

CPP

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OCL INDIA LIMITED

ओसीएल इण्डिया लिमिटेड

Env. / EC / 13 - 2017

OC

Date-09-06-2017

The State Environment Impact Assessment Authority,
(SEIAA), ODISHA
Qtr. No. 5RF-2/1, Unit - IX,
BHUBANESWAR - 751022

Sub:- Submission of six monthly compliance report for the period (October, 2016 to March, 2017) of (2x27 MW) Captive Power Plant of M/s OCL India Limited, Rajgangpur, Dist- Sundargarh, Odisha.

Ref: - Environmental Clearance letter No. SEIAA 619 / SEIAA - 128/10, dated 22 December 2010.

Dear Sir,

With reference to above letter, we enclose herewith the six monthly compliance report (Ending March, 2017) of conditions stipulated in the Environmental Clearance for the above project.

Thanking you

Yours sincerely

Yours sincerely
For OCL India Limited

(S.K.Rout)
Asst. Executive Director (Mines & Env.)

Encl: As above

Copy to:
The Director (S)
Government of India
Ministry of Environment, Forest & Climate Change
Eastern Regional Office, A/3, Chandrasekharpur
BHUBANESWAR - 751023

SIX MONTHLY COMPLIANCE REPORT
(OCTOBER, 2016 TO MARCH, 2017)

OF

ENVIRONMENT CLEARANCE LETTER NO.
SEIAA 619 / SEIAA-128/10 DATED 22 DEC, 2010

FOR

(2X27 MW) CAPTIVE POWER PLANT PROJECT

BY

OCL INDIA LIMITED
RAJGANGPUR-770017
DIST-SUNDARGARH
ODISHA

Date: 28th May, 2017

OCL INDIA LIMITED, RAJGANGPUR

Sub: Submission of Six monthly compliance report (October, 2016 to March, 2017 of condition stipulated in Environmental Clearance letter No. SEIAA 619 / SEIAA-128/10 dated 22 December 2010 by SEIAA, Odisha for (2x27MW) Captive Power Plant Project of M/s OCL India Limited, Rajgangpur.

SL.No.	Description of condition	Compliance status
i	The applicant (Project proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, Water pollution, Noise pollution and Land pollution including solid waste management as mentioned by him in form-1, Final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.	<p>Following Pollution control systems are installed for prevention , control of pollution and mitigation of Air, Water, Noise, & Land pollution including solid waste management –</p> <p><u>Air Pollution Control</u></p> <ul style="list-style-type: none">• Two nos. high efficiency Electrostatic Precipitator (ESP) with six fields• Pneumatic ash conveying system• Ash storage silos with bag filter arrangement• Pneumatic ash transportation system from CPP to our cement plant• Conveyor belt covering arrangement• 8 nos. bag filters are installed in Coal handling transfer points• Water sprinkling arrangement on the road <p><u>Water pollution Control</u></p> <ul style="list-style-type: none">• STP has already been commissioned and treated water is utilized for green belt development/ plantation. <p><u>Noise Pollution Control</u></p> <ul style="list-style-type: none">• Compressor, TG area and ACC is acoustically sealed to prevent noise pollution.• In stream vent line silencers are provided.• Fan and seal blower silencers arrangement made. <p><u>Solid Waste Management</u></p> <ul style="list-style-type: none">• Sludge from STP is utilized for green belt development / plantation.• Solid waste (fly ash & Bottom ash) is utilized as raw material for cement manufacturing process in our own cement plant

ii	The applicant will take necessary steps for Socio-economic development of the people of the area on need based assessment for providing employment education , health care, drinking water and sanitation, road and communication facilities etc., after a detailed primary socio economic survey of the core zone.	A detailed socio-economic survey report has already been submitted. All steps are been taken under various CSR activities.
iii	The applicant will comply with the points, concerns and issued raised by the people during public hearing on 29 th May 2009 in accordance with the comments made by him thereon.	Complied
iv	The applicant will take statutory clearance / approval / permission from the concerned authorities in respect of his project as and when required.	Complied
v	For post environmental clearance monitoring , the applicant will submit half yearly compliance report in respect of the stipulated terms and conditions of Environmental clearance to the State Environmental Impact Authority (SEIAA/), Orissa on 1 st june and 1 st December of each calendar year.	The half yearly compliances report is being submitted regularly.
vi	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate matter emission does not exceed 50 mg/Nm ³ .	Complied and stack emission are well within standard, 50 mg/Nm ³ .
vii	The proponent may use bottom ash as a supplement for the raw material for cement production with approved technology confirming to the relevant standards specification.	We have established use of bottom ash in cement manufacturing process and accordingly mix is prepared in confirmation to the standards.
viii	The unit shall be allowed to use Washery rejects as raw material having <60% ash content	Complied
ix	The proponent shall treat the flue gas through Flue Gas De-sulfurisation (FGD), if SO ₂ emission level exceeds the prescribed norm	Adequate measures are taken to control So ₂ emission. Present limits are well within the prescribed standard.
x	No ground water shall be extracted for the project work at any stage.	Noted for compliance
xi	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dust areas such as in coal handling and ash	Adequate dust extraction systems are installed as mentioned below- i) 8 nos of bag filters in coal handling transfer

	handling points, transfer areas and other vulnerable dusty areas shall be provided.	<p>points to control fugitive dust</p> <ul style="list-style-type: none"> ii) 3 nos of bag filter in flyash silo areas to control fugitive dust. iii) Pneumatic fly ash transportation system from CPP to cement plant is commissioned to eliminate fugitive dust. iv) Covered conveyor belts are provided for local transportation to eliminate fugitive dust.
xii	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. 100% fly ash utilized shall be ensured as per fly ash notification of MoEF, Govt. of India. Unutilized fly ash and bottom ash shall be stored in the ash pond separately through high concentration slurry disposal method. Mercury levels along with other heavy metals (Pb, Cr, As, etc.) should be mentioned in the fly ash / bottom ash, leachates and effluents emanating from the ash pond.	100 % fly ash is utilized in our cement plant. Bottom ash is stored in silo and being utilized as raw material in cement manufacturing.
xiii	The ash pond should be constructed with impervious lining and ash pond embankment should be stone pitched.	As 100% fly ash utilized for our CPP, it does not have any prerequisite of ash pond, in our system.
xiv	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary. Arrangements shall be made so that effluents and storm water do not get mixed.	The effluent after treatment conforms to the prescribed norms. We ensure 'zero' discharge by re-circulating and reusing the treated water. Care is being taken to elude any mixing of effluent with storm water.
xv	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/ plantation.	Sewage treatment plant (STP) is under operation and treated sewage water is used for greenbelt development / plantation.
xvi	Rainwater harvesting should be adopted. Central Groundwater Authority / Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished to the SEIAA, Orissa.	Complied and rain water harvesting measures have taken
xvii	Adequate safety measures shall be provided in the LDO and / HFO / LSHS shall be made in the plant area to check / minimize spontaneous fires in coal yard, especially during summer season. Details of these measures to be taken along with location plant layout shall be submitted to the SEIAA, Orissa.	Adequate measures have been taken.

xviii	Storage facilities for auxiliary liquid fuel such as LDO and /HFO / LSHS shall be made in the plant area where risk is minimum. On site and off site Disaster Management plans shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modification required if any, shall be incorporated in the Disaster Management plan (DMP). Sulfur content in the liquid fuel will not exceed 0.5%.	Complied with the condition, as specified and also in terms of the guidelines under the Explosives Rules, 2008.
xix	Regular monitoring of ground water in and around the ash pond shall be carried out, records maintained and half yearly reports shall be furnished to the SEIAA, Orissa	Not applicable, as we do not require ash pond. Since, fly ash is stored in the fly ash silo and gets utilized for cement plant.
xx	A GREEN BELT of adequate width and density preferably with local species along the periphery of the plant & alongside roads, etc. shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green belt throughout the year & for this purpose they may engage professionals in this field for creation and maintenance of the green belt. An action plan for this purpose shall be prepared accordingly and submitted to the SEIAA, Orissa.	Complied. Year wise plantation details is enclosed as Annexure - I
xxi	First aid and sanitation arrangements shall be made for the drives and other contract workers during construction phase.	Complied
xxii	Noise levels emanating from turbines and air compressors shall be limited to 75 dB (A); for people working in the high noise area, requisite personal protective equipment's like earplugs / ear muffs etc . shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy / less noisy areas.	Noise level is maintained within the permissible limit. People working in the noisy area are provided with ear muff & required PPE.
xxiii	Regular monitoring of ground level concentration of SO ₂ , NO _x , RSPM (PM ₁₀ & PM _{2.5}) etc. shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequently	Regular monitoring of SO ₂ , NO _x , RSPM (PM ₁₀ & PM _{2.5}) etc. is being carried out as per guidelines of SPCB by an NABL accredited agency. Monitoring results are enclosed as Annexure-II.

	of monitoring shall be decided in consultation with SPCB, Orissa	
xxiv	Provision shall be made for housing of constructing labours within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Proper care is been ensured to take care about Labour management during project work.
xxv	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Environment cells have already been formed for implementation of environmental safeguards.
xxvi	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to the appropriate authorities.	Reports are being submitted in regular basis.
xxvii	Separate fund shall be allocated for implementation of environmental protection measures along with item-wise break- up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported.	Earmarked funds have allocated for implementation of environmental protection measures.
xxviii	The need of the local people should be appropriately addresses in the CSR activities to be undertaken by the project proponent in the area. An action plan in this regard should be prepared and submitted to SEIAA, Orissa.	Action plan with implementation are undertaken under CSR activities. Updated report in this regard relating to CSR developmental activities is enclosed as Annexure-III
xxix	The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract under the provisions of Environmental Protection (EP) Act, 1986.	Comply with the stipulated conditions, as per E.P.Act, 1986.

**STATUS ON PLANTATION
AND
GREEN BELT AREA
DEVELOPED
BY
OCL INDIA LIMITED**

YEARWISE PLANTATION DETAILS IN AND AROUND OCL PREMISES

YEAR	Trees planted in & around plant (Cumulative)
Up to Mar,06	130000
2006-2007	142645
2007-2008	148655
2008-2009	155155
2009-2010	162401
2010-2011	171757
2011-2012	177957
2012-2013	183957
2013-2014	190246
2014-2015	196660
2015-2016	203892
2016-2017	209442

TREE PLANTATION DETAILS

YEAR WISE PLANTATION IN OCL, TILL 2016-17

250000

Cumulative figure

200000

150000

100000

50000

0

Up to Mar, 06

2006-2007

2007-2008

2008-2009

2009-2010

2010-2011

2011-2012

2012-2013

2013-2014

2014-2015

2015-2016

2016-2017



ENVIRONMENTAL MONITORING REPORT

BASED ON DATA GENERATED

FROM

OCTOBER 2016 – MARCH 2017

FOR

OCL INDIA LIMITED

At/Po: RAJGANGPUR, District: SUNDARGARH, ODISHA

AT

**CEMENT PLANT(LINE – 1 & 2)
AND
CAPTIVE POWER PLANT**

Prepared By:

Cleenviron Private Limited

D-124, KOELNAGAR, ROURKELA, ODISHA

Tele fax: 0661 – 2475746

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1. INTRODUCTION

OCL is currently manufacturing Ordinary Portland Cement (OPC) of various grades including grade 53S specially meant for concrete sleepers for railways, Portland Slag Cement (PSC), flyash based Portland Pozzolana Cement (PPC), Sulphate Resistance Portland Cement (SRPC) and Oil well cement. The main raw materials used for manufacturing of various types of cement are Clinker, Slag, Flyash and Gypsum. Clinker is the main raw material, which is produced by sintering limestone along with other additives like clay, morrum, char, cinder etc. Coal is used as fuel for burning the limestone in kiln.

Cement Division of OCL India Limited (OCL) is currently operating a cement plant located at Rajgangpur in Sundargarh district of Odisha state. The existing plant has production capacity of 2.9 million tonnes clinker per annum and cement manufacturing capacity 4 million tonnes cement per annum.

The limestone requirement for the proposed expansion is proposed to be met by the increased production from the existing captive mines at Lanjiberna.

2. LOCATION AND ACCESSIBILITY

The proposed site is well within the existing factory premises of OCL at Rajgangpur and has the following coordinates (as per Survey of India toposheet no. 73 B/12, scale 1:50000):

- Latitude : 22° 12' N
- Longitude : 84° 35' E

The area covered by OCL comes under Rajgangpur village of Tehsil Rajgangpur, district Sundargarh. The general elevation of land is about 250 m above mean sea level. Accessibility to the site is as per details given below:

Road

The plant is located about 43 km from Rourkela on Rourkela-Sambalpur state highway (SH-10).

Rail

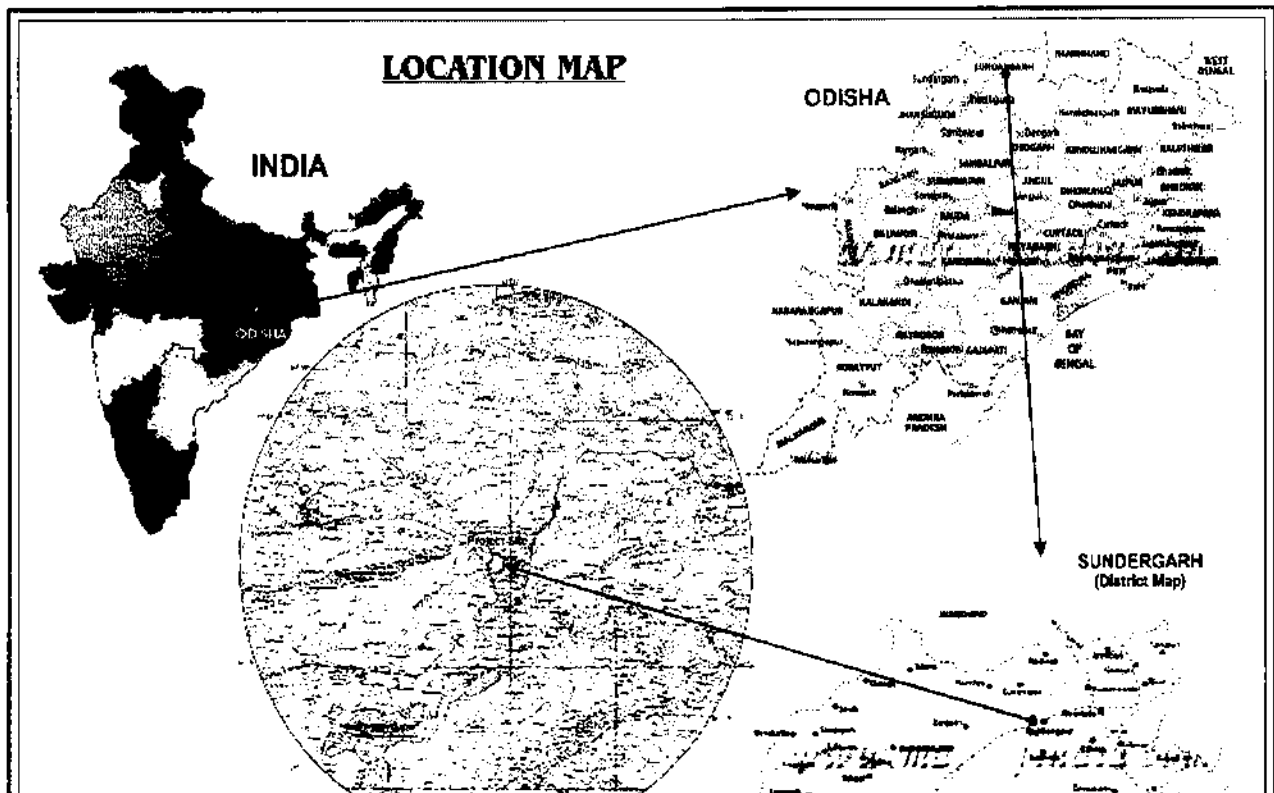
The nearest railway station is at Rajgangpur, which is about 2 km from the plant site and is located on the Howrah-Mumbai section of South Eastern Railway.

Air

The nearest airport is at Kolkatta, which is about 450 km from plant site and well connected by rail and road.

The location of the project site is depicted as in **Figure1.1**

Figure No: 1.1



OCL has affianced *Cleenviron Private Limited (NABL accredited Laboratory)*, Rourkela, Odisha, to carry out periodical environmental monitoring and to prepare Environment monitoring report. The study has been carried out as per the guidelines of Ministry of Environment & Forests (MOEF) and State Pollution Control Board, Odisha (SPCB).

3. ASPECTS CONSIDERED FOR ENVIRONMENTAL MONITORING

This report is based on the monitoring results generated from October 2016 to March 2017 covering post-monsoon and winter seasons of the year. Ambient Air Quality and Stack Emission monitoring was carried out on Quarterly once basis.

- i. Micro-meteorological Monitoring
- ii. Ambient Air Quality Monitoring
- iii. Stack Emission Monitoring

Monitoring of environmental parameters for collection of data involves field work, which is described below:

3.1 Micro-meteorological Study

For collection of micro-meteorological data like Temperature, Relative Humidity, Wind Speed, Wind Direction, & Rainfall, a weather monitoring station is fixed on the Magazine Hill Top of Lanjiberna Limestone and Dolomite Mines of M/s OCL India Ltd. Hourly data is being recorded continuously by putting up windows compatible data logging facility instrument, Make: Virtual Electronics Company, Roorkee.

3.2 Ambient Air Monitoring

To assess ambient air quality, total 7 (seven) monitoring stations are fixed including 5 (five) in the Line - 1 and 2 (two) in the Line - 2. The monitoring locations are fixed according to the micro-meteorological data and in consultation with State Pollution Control Board. The monitoring was carried out for parameters like PM2.5, PM10, SO₂, NO_x, NH₃, O₃, CO, As, Ni, Pb, Benzene & Benzo(a)pyrene and monitoring was carried out once during three months from each location. For collection of samples Respirable Dust sampler with PM2.5 attachment was placed at each location, sampling and analytical techniques are followed as per the standard methods of ambient air sampling and analysis.

3.3 Stack Emission Monitoring

The essential units of the cement plant are equipped with pollution control equipments. To assess the emission level of Particulate Matter from the stacks of different units, monitoring of Stack emission levels were scheduled on quarterly once basis. Particulate Matter emission was monitored following the BIS methods for Stack monitoring.

4. SAMPLING LOCATIONS

4.1 Micro-Meteorological Study

One meteorological station was set up on the Magazine Hill Top of the Lanjiberna Limestone & Dolomite Mines to monitor wind speed, wind direction, temperature, relative humidity and rainfall on hourly basis by data logging technique. The station is at an aerial distance of around 8 kms from the project site.

4.2 Ambient Air Quality Monitoring

Five ambient air quality monitoring stations are fixed within the Line -1 and two stations are fixed in the Line - 2 area. General precautions were taken to position the Respirable Dust Samplers at all the locations. The descriptions of the Ambient Air Monitoring Stations are as follows:

A-1 Stores Building (Line - 1):

The sampling station is located within the Plant site and the station was selected to assess the present level of pollution due to the general unit operations of the Line - 1.

A-2 DITC Building Near Line - 2:

This location is nearer to the Line - 2 operational area. This was selected to assess the air quality in and around the Line - 2 unit operations.

A-3 Near Canteen Building (Line - 1):

The sampling station is located within the Plant site and the station was selected to assess the present level of pollution due to the general unit operations of the Line - 1.

A-4 Near Loco Gate (Line - 1):

The sampling station is located within the Plant site and the station was selected to assess the present level of pollution due to the general unit operations of the Line - 1.

A-5 CCR Building (Line - 1):

The sampling station is located within the Plant site and the station was selected to assess the present level of pollution due to the general unit operations of the Line - 1.

A-6 Workshop Building (Line - 1):

The sampling station is located within the Plant site and the station was selected to assess the present level of pollution due to the general unit operations of the Line - 1.

A-7 Near Water Harvesting Area of CPP (Line – 2):

This location is within the Line – 2 operational area. This was selected to assess the air quality in and around the Line – 2 unit operations.

4.3 Stack Emission Monitoring:

The stack of the different units of the Cement plant like, VRM – Line – 1, CVRM – 1, CVRM – 2, CVRM – 3, RABH Line – 2, Boiler – 1, Boiler – 2, Coal Mill Line – 1, Coal Mill Line – 2, Cooler Line – 2, were carried out for parameters like, Particulate Matter, Sulphur Dioxide and Nitrogen Oxides emission levels.

5. METHODOLOGY OF SAMPLING & ANALYTICAL PROCEDURES

5.1 Meteorological Study

For recording various meteorological parameters like, Temperature, RH, Wind Speed, Wind Direction & Rainfall, a weather monitoring station, Make: Virtual Electronics Company, Roorkee was installed at the site. The instrument is equipped with windows based data logging software to store each data on hourly basis, which can be further down loaded to a PC and data can be interpreted as per the requirement of the report.

5.2 Ambient Air Monitoring

Air quality samples were monitored for all parameters as per NAAQS. For sampling and analysis, methods prescribed by CPCB were followed and Respirable Dust Samplers (RDS) APM 460BL – 411TE, Make: Envirotech Instruments Pvt. Ltd. were used and for PM_{2.5} sampling AAS 190 attachment for fine particulate sampling along with RDS was used where ever necessary at the site.

5.3 Stack Monitoring

Stack monitoring were carried out once in every three months from the bag filter and ESP outlet stacks of the units mentioned and the Indian standard methods for monitoring of Stack emission was followed for collecting the sample and the concentration of Particulate Matter were calculated by following the standard methods. For collection of sample Vayubodhan Upkaran Pvt. Ltd. make Stack sampler Model: VSS -1 was used at the site.

6. DATA ANALYSIS

6.1 Micro-meteorological Study:

6.1.1 Wind Speed & Wind Direction

During the entire period from 1st October to 31st March all total 4370 no. of data are recorded by the instrument and after interpretation of the collected data it was found that Calm condition prevailed over 39.49%, while considering the 24 hourly data. 37.48% calm condition prevailed from morning 6 hrs to 14hrs for the entire study period, 40.90% calm condition prevailed from 14hrs to 22hrs and 39.44% calm condition prevailed from 22hrs to 06hrs. The predominant wind directions were from NE & SW with average wind speed 1.08 m/sec. The wind rose diagrams for the entire study period are depicted on the **Figure No: 6.1, 6.2, 6.3 & 6.4.**

6.1.2 Temperature

The maximum & minimum temperature during the entire study period were divided in to two parts as the study period was covering post-monsoon as well as winter seasons. The Minimum temperature during the post-monsoon season was found to be 13.02°C and the Maximum temperature was found to be 34.83°C up to the end of 30th November.

The minimum and maximum temperature during the winter season i.e. from December to March was found to be 9.64°C and 43.04°C. **Table No 6.1** shows a summary of micro-meteorological data collected for the entire period.

6.1.3 Rainfall

The total rain fall from 1st October to 31st March was observed to be 2.454 mm. during the study period. A month wise rainfall data recorded at the site is depicted in **Table No 6.1**.

Table No: 6.1
A Summary of the Micro-meteorological Data

Project Site (Ref.) : OCL Lanjiberna Mines
Location : Magazine Hill Top

SI No	Parameters	From October' 16 – March' 17
1	Predominant Wind Direction	From NE & SW
2	Calm Condition %	39.49
3	Average Wind Speed m/sec	1.08
4	Temperature °C	
	Post-monsoon Season	
	Minimum	13.02
	Maximum	34.83
	Winter Season	
	Minimum	9.64
	Maximum	43.04
5	Rain Fall in mm	
	October	0.80
	November	0.60
	December	0.00
	January	0.00
	February	0.00
	March	1.05
	Total	2.454

Figure No: 6.1 Wind Rose Diagram for 24 Hours

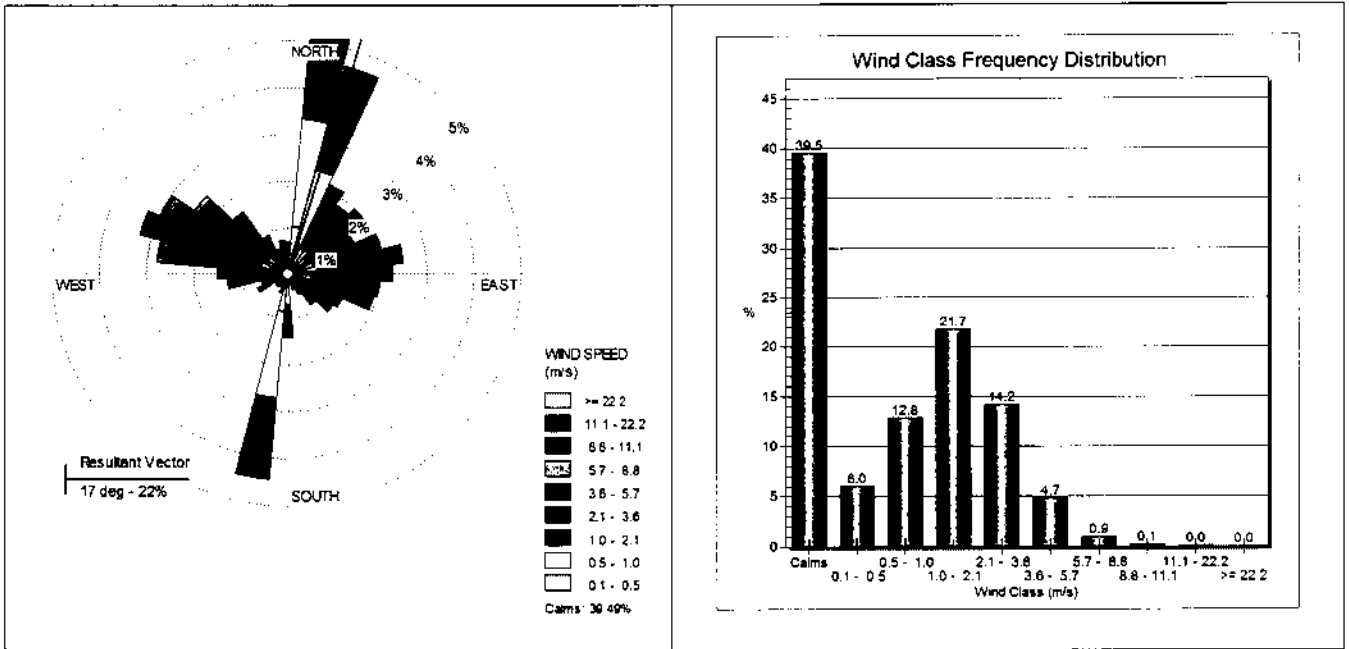


Figure No: 6.2 Wind Rose Diagram from 06 – 14 Hours

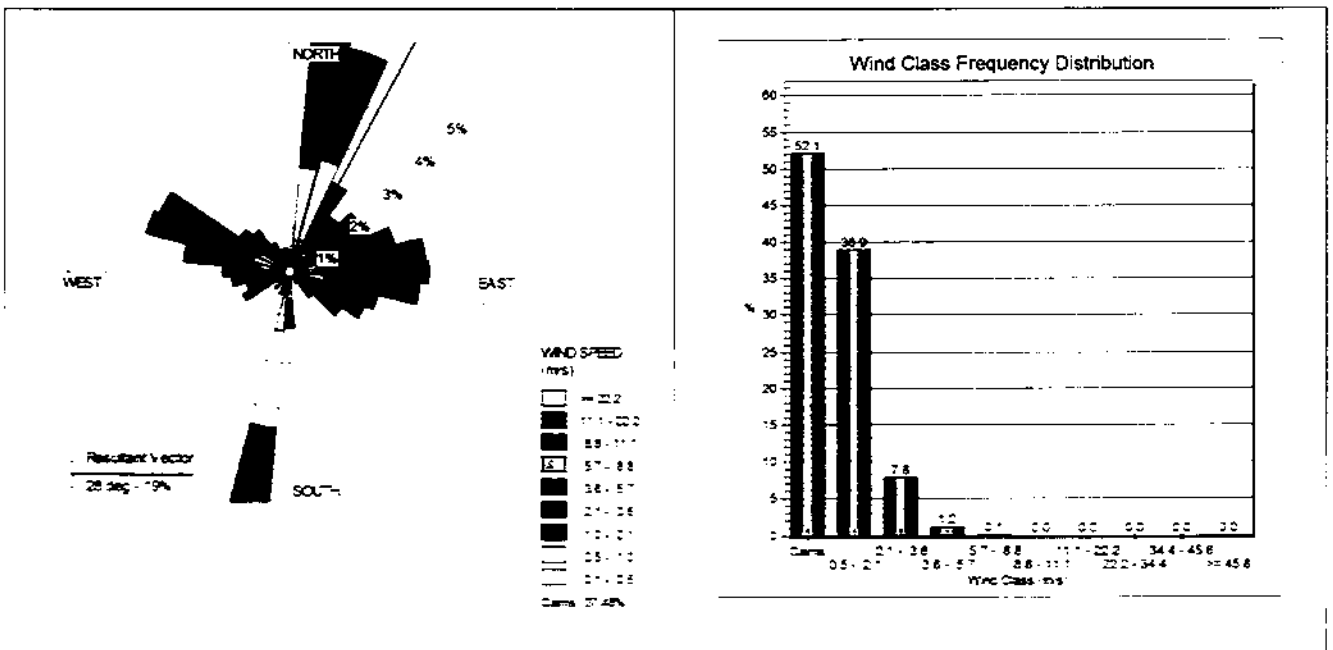


Figure No: 6.3 Wind Rose Diagram from 14 – 22 Hours

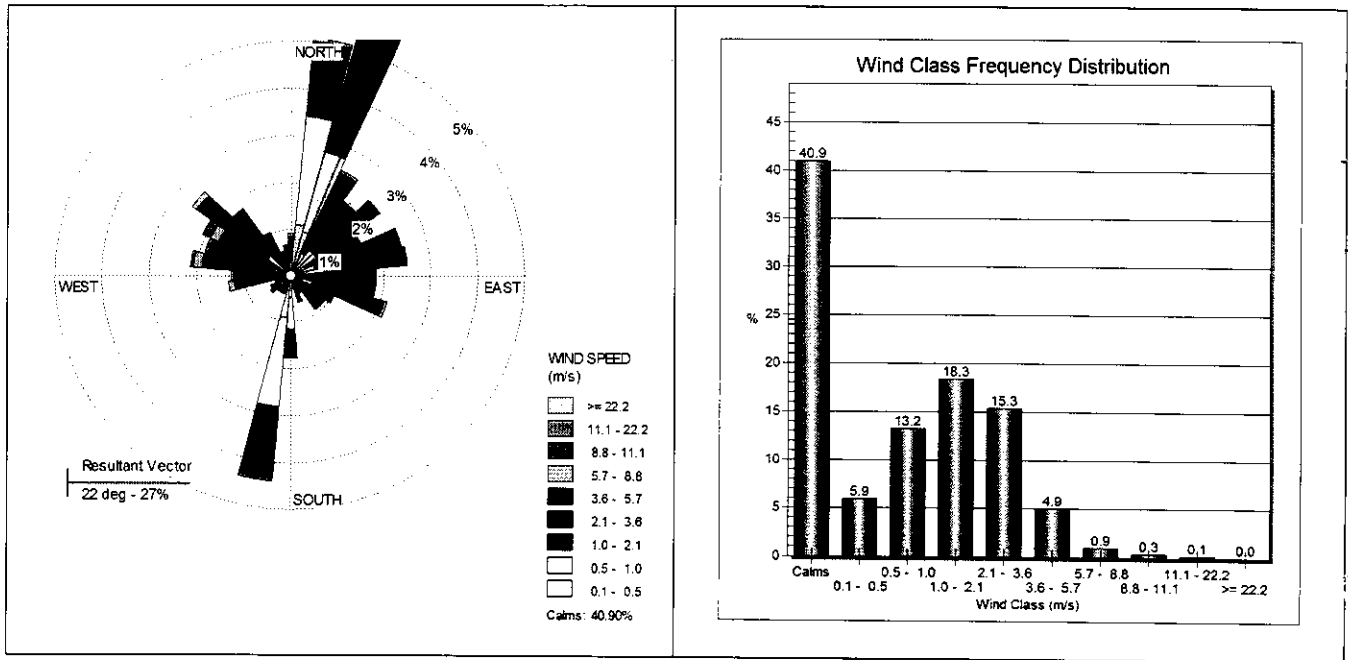


Figure No: 6.4 Wind Rose Diagram from 22 – 06 Hours

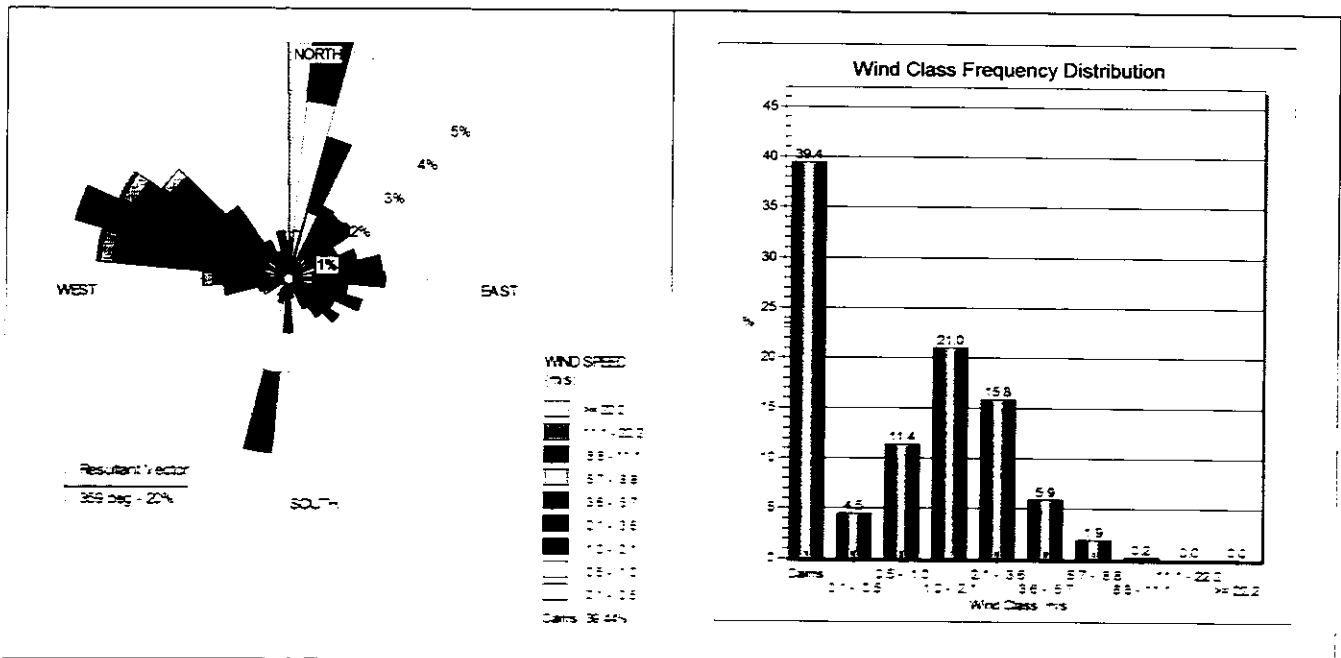


Table No: 6.2
AMBIENT AIR QUALITY DATA
 From 01.10.2016 to 31.03.2017
 Station: A-1 Stores Building (Line - 1)

Date	PM2.5	PM10	SO ₂	NO _x
05.12.2016	34	88	05	11
07.02.2017	30	84	05	11

Table No: 6.2A

Sl No	Date of Sampling	Parameters							
		NH ₃	O ₃	Lead (Pb)	Arsenic (As)	Nickel (Ni)	Benzene (C ₆ H ₆)	Carbon Monoxide (CO)	Benzo(a)pyrene (BaP) – Particulate Phase
Units		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	µg/m ³	mg/m ³	ng/m ³
Method of Analysis		APWA 3 rd Ed. Method - 401	APWA 3 rd Ed. Method - 411	APWA 3 rd Ed. Method - 822	APWA 3 rd Ed. Method - 804	APWA 3 rd Ed. Method - 822	IS 5182 (Part - 11)	Electro-chemical Sensor	IS 5182 (Part - 12)
1.	05.12.2016	31	26	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1
2.	07.02.2017	26	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1

Table No: 6.3
AMBIENT AIR QUALITY DATA
 From 01.10.2016 to 31.03.2017
 Station: A-2 DITC Building Near Line - 2

Date	PM2.5	PM10	SO ₂	NOx
07.12.2016	36 ✓	99 ✓	04 ✓	15 ✓
09.02.2017	44 ✓	93 ✓	< 3 ✓	08 ✓

Table No: 6.3A

Sl No	Date of Sampling	Parameters							
		NH ₃	O ₃	Lead (Pb)	Arsenic (As)	Nickel (Ni)	Benzene (C ₆ H ₆)	Carbon Monoxide (CO)	Benzo(a)pyrene (BaP) – Particulate Phase
Units		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	µg/m ³	mg/m ³	ng/m ³
Method of Analysis		APWA 3 rd Ed. Method - 401	APWA 3 rd Ed. Method - 411	APWA 3 rd Ed. Method - 822	APWA 3 rd Ed. Method - 804	APWA 3 rd Ed. Method - 822	IS 5182 (Part - 11)	Electro-chemical Sensor	IS 5182 (Part - 12)
1.	07.12.2016	33	23	< 0.4	< 1.0	< 5.0	< 0.1	0.60	< 0.1
2.	09.02.2017	23	21	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1

Table No: 6.4
AMBIENT AIR QUALITY DATA
 From 01.10.2016 to 31.03.2017
 Station: A-3 Near Canteen Building (Line - 1)

Date	PM2.5	PM10	SO ₂	NOx
05.12.2016	38 ✓	86 ✓	< 3 ✓	< 6 ✓
07.02.2017	20	80	< 3 ✓	13 ✓

Table No: 6.4A

Sl No	Date of Sampling	Parameters							
		NH ₃	O ₃	Lead (Pb)	Arsenic (As)	Nickel (Ni)	Benzene (C ₆ H ₆)	Carbon Monoxide (CO)	Benzo(a)pyrene (BaP) - Particulate Phase
Units		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	µg/m ³	mg/m ³	ng/m ³
Method of Analysis		APWA 3 rd Ed. Method - 401	APWA 3 rd Ed. Method - 411	APWA 3 rd Ed. Method - 822	APWA 3 rd Ed. Method - 804	APWA 3 rd Ed. Method - 822	IS 5182 (Part - 11)	Electro-chemical Sensor	IS 5182 (Part - 12)
1.	05.12.2016	28	23	< 0.10	< 1.0	< 5.0	< 0.1	0.44	< 0.1
2.	07.02.2017	56	< 19.6	0.50	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1

Table No: 6.5
AMBIENT AIR QUALITY DATA
 From 01.10.2016 to 31.03.2017
 Station: A-4 Near Loco Gate (Line - 1)

Date	PM2.5	PM10	SO ₂	NOx
05.12.2016	19 ✓	89 ✓	34 ✓	18 ✓
07.02.2017	32 ✓	86 ✓	49 ✓	16 ✓

Table No: 6.5A

Sl No	Date of Sampling	Parameters							
		NH ₃	O ₃	Lead (Pb)	Arsenic (As)	Nickel (Ni)	Benzene (C ₆ H ₆)	Carbon Monoxide (CO)	Benzo(a)pyrene (BaP) - Particulate Phase
Units		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	µg/m ³	mg/m ³	ng/m ³
Method of Analysis		APWA 3 rd Ed. Method - 401	APWA 3 rd Ed. Method - 411	APWA 3 rd Ed. Method - 822	APWA 3 rd Ed. Method - 804	APWA 3 rd Ed. Method - 822	IS 5182 (Part - 11)	Electro-chemical Sensor	IS 5182 (Part - 12)
1.	05.12.2016	< 20	22	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1
2.	07.02.2017	39	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1

Table No: 6.6
AMBIENT AIR QUALITY DATA
 From 01.10.2016 to 31.03.2017
 Station: A-5 CCR Building (Line - 1)

Date	PM2.5	PM10	SO ₂	NOx
06.12.2016	32	87 ✓	06 ✓	17 ✓
08.02.2017	31 ✓	98 ✓	38 ✓	30 ✓

Table No: 6.6A

Sl No	Date of Sampling	Parameters							
		NH ₃	O ₃	Lead (Pb)	Arsenic (As)	Nickel (Ni)	Benzene (C ₆ H ₆)	Carbon Monoxide (CO)	Benzo(a)pyrene (BaP) – Particulate Phase
Units		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	µg/m ³	mg/m ³	ng/m ³
Method of Analysis		APWA 3 rd Ed. Method - 401	APWA 3 rd Ed. Method - 411	APWA 3 rd Ed. Method - 822	APWA 3 rd Ed. Method - 804	APWA 3 rd Ed. Method - 822	IS 5182 (Part - 11)	Electro-chemical Sensor	IS 5182 (Part - 12)
1.	06.12.2016	< 20	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1
2.	08.02.2017	25	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1

Table No: 6.7
AMBIENT AIR QUALITY DATA
 From 01.10.2016 to 31.03.2017
 Station: A-6 Workshop Building (Line - 1)

Date	PM2.5	PM10	SO ₂	NOx
06.12.2016	25	94	< 3	11
08.02.2017	26	89	26	29

Table No: 6.7A

Sl No	Date of Sampling	Parameters							
		NH ₃	O ₃	Lead (Pb)	Arsenic (As)	Nickel (Ni)	Benzene (C ₆ H ₆)	Carbon Monoxide (CO)	Benzo(a)pyrene (BaP) – Particulate Phase
Units		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	µg/m ³	mg/m ³	ng/m ³
Method of Analysis		APWA 3 rd Ed. Method - 401	APWA 3 rd Ed. Method - 411	APWA 3 rd Ed. Method - 822	APWA 3 rd Ed. Method - 804	APWA 3 rd Ed. Method - 822	IS 5182 (Part - 11)	Electro-chemical Sensor	IS 5182 (Part - 12)
1.	06.12.2016	< 20	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1
2.	08.02.2017	40	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1

Table No: 6.8
AMBIENT AIR QUALITY DATA
 From 01.10.2016 to 31.03.2017
 Station: A-7 Near Water Harvesting Area of CPP (Line - 2)

Date	PM2.5	PM10	SO ₂	NOx
06.12.2016	30	83	< 3	16
08.02.2017	31	95	17	10

Table No: 6.8A

Sl No	Date of Sampling	Parameters							
		NH ₃	O ₃	Lead (Pb)	Arsenic (As)	Nickel (Ni)	Benzene (C ₆ H ₆)	Carbon Monoxide (CO)	Benzo(a)pyrene (BaP) – Particulate Phase
Units		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	µg/m ³	mg/m ³	ng/m ³
Method of Analysis		APWA 3 rd Ed. Method - 401	APWA 3 rd Ed. Method - 411	APWA 3 rd Ed. Method - 822	APWA 3 rd Ed. Method - 804	APWA 3 rd Ed. Method - 822	IS 5182 (Part - 11)	Electro-chemical Sensor	IS 5182 (Part - 12)
1.	06.12.2016	< 20	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1
2.	08.02.2017	47	< 19.6	< 0.4	< 1.0	< 5.0	< 0.1	< 0.1	< 0.1

6.2 Stack Emission Monitoring

The Quarterly monitoring results of stack emission from the different units of the Cement Plant are given below:

Table No 6.9: Stack Emission Monitoring Results

Sl No	Location	Particulate Matter Concentration in mg/Nm ³	
		December 2016	February 2017
1	Coal Mill, Line - 2	08	05
2	RABH Kiln, Line - 2	11	04
3	Cooler, Line - 2	08	03
4	CVRM - 2, Line - 1	20	02
5	CVRM - 3, Line - 1	46	23
6	CVRM - 1, Line - 1	15	03
7	Boiler - 2 Outlet ESP	12	11
8	Boiler - 1 Outlet ESP	07	32
9	VRM, Line - 1	45	24
10	Coal Mill, Line - 1	-	14

7. CONCLUSION

7.1 Ambient Air Quality

It is concluded from the above study that the overall ambient air quality of the Cement Plant, both Line -1 and Line - 2 of OCL India Ltd. is good and the action taken by the plant authority were quite satisfactory.

7.2 Stack Emission Monitoring

The stack emission monitoring results of all control equipments monitored is very much effective and results are all within the prescribed standards by the State Pollution Control Board, Odisha.



CSR ACTIVITY OF RAJGANGPUR UNIT AT A GLANCE

YEAR -2016-17

Annual Report DBF (2016-17):

Expenses Incurred

Budget Head	Expenses Incurred (INR)
Energy Conservation	708000
Education	3289474
Health Care	283318
Infrastructure	3842085
Sanitation	343942
Skill Training	278964
Social Dev.	5438882
Soil & water Conservation	7948365
Total	22133030



झारखण्ड, ब्रजराजनगर, संवलपुर, सुंदरगढ़ व बेलपहा

शुक्रवार, 7 जून 2016

राजधानी केन्द्र, राउरकेला


Uttarakhand - 2016

ओसीएल ने मनाया विश्व पर्यावरण दिवस



... (Faded text describing the event) ...

... (Faded text) ...



... (Faded text) ...

Annual Report DBF (2016-17):

Other Educational Initiatives: Creating conducive educational Environment in the area

Our efforts to create a conducive educational environment in the area have got well recognized by the people. Activities such as providing Financial support to poor meritorious students for higher study, Providing teaching Learning materials to poor students, helping school to organize Annual Sports events, Construction of Toilet blocks and other infrastructure support to schools as per the request of the teachers etc. have brought a substantial change in the education of thousands of children's in the area.

Creating Rural Infrastructure

As a part of our initiative towards creating infrastructure in villages activities such as construction of Weekly Market at Rajgangpur, Construction of Toilet blocks at Keshramal, Ward No-5 and ward No.-9, renovation of Village Drain at Surudihi village etc. were carried out.

Figure 1



6. Special project:

1. Study for vision 2025 for Rajgangpur /Lanjiberna area.

A special study namely "Vision 2025" was conducted in Rajgangpur and Lanjiberna Mines villages with an objective to assess the need of different welfare programmes for the well being of the inhabitants living in the area. During the study, interaction was made with different Stakeholders of the area to grasp their views. As a result of the study, a core committee comprising 29 member of the area has been formed to assist OCL in planning, execution and monitoring of different CSR programmes in the area.



2. Adoption of Surudihi village as Model village

A village namely "Surudihi" which is adjacent to Rajgangpur plant has been adopted as Model village in the year. Initiatives in terms of Running Remedial Education Centre, running vocational Training Centre, help farmers growing Kitchen Garden, making Drain for drainage of wastage water, celebration of different important days etc. were undertaken during the year.

Annual Report DBF (2016-17):

				Hs,Scent Merry Hs,Buchukup ada HS,Kesramal HS.	
	Support to Ekal Vidyalaya in Rajgangpur	45	45	30 different Villages	635
Awareness Programmes					
	Observe National & International Days relating to DBGF core work areas (Environment Day // Women's Day / Youth Day / Pollution Day)	4	4	ICDS, Training Centre, Dalmia ITI, LH Training centre & Surudihi village	1360
	Anti-Tobacco Campaign	2	2	Livelihood center, Dalmia Private ITI	375
	Celebration of World Environment Day	1	2	Jampalli, Surudihi village	550
4	Adolescent girls group meeting	10	15	In 15 Places	1260
Infrastructure					
1	Renovation of Rajgangpur weekly Market	1	Completed	Rajgangpur	Local farmers nearby 100 villages
2	Renovation of Village drain at surudihi	1	completed	Surudihi village	150 house hold
3	Construction of Toilet block at Kesramal village	1	completed	Kesramal	1000
4	Renovation of toilet block at ward no-09	1	completed	Rajgangpur	750
5	Construction of Toilet block at community Centre ward no.05, Rajgangpur.	1	completed	Rajgangpur	1000

Running Remedial Education Centres:- Brings better tomorrow

With the objective to improve learning outcomes, curtailing dropout rates, augmenting Co-curricular expertise of students and bridging the yawning gaps in extant schooling, we were running 13 Remedial Education Centres in Rajgangpur and surrounding villages wherein 958 students of elementary and high school level were pursuing education. Activities such as regular parent's teacher's interaction, Monthly progress evaluation of student, Periodic Teachers Training workshop etc. were carried out under this initiative.

Annual Report DBF (2016-17):

PHOTO



Capacity building training of SHG



Mushroom cultivation training of SHG

2.4. Social Development

Location:					
S.No.	Social Development Fund	Units	Achievement	Name of Villages	Beneficiaries
	cataract operation organized ,mobilize, liasion & helped in operating at OCL LVPEI eye hospital	50	21	Kutunia, Kunmur,lamloi, Jampalli, Pada,, Ranthupada, Gariamal, Fakarapada, Banthupada, Jhagarapur	21
	Eye Screening Camp organized	2	2	Kunmur, kutunia	314
	Running Dalmia Remedial Education Centers,	10	13	Jampalli HS,Ranibandha HS, Kutunia HS, Saraswati Sisu mindir, Syam Urdu HS, Bhaluduma UPS, Lamloi UPS, Jail church Hs, Gandhi	958

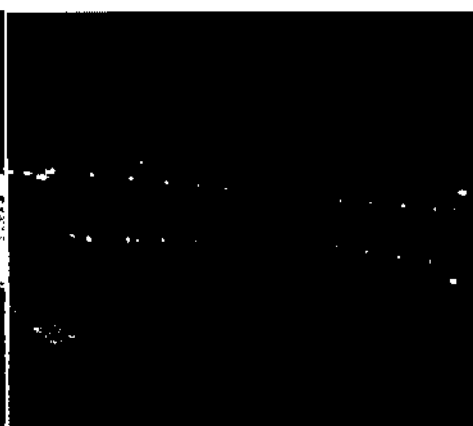
Annual Report DBF (2016-17):

- Users of Smokeless Chullas (Women) are enjoying cooking, as smoke emission is no longer a harmful for them.
- It saves time, energy and money of the users.
- Reduce rate of CO2 emission
- Reduce Indoor Air pollution (IAP)
- Use of Solar Lanterns (Children) helps children to pursue their study in the evening despite of frequent power cut.

PHOTO



Demonstration on FE Challah



Solar street light

2.3 Capacity Building of SHG Members

				Location:	
S.No.	Livelihood & Skill Training	Achievement	Name of Villages	Beneficiaries (No. of people in SHGs/ trained)	
1	Capacity Building of SHGs through Exposure & Training	10	8	Kutunia, Porsing, jaurmal, Banthupada, Muslimpada, Barupada	Bhaluduma, 152

Impacts of the Programme

- Employ-ability of unemployed youths with the help of appropriate capacity building measures.
- Capacity Building & income generation training to SHG member for sustainability development.

Annual Report DBF (2016-17):



Photo

Vermin Compost Pit
Farm pond

2.2 Energy Conservation

Energy Conservation and Climate Change Mitigation		Achievement		Location: Name of Villages	Beneficiaries (No. of people = No. of households * 5)
1	Smokeless chullahas	150	150	Ghoghar road, Ranibandh, Railway traction Colony, Banthupada, Fakrapada	150
2	Solar Lamp	500	500	Kutnia, Fakrapada, Bhaluduma, Porsing, Ranibandh, Jhagarpur, Lamloi, Pada, Garvana, Jampali, Tileimunda, Badmal	500

Promotion of Smokeless Chulha & Solar Light-Time to stop smoke Kitchen

In our endeavor to reduce carbon emission in the area, demonstration of Smokeless Chulha was carried out in different villages in Rajgangpur area wherein benefits of this product was discussed briefly among the potential users, As a result of this 150 units of such Chulhas have been promoted in the area this year. Similarly as one of our initiatives to provide alternative lighting systems in villages 500 pcs of Solar Study lamp were promoted in the area.

Impact:-

Annual Report DBF (2016-17):

						household
5	Farm Ponds	25	28	Bhaluduma,Lamloi, Kutunia,Journal	19821 KL	28 household
6	Vermi compost	300	207	Bhaluduma		207 house hold

Renovation of Water Reservoir - Paving way towards recharging ground water

The need of taking measures to recharge groundwater by any means is very vital these days. Bearing this in mind, Dalmia Bharat Foundation in partnership with local community had undertaken one pond renovation work at Jhagarpur village with the broad objective of recharging ground water in the surrounding area and enabling farmers to grow different remunerative crops round the year. This has led to conserve 21921 KLs of water in a year.

Impacts of the programme

- Water intake capacity of the pond increased
- Renovation of the pond paves way for round the year water availability of the people in the area
- Renovation work helps in recharging Ground water of the area

Vermi Compost Units: - Initiative towards shaping Soil Health

In a bid to introduce organic farming in the area, efforts were laid down to promote Vermicompost units in the villages by mobilising farmers. As a result of series of meeting organised with farmers, 207 units of such unit's t have been established during the year.

Impact OF THE PROGRAM

- Use of Chemical Fertilisers in the crops reduced significantly thereby reducing cost of Agriculture
- Help enriching Soil Organic Matter (SOM) in the soil

Plantation in villages-Efforts towards making environment cleaner & greener

Making the local environment cleaner and greener has been given priority over the years. In order to achieve this, 5250 saplings of Horticultural & Forestry species such as Mango, Guava,Asana etc. were planted in the village and schools with active involvement of community. Important days like World Environment Day, Vanamahotsav etc. were observed in schools and villages wherein to create awareness among students and villagers on importance of Afforestation program.

Impact of the Program

- 1200 people in 16 Villages & 4 Schools planted saplings in their homestead land
- Awareness level of students on benefits of plantation increased to a significant level

Annual Report DBF (2016-17):

	Health Sanitation Awareness Programme	15	10	2250
	Renovation of Rajgangpur weekly Market.	1	1	1200 farmers from nearby 100 villages.
	Running 45 nos. EKAL VIDYALAYAS	45	45	635
	Celebration of Children's day(no. of Events)	2	2	920

2.2. NSDC Program:

Name of the Programme	No. of youth trained			No. of youth employed			Average monthly earnings (Rs)
	Total	Male	Female	Total	Male	Female	
Home Health Aid	29		29	29		09	7000.00
Beauty & Well ness	20		20	20		06	2000.00
Total:	49		49	49		15	

2. Program description:

2.1 Soil and Water Conservation:

Location:						
S.No	Soil and Water Conservation	Unit	Achievement	Name of Villages	Water Harvesting Capacity	Beneficiaries (No. of people = No. of households * 5)
1	Introduced SRI method of paddy cultivation	50	33	Lamloi & Bhaluduma		33 household
2	Promotion of organic Kitchen garden	100	100	Surudihi, Bhaluduma, journal, Lamloi, jampalli & Kunmur		
3	Village Ponds	1	1	Jhagarpur	2100 KL	250

Annual Report DBF (2016-17):

	14	14	4	325	1552	746	806
	15	15	5	359	1551	769	782
	16	16	2	401	1981	995	986
	17	17	4	354	1506	824	682
	18	18	3	413	1756	860	869
	19	19	2	426	1746	863	883
	20	20	4	351	1560	796	764

OCL India is the flagship of Dalmia Group of Companies set up and operated at Rajgangpur in 1950-51. The Company is using most modern environment friendly dry process technology for production of cement. Being a socially responsible corporates the company has initiated its developmental activities for people of Rajgangpur since its presence in 1960s. Our CSR initiatives is now focused for the community in and around the plant and mines area. We are focussing on 4 GPs with 35 villages covering a population of 17941 in Rajgangpur block and in 20 wards of Rajgangpur Municipal area with 37957 population covered through our 4 fold programmes i.e. Soil & water conservation, Energy conservation, Skill Development and Social Development head.

The details of beneficiary coverage as per programme are illustrated in the below mentioned table

2.1.

Location	Program	Activity	Unit Nos(Planned)	Achieved during the year (2016-17)	Beneficiaries
	Soil and Water conservation	Construction of community pond at Jhagarpur	01	01	500 households
		Introduced SRI method of paddy cultivation	50 acres	33 acres	33 house hold
		Digging of Farm ponds	25	28	28 farmers
		Promotion of organic Kitchen garden	100	100	100 farmers
		Construction of Vermi compost pits for promotion of Organic Farming,	300 units	207	207 farmers
	Energy Conservation	Promotion of Smokeless Chula	150	150	150

Annual Report DBF (2016-17):

		Promotion of Solar Lantern	500	500	500
		Solar Street Light	40	46	3000
	Livelihood Skill Training	Tailoring Training(Batch)	2	4	86
		Dress Designing	2	2	41
		Mushroom Cultivation	2	2	45
		Artificial Jewellery (Batch)	1	1	21
		Training of unemployed youth's on fitter & electrician at DITI	5	5	5
		Phenyl making training	1	1	27
	Social Development (Health/education/ Infrastructure/ Rural sports/Rural Infrastructure etc.)	Operating Primary School at Garamunda with BJSS(Bharatiya Jan Seva Sansthan)	2	2	305
		Running of Remedial Education Centres	10	13	958
		Interaction with Parents and Teachers for quality Education of the Children(No of Events)	28	36	1850
		Financial assistance to poor meritorious students	60	60	60
		Celebration of Teachers Day(No of Events)	2	2	300
		Celebration of World Anti-Tobacco Week	2	3	350
		Celebration of World Environment Day	1	3	1500
		Celebration of Banmahtsov	1	4	4050
		Celebration of World AIDS Day	1	2	330
		Competition at Schools and colleges	05	10	2520
		Supporting Hope(NGO) for the education of Mentally Retired children	1	1	30
		Eye Screening Camp	4	2	314

Rajgangapur CSR Operational Area

Rajgangapur CSR Operational Area							
	Kesramal	1	Jampalli	456	1498	793	705
		2	Pada	177	830	421	409
		3	Gravana	271	1146	550	596
		4	Baipur	141	846	383	463
		5	Jhagarpur Gandapada	45	395	201	194
Rajgangapur		6	Jhagarpur Brahmanpada	32	285	181	214
		7	Jhagarpur Kissanpada	25	265	126	139
		8	Amghat Tunguritoli	16	122	52	70
		9	Thopaberna	31	158	73	85
		10	Kunchupada	35	350	162	188
		11	Peruabhadi	51	462	221	241
		12	Ramabahal	102	420	195	225
		13	Amghat panitanki	53	292	154	138
	14	Kesramal	491	2504	1307	1197	
	15	Babudihi	70	280	132	148	
	16	Banstoli	18	98	43	55	
	17	Jamdihi	15	100	61	49	
	18	Tekatoli	30	198	96	102	
	19	Kunmuru	204	1244	608	636	
	20	Lamloi	375	1432	769	663	
	21	Laldhipa	6	20	12	8	
	22	Badgudhialli	379	2277	1205	1072	
	23	Porshing	140	655	326	329	
	24	Journal	272	1320	649	671	
	25	Bhaluduma	130	715	363	352	

Annual Report DBF (2016-17):

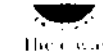
	26	Gariamunda	129	703	342	361
	27	Fakarpada	107	560	259	301
	28	Kutnia	108	598	304	256
	29	Chandapada	40	295	146	149
	30	Ranthupada	18	75	34	41
	31	Ghoghar Orampada	25	150	79	71
	32	Ghoghar kissanpada	40	180	82	98
	33	Ghoghar Schoolpada	21	150	69	81
	34	Badnuagaon	443	2028	1125	903
	35	Barpalli	171	865	445	420

	1	1	4	326	2341	1195	1146
	2	2	3	385	2084	988	1096
	3	3	5	298	1838	852	986
	4	4	7	310	2039	1123	916
	5	5	4	392	2482	1126	1356
	6	6	2	296	1926	977	949
	7	7	5	345	2368	1159	1209
	8	8	4	326	1995	986	1009
	9	9	3	309	1639	865	774
	10	10	3	287	1544	769	775
	11	11	3	292	1842	856	986
	12	12	3	279	1724	855	869
	13	13	2	367	2483	1159	1324

Annual average-AAQ stations

Secure | <https://sunpcbrcdas.com/ADHOCRepProc>

6 ☆ /



LIST VIEW DASH BOARD

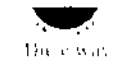
Year	Station Id.	NOX (µg/m ³)	PM10 (µg/m ³)	PM2.5 (µg/m ³)	SO2 (µg/m ³)
2017	AAQMS-1	21.31	29.56	25.75	11.96
2017	AAQMS-2	12.89	13.31	5.00	12.84
2017	AAQMS-3	20.34	29.45	11.23	8.62
2017	AAQMS-4	17.49	27.90	45.49	4.09

Station Id.	Location
● AAQMS-1	WORKSHOP BUILDING
Threshold	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00
● AAQMS-2	RGP CLUB
Threshold	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00
● AAQMS-3	STP
Threshold	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00
● AAQMS-4	RGP CLUB MUNICIPALITY ROAD
Threshold	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00

Reset Chart Max To Original

Year	Station Id.	NOX (µg/m ³)	PM10 (µg/m ³)	PM2.5 (µg/m ³)	SO2 (µg/m ³)	Station Id.	Location
2017	AAQMS-1	21.31	29.56	25.75	11.96	AAQMS-1	WORKSHOP BUILDING
2017	AAQMS-2	12.89	13.31	5.00	12.84	Threshold:	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00
2017	AAQMS-3	20.34	29.45	11.23	8.62	AAQMS-2	RGP CLUB
2017	AAQMS-4	17.49	27.90	45.49	4.09	Threshold:	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00
						AAQMS-3	STP
						Threshold:	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00
						AAQMS-4	RGP CLUB MUNICIPALITY ROAD
						Threshold:	NOX:80.00, PM10:100.00, PM2.5:60.00, SO2:80.00

Annual Average-CEMS stations



LIST VIEW DASH BOARD

Year	Station Id.	NOX (ug/m ³)	PM (ug/m ³)	SOX (ug/m ³)	Station Id.	Location
2017	CEMS-1	353.45	20.85	12.31	● CEMS-1	LINE-1 KILN ESP
2017	CEMS-10	211.62	34.56	118.24	Threshold	NOX 800.00, PM 100.00, SOX 100.00
2017	CEMS-2	N/A	28.78		● CEMS-10	CPP
2017	CEMS-3	N/A	21.48		Threshold	NOX 100.00, PM 100.00, SOX 400.00
2017	CEMS-4	N/A	23.49		● CEMS-2	LINE-1 COAL MILL BH
2017	CEMS-5	N/A	16.54		Threshold	PM 100.00
2017	CEMS-6	N/A	32.65		● CEMS-3	LINE-1 COOLER ESP
2017	CEMS-7	370.55	8.56	14.67	Threshold	PM 100.00
2017	CEMS-8	N/A	13.16		● CEMS-4	LINE-1 CVRM-1
2017	CEMS-9	N/A	11.23		Threshold	PM 100.00
					● CEMS-5	LINE-1 CVRM-2
					Threshold	PM 100.00
					● CEMS-6	LINE-1 CVRM-3
					Threshold	PM 100.00
					● CEMS-7	LINE-1 KILN REVERSE AIR BH
					Threshold	NOX 800.00, PM 100.00, SOX 100.00

Year	Station Id.	NOX (ug/m ³)	PM (ug/m ³)	SOX (ug/m ³)
2017	CEMS-1	353.45	20.85	12.31
2017	CEMS-10	211.62	34.56	118.24
2017	CEMS-2	N/A	28.78	
2017	CEMS-3	N/A	21.48	
2017	CEMS-4	N/A	23.49	
2017	CEMS-5	N/A	16.54	
2017	CEMS-6	N/A	32.65	
2017	CEMS-7	370.55	8.56	14.67
2017	CEMS-8	N/A	13.16	
2017	CEMS-9	N/A	11.23	

Station Id.	Location
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CEMS-1 LINE-1 KILN ESP
 Threshold: NOX:800.00, PM:100.00, SOX:100.00
 CEMS-10 CPP
 Threshold: NOX:300.00, PM:100.00, SOX:600.00
 CEMS 2 LINE 1 COAL MILL BH
 Threshold: PM:100.00
 CEMS-3 LINE-1 COOLER ESP
 Threshold: PM:100.00
 CEMS-4 LINE-1 CVRM-1
 Threshold: PM:100.00
 CEMS-5 LINE-1 CVRM-2
 Threshold: PM:100.00
 CEMS-6 LINE-1 CVRM-3
 Threshold: PM:100.00
 CEMS 7 LINE 2 KILN REVERSE AIR BH
 Threshold: NOX:800.00, PM:100.00, SOX:100.00
 CEMS 8 LINE 2 COAL MILL BH
 Threshold: PM:100.00
 CEMS-9 LINE 2 COOLER ESP
 Threshold: PM:100.00

Real Time Data Acquisition System

LIST VIEW DASH BOARD

Year	Station Id.	PH (mg/L)	TEMP (°C)	TSS (mg/L)	Station Id.	Location
2016	EQMS-1	8.72	32.95	29.35	● EQMS-1	WIP
2017	EQMS-1	8.06	25.15	28.44	Threshold	PH 9.00 TEMP 50.00 TSS 100.00

Reset Chart Max To Original