoons acts as sedimentation pond where all suspended particles are settled . the clear water is used for spraying / industrial purpose. The excess water overflows to mullah.
- ii) Work shop ETP is in operation.
- iii) Regular monitoring is done to check the parameters.
- 3) Noise pollution control measures.
- i) All HEMM provided with noise /sound proof cabins.
- ii) Ear muffs/plugs are provided to workers.

PART-H

Additional investment proposal for Environmental protection including abatement of pollution.

The following are the additional investment proposal for Environmental protection

- 1. All residential quarters constructed for the project has been provided with septic latrines and effluents are disposed off in soak pits. The capital investment for this purpose has not been assessed separately .
- 2. The Environmental Monitoring of the project will be continued quarterly as per guidelines of MOEF
- 3. Environmental statement report will be prepared for each financial year ending 31st March.

PART-I

Any other particulars in respect of environment protection and abatement of pollution.

- The Environmental monitoring is carried out quarterly for the project by CMPDI as per the guidelines of the Ministry of Environment & Forest (MOEF).
- The Environmental Statement for the project is prepared every year.
- Ambient air quality, quality of effluent discharged from the mine and noise level all conform to the prescribed limits.
- To control fugitive dust on haul road arrangements has been made from water sprinkling on the haul road.

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Job No. : 094313025 Date of Issue:

26/06/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13

Sample Description : Air

Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Date of receipt of sample

26/06/13

: 17/06/13 Date of

Date of performance of Test: 24/06/13 to

TEST RESULT

The sample has been tested with the following results:-

Area : Dhori Year

2013

Project : Amlo Quarter Ending June

'2013

Name of the Sampling Station P.O Office

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
11/06/2013 - 12/06/2013	265	123	11	44	

Name of the Sampling Station Workshop

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
11/06/2013 - 12/06/2013	428	242	12	42	

Name of the Sampling Station Chapri Guest House

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
12/06/2013 - 13/06/2013	155	92	11	41	

Name of the Sampling Station Amlo Village

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
12/06/2013 - 13/06/2013	353	207	10	42	

Job No. : 094313025 Date of Issue:

17/06/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13

Sample Description : Noise

Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Date of receipt of sample : 17/06/13 Date of performance of

Test: -

TEST RESULT

The sample has been tested with the following results:-

Area : Dhori Year

2013

Project : Amlo Quarter Ending June

'2013

Sampling Stations 1 P.O. Office

2 Workshop

Station Name	Date of Sampling	Noise Level
P.O.Office	11/06/2013	47.3
Workshop	11/06/2013	49.5

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

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

Job No. : 094313025 Date of Issue:

28/06/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13

Sample Description : Effluent Water

Product Specification (BIS) : MoEF Sch VI Class 'a' std.

Test Required : 26 items as per MoEF Sch VI Class 'a' std.

Date of receipt of sample : 17/06/13 Date of performance of Test: 24/06/13 to

28/06/13

TEST RESULT

The sample has been tested with the following results:-

Area : Dhori Year

2013

Project : Amlo Quarter Ending June

'2013

Sampling Stations 1. Lagoon Discharge 15-June-13

All parameter are in mg/l unless specified

BDL - Below Detectable Limit

SI.No.	Parameter	Sam	pling Station	าร	Below	MOEF -SCH-VI STANDARDS	Remarks
		1	2	3	Detection Limit		
1	Colour & Odour	Acceptable			-	Acceptable	
2	Total Suspended Solids	40			5.00	100.0	
3	pH value	7.90			0.01	5.5 to 9.0	
4	Temperature (°C)	25.8			-	Shall not exceed 5 C	above the receiving
5	Oil & Grease	BDL			1.00	10.0	
6	Total Residual Chlorine	BDL			0.04	1.0	
7	Ammonical Nitrogen	0.20			0.02	50.0	
8	Total Kjeldahl Nitrogen	2.70			0.02	100.0	
9	Free Ammonia	BDL			0.02	5.0	
10	B.O.D (3 days 27°C)	1.00			1.00	30.0	
11	COD	50			5.00	250.0	
12	Arsenic	BDL			0.01	0.2	
13	Lead	BDL			0.05	0.1	
14	Hexavalent Chromium	BDL			0.01	0.1	
15	Total Chromium	BDL			0.10	2.0	
16	Copper	BDL			0.02	3.0	
17	Zinc	BDL			0.02	5.0	
18	Selenium	BDL			0.01	0.05	
19	Nickel	BDL			0.10	3.0	
20	Fluoride	0.40			0.05	2.0	
21	Dissolved Phosphate	0.12			0.01	5.0	
22	Sulphide	0.04			0.01	2.0	
23	Phenolic Compounds	BDL			0.001	1.0	
24	Manganese	BDL			0.05	2.0	
25	Iron	BDL			0.05	3.0	
26	Nitrate Nitrogen	2.2	•		0.01	10.0	

Job No. : 094313025 Date of Issue: 17/09/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13

Sample Description : Air

Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Date of receipt of sample : 05/09/13 Date of performance of Test: 05/09/13 to 17/09/13

TEST RESULT

The sample has been tested with the following results:-

Area: DhoriYear2013Project: AmloQuarter Ending Sept.'2013

Name of the Sampling Station P.O Office

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
30/08/2013 - 31/08/2013	50	31	<25	22	

Name of the Sampling Station Workshop

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
30/08/2013 - 31/08/2013	166	137	<25	22	

Name of the Sampling Station Chapri Guest House

Manie of the Jamping Station Chaph Guest House					
Date of Sampling	SPM	RPM	SO2	NOx	Remarks
30/08/2013 - 31/08/2013	130	111	<25	25	

Name of the Sampling Station Amlo Village

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
02/09/2013 - 03/09/2013	81	57	<25	22	

Analysed By Checked By

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

Job No. : 094313025 Date of Issue: 05/09/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13

Sample Description : Noise

Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Date of receipt of sample : 05/09/13 Date of performance of Test: -

TEST RESULT

The sample has been tested with the following results:-

Area : *Dhori* Year 2013
Project : *Amlo* Quarter Ending Sept. '2013

Sampling Stations 1 P.O. Office

2 Workshop

Station Name	Date of Sampling	Noise Level
P.O.Office	30/08/2013	45.8
Workshop	30/08/2013	46.9

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

Noise Level

6.00 AM to 10.00 PM	10.00 PM to 6.00 AM
Leq 75 dB(A)	Leq 70 dB(A)

Checked By

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

Job No. : 094313025 Date of Issue: 17/09/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/Env-Monitoring/13-14/ 2013/823-828 dt. 16/05/13

Sample Description : Effluent Water

Product Specification (BIS) : MoEF Sch VI Class 'a' std.

Test Required : 27 items as per MoEF Sch VI Class 'a' std.

Date of receipt of sample : 05/09/13 Date of performance of Test: 05/09/13 to 17/09/13

TEST RESULT

The sample has been tested with the following results:-

Area : Dhori Year 2013
Project : Amlo Quarter Ending Sept. '2013

Sampling Stations 1. Lagoon Discharge

03-Sept.-13

All parameter are in mg/l unless specified BDL - Below Detectable Limit MOEF -SCH-VI Below SI.No. **Parameter Sampling Stations** Remarks Detection **STANDARDS** 1 3 Limit Colour & Odour 5.0 1 Acceptable Acceptable Cannot be quantified Total Suspended Solids 2 38 25.00 100.0 3 pH value 8.08 0.01 5.5 to 9.0 Temperature (°C) 25.3 Shall not exceed 5 C above the receiving 4 temp. 5 Oil & Grease 2.00 2.00 10.0 Total Residual Chlorine BDI. 6 0.02 1.0 7 Ammonical Nitrogen 0.24 0.01 50.0 Total Kjeldahl Nitrogen 2.70 100.0 8 1.00 9 BDL 0.01 Free Ammonia 5.0 B.O.D (3 days 27°C) 10 2.00 2.00 30.0 COD 4.00 250.0 11 45 BDL 0.005 Arsenic 0.2 12 Lead BDL 13 0.005 0.1 **BDL** 0.0005 14 Cadmium 2.0 Hexavalent Chromium BDL 0.01 15 0.1 16 **Total Chromium BDL** 0.06 2.0 Copper BDL 0.03 3.0 17 5.0 18 Zinc **BDL** 0.01 19 Selenium BDL 0.005 0.05 20 Nickel BDL 0.10 3.0 0.38 21 Fluoride 0.02 2.0 Dissolved Phosphate 0.27 0.30 22 5.0 23 Sulphide 0.005 0.005 2.0 24 Phenolic Compounds **BDL** 0.002 1.0 25 Manganese BDL 0.02 2.0 26 Iron BDL 0.06 3.0 10.0 27 Nitrate Nitrogen 1.8 0.50

Analysed By Checked By

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

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Job No. : 094313025 Date of Issue: 27/12/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/DGM-HOD(E&F)/2013/1570 Dt. 22/11/13

Sample Description : Air

Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25th Sept.'2000 Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Date of receipt of sample : 19/12/13 Date of performance of Test: 19/12/13 to 27/12/13

TEST RESULT

The sample has been tested with the following results:-

Area : Dhori Year 2013 **Project** : Amlo Quarter Ending Dec. '2013

All parameters are in µg/m³

Name of the Sampling Station P.O Office

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
16/12/2013 - 17/12/2013	340	89	<25	23	

Name of the Sampling Station Workshop

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
12/12/2013 - 13/12/2013	280	143	<25	22	

Name of the Sampling Station Chapri Guest House

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
13/12/2013 - 14/12/2013	141	60	<25	19	

Name of the Sampling Station Amlo Village

Date of Sampling	SPM	RPM	SO2	NOx	Remarks
13/12/2013 - 14/12/2013	153	99	<25	23	

Analysed By Checked By

Note:

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

Job No. : 094313025 Date of Issue: 19/12/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/DGM-HOD(E&F)/2013/1570 Dt. 22/11/13

Sample Description : Noise

Product Specification (BIS) : Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Test Required : As per Gazette Notification no. G.S.R 742(E) dt.25th Sept.′2000

Date of receipt of sample : 19/12/13 Date of performance of Test: -

TEST RESULT

The sample has been tested with the following results:-

Area : *Dhori* Year 2013
Project : *Amlo* Quarter Ending Dec. '2013

Sampling Stations 1 P.O. Office

2 Workshop

Station Name	Date of Sampling	Noise Level
P.O.Office	16/12/2013	46.3
Workshop	12/12/2013	48.0

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

Noise Level

6.00 AM to 10.00 PM	10.00 PM to 6.00 AM
Leq 75 dB(A)	Leq 70 dB(A)

Checked By

D- 13

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

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Job No. : 094313025 Date of Issue: 24/12/13

Name of the Customer : CCL

Customer Letter Ref. No. (if any): CCL/DGM-HOD(E&F)/2013/1570 Dt. 22/11/13

Sample Description : Effluent Water

Product Specification (BIS) : MoEF Sch VI Class 'a' std.

Test Required : 27 items as per MoEF Sch VI Class 'a' std.

Date of receipt of sample : 19/12/13 Date of performance of Test: 19/12/13 to 24/12/13

TEST RESULT

The sample has been tested with the following results:-

Area: DhoriYear2013Project: AmloQuarter Ending Dec.'2013

Sampling Stations 1. Lagoon Discharge 18-Dec-13

All parameter are in mg/l unless specified

Note:

BDL - Below Detectable Limit

(Authorized Signatory)

Sl.No.	Parameter	Sam	pling Statio	ons	Below	MOEF -SCH-VI	BIS Standard	Method
		1	2	3	Detection STANDARDS Limit			
1	Colour & Odour	Acceptable			5.0 Cannot be quantified	Acceptable	APHA, 22 nd Edition IS 3025 /05:1983	Pt.Cobalt Physical, Qualitative
2	Total Suspended Solids	34			25.00	100.0	IS-3025/17:1984	Gravimetric
3	pH value	8.05			0.01	5.5 to 9.0	IS-3025/11:1983	Electrometric
4	Temperature (°C)	18.8			5.0	Shall not exceed 5 C above the receiving temp.	IS-3025/09:1984	Thermometeric
5	Oil & Grease	BDL			2.00	10.0	IS-3025/39:1991	Partition Gravimetric
6	Total Residual Chlorine	BDL			0.02	1.0	APHA, 22 nd Edition	DPD
7	Ammonical Nitrogen	0.22			0.01	50.0	IS:3025/34:1988	Nesseler's
8	Total Kjeldahl Nitrogen	2.30			1.00	100.0	IS:3025/34:1988	Nesseler's
9	Free Ammonia	BDL			0.01	5.0	IS:3025/34:1988	Nesseler's
10	B.O.D (3 days 27°C)	2.00			2.00	30.0	IS-3025/44:1993	3 day incubation at 27°C
11	COD	40			4.00	250.0	IS-3025/58:2006	Titration
12	Arsenic	BDL			0.005	0.2	APHA, 22 nd Edition	AAS-GTA
13	Lead	BDL			0.005	0.1	APHA, 22 nd Edition	AAS-GTA
14	Cadmium	BDL			0.0005	2.0	APHA, 22 nd Edition	AAS-GTA
15	Hexavalent Chromium	BDL			0.01	0.1	APHA, 22 nd Edition	Diphenylcarbohydrazide
16	Total Chromium	BDL			0.06	2.0	IS-3025/52:2003	AAS-Flame
17	Copper	BDL			0.03	3.0	IS-3025/42:1992	AAS-Flame
18	Zinc	BDL			0.01	5.0	IS-3025/49:1994	AAS-Flame
19	Selenium	BDL			0.005	0.05	APHA, 22 nd Edition	AAS-GTA
20	Nickel	BDL			0.10	3.0	IS-3025/54:2003	AAS-Flame
21	Fluoride	0.42			0.02	2.0	APHA, 22 nd Edition	SPADNS
22	Dissolved Phosphate	0.28			0.30	5.0	APHA, 22 nd Edition	Molybdovanadate
23	Sulphide	BDL			0.005	2.0	APHA, 22 nd Edition	Methylene Blue
24	Phenolic Compounds	BDL			0.002	1.0	APHA, 22 nd Edition	4-Amino Antipyrine
25	Manganese	BDL			0.02	2.0	APHA, 22 nd Edition	AAS-Flame
26	Iron	BDL			0.06	3.0	IS-3025/53:2003	AAS-Flame
27	Nitrate Nitrogen	2.0			0.50	10.0	APHA, 22 nd Edition	UV Spectrphotometric

Analysed By

Checked By

G.M (Chemist)

Env. Lab, CMPDI(HQ)

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3) Liability for return of samples ceases as samples cannot be retained for retests.

Lab No. T-2187	Job No. 094313025	Year	2013-14
Type of Sample:	Ambient Air	Quarter Ending	March '14
Customer / W. O. no. &	CCL/DGM-HOD (E&F)/2013/ 1570	Date of Receipt of	18.03.14
Date:	Dt. 22/11/13	Sample:	
Mode of Receipt of Sample:	Jointly sampling with customer	Date of Analysis:	18.03.14-28.03.14
Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010,	Date of Reporting:	28.03.14
	Methods for Measurement of Air Pollution		
Testing Protocol:	Gazette Notification no. G.S.R 742(E) dt.25 th	Sept.'2000	
Remarks & Observation:			

TEST RESULT

The sample has been tested with the following results:-

Area:	Dhori	Project:	Amlo
Stations:			Date of Sampling:
	1. P.O Office		10-11/03/2014
	2. Workshop		10-11/03/2014
	3. Chapri Guest House		11-12/03/2014
	4. Amlo Village		11-12/03/2014

S.No	Test Parameters	Units	Test Method	TEST RESULT			
	Stations:				2	3	4
1.	Total Particulate Matter (PM ₁₀ + >PM ₁₀)	μg/m ³	Lab.SOP 4 based on – IS: 5182/23, 2006	225	135	161	136
2.	Particulate Matter (PM ₁₀)	μg/m ³	IS: 5182/23 2006	170	98	94	82
3.	Sulphur Dioxide (SO ₂)	μg/m ³	IS: 5182 /02 2001 R-2006	<25	<25	<25	<25
4.	Nitrogen Oxides (as NO _x)	μg/m ³	IS: 5182 /02 1975 R-1998	21	22	21	22

Note: Gazette Notification no. G.S.R 742(E) dt.25th Sept. 2000 is enclosed along for reference

Analysed By Checked By

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

Note:

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Lab No. T-2187	Job No. 094313025	Year	2013-14
Type of Sample:	Noise	Quarter Ending	March '14
Customer / W. O. no. &	CCL/DGM-HOD(E&F)/2013/ 1570	Date of Receipt of	18.03.14
Date:	Dt. 22/11/13	Sample:	
Mode of Receipt of Sample:	Jointly sampling with customer	Date of Analysis:	-
Testing Protocol:	Gazette Notification no. G.S.R 742(E) dt.25 th Sept.'2000	Date of Reporting:	-
Remarks:			

TEST RESULT

The sample has been tested with the following results:-

Area: Dhori Project: Amlo Stations:

1. P.O. Office
2. Workshop
3.
4.

Station Name	Date of Sampling	Noise Level
P.O.Office	10/03/2014	47.6
Workshop	10/03/2014	49.9

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

6.00 AM to 10.00 PM 10.00 PM to 6.00 AM

Leq 75 dB(A) Leq 70 dB(A)

Checked By

D- 13

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

Lab No. T-2187	Job No. 094313025	Year - 2013-14	2013-14	
Type of Sample:	Effluent Water	Quarter Ending	March '14	
Customer / W. O. no. &	CCL/DGM-HOD(E&F)/2013/ 1570	Date of Receipt of	18.03.14	
Date:	Dt. 22/11/13	Sample:		
Mode of Receipt of Sample:	Picked up sample by laboratory	Date of Analysis:	18.03.14-31.03.14	
Testing Protocol:	MOEF -SCH-VI STANDARDS, Class 'A'	Date of Reporting:	31.03.14	
Remarks & Observation:	Samples received in 2 ltr plastic Jerri cane,			
	Colour as observed is transparent			

TEST RESULT

The sample has been tested with the following results:-

Area: Dhori Project: Amlo

Stations: Date of Sampling:

1. Lagoon Discharge 15/03/2014

2. 3.

Sl.No.	Parameter	Sampling Stations			Desirable	MOEF -SCH-VI STANDARDS	BIS Standard & Method
		1	2	3	Limits	Class 'A'	
1	Total Suspended Solids, mg/l, Max	40			25.00	100.0	IS 3025/17:1984, R :1996, Gravimetric
2	pH value	7.97			0.01	5.5 to 9.0	IS-3025/11:1983, R-1996, Electrometric
3	Temperature (°C)	24.7			5.0	Shall not exceed 5 C above the receiving temp.	IS-3025/09:1984, Thermometeric
4	Oil & Grease, mg/l, Max	2.00			2.00	10.0	IS 3025/39:1991, R : 2003, Partition Gravimetric
5	Total Residual Chlorine, mg/l, Max	< 0.02			0.02	1.0	APHA, 22 nd Edition, DPD
6	Ammonical Nitrogen, mg/l, Max	0.12			0.01	50.0	IS 3025/34:1988, R : 2009, Nessler's
7	Total Kjeldahl Nitrogen, mg/l, Max	1.20			1.00	100.0	IS:3025/34:1988, Nesseler's
8	Free Ammonia, mg/l, Max	< 0.01			0.01	5.0	IS:3025/34:1988, Nesseler's
9	B.O.D (3 days 27°C), mg/l, Max	2.00			2.00	30.0	IS 3025 /44:1993,R:2003 3 day incubation at 27°C
10	COD, mg/l, Max	48			4.00	250.0	APHA, 22 nd Edition, Closed Reflux, Titrimetric
11	Arsenic, mg/l, Max	< 0.005			0.005	0.2	IS 3025/37:1988 R : 2003, AAS-VGA
12	Lead, mg/l, Max	< 0.005			0.005	0.1	APHA, 22 nd Edition, AAS-GTA
13	Cadmium, mg/l, Max	< 0.0005			0.0005	2.0	APHA, 22 nd Edition, AAS-GTA
14	Hexavalent Chromium, mg/l, Max	< 0.01			< 0.01	0.1	APHA, 22 nd Edition, Diphenylcarbohydrazide
15	Total Chromium, mg/l, Max	0.17			0.06	2.0	IS-3025/52:2003, AAS-Flame
16	Copper, mg/l, Max	< 0.03			0.03	3.0	IS 3025/42: 1992 R : 2009, AAS-Flame
17	Zinc, mg/l, Max	0.03			0.01	5.0	IS 3025 /49 : 1994, R : 2009, AAS-Flame
18	Selenium, mg/l, Max	< 0.005			0.005	0.05	APHA, 22 nd Edition, AAS-GTA
19	Nickel, mg/l, Max	< 0.10			0.10	3.0	IS-3025/54:2003, AAS-Flame
20	Fluoride, mg/l, Max	0.65			0.02	2.0	APHA, 22 nd Edition, SPADNS
21	Dissolved Phosphate, mg/l, Max	0.32			0.30	5.0	APHA, 22 nd Edition Molybdovanadate
22	Sulphide, mg/l, Max	< 0.005			0.005	2.0	APHA, 22 nd Edition, Methylene Blue
23	Phenolic Compounds, mg/l, Max	< 0.002			0.002	1.0	APHA, 22 nd Edition 4-Amino Antipyrine
24	Manganese, mg/l, Max	< 0.02			0.02	2.0	IS-3025/59:2006, AAS-Flame
25	Iron, mg/l, Max	< 0.06			0.06	3.0	IS 3025 /53 : 2003, R : 2009 , AAS-Flame
26	Nitrate Nitrogen, mg/l, Max	2.4			0.50	10.0	APHA, 22 nd Edition, UV-Spectrphotometric

Analysed By Checked By

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

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Note: 1) This Report refers to the values obtained at the time of testing and results related to the items tested

- 2) This Report cannot be reproduced in part or full without written permission of the management.
- 3) Liability for return of samples ceases as samples cannot be retained for retests.