

Job No.750001

**Annual Environmental Monitoring Report
of
Ib Valley Coalfields
For
2017-18**

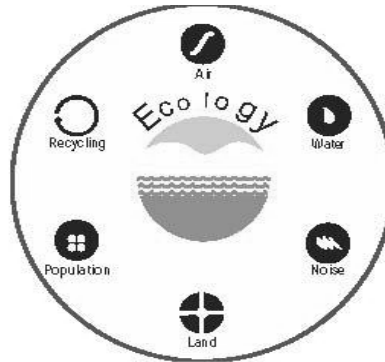


MCL

Mahanadi Coalfields Limited

(A Subsidiary of Coal India Ltd.)

P.O. – Jagruti Vihar, Burla, Sambalpur – 768020



cmpdi
A Mini Ratna Company

Central Mine Planning & Design Institute Ltd.

(A Subsidiary of Coal India Ltd.)

REGIONAL INSTITUTE- VII, PO: RRL,
SAMANTAPURI, BHUBANESWAR – 751013 (Orissa)
[Assistance from Environment Division, CMPDI (HQs), Ranchi]

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INTRODUCTION

IB VALLEY COALFIELD

Ib-valley coalfield is located between latitudes 21°31' & 22°14'N and longitudes 83°32' & 84°10'E within the districts of Sundergarh, Jharsuguda and Sambalpur of Orissa state and covers an area of about 1460 Sq. Kms.

The coalfield is named after the river Ib, a tributary of river Mahanadi, which passes through the eastern fringe of the coalfield.

The Ib Valley coalfield forms a half elliptical basin. It is closed towards southeast and open towards north-west. The basin has normal contact with the metamorphics in the north-western, northern, north-eastern, eastern and southeastern part. It has a faulted contact with the metamorphics in the south-western boundary where younger formations viz. Raniganj and Barren Measure occur in juxtaposition with the metamorphic. The coalfield is contiguous to Mand-Raigarh coalfield of Chhatisgarh. The boundary between Mand-Raigarh and Ib Valley coalfield is administrative boundary of Orissa and Chhatisgarh states.

Barakar and Karharbari are the two potential coal bearing formations in Ib Valley coalfield, Barakar formation is the store house of majority of coal seams. The potential coal bearing area (excluding Kamthis, non coal bearing Lower Karharbari Formation) of the coalfield is about 300 sq. km stretching along the south, east and northern periphery of the coalfield.

The coal seams have been explored in detail along the southern part of the coalfield as well as the eastern part and to a great extent in the northern periphery of the basin. Thus occurrence of coal seams in this part of the coalfield is well established.

HISTORY OF EXPLORATION

This coalfield was discovered in the latter half of the 19th century and was explored in 1871-75 by V. Baul of Geological Survey of India. Some work was also carried out by W. King during 1884-86.

Systematic geological mapping was carried out during 1954-55 by S/S D.R.S. Mehta & Anandalwar. S/S B. C. Pande and S. N. Chakravorty were involved in 1961-63 for detailed mapping of southern part of the coalfield.

The dip side area in the existing Rampur colliery was undertaken for field exploration to establish various parameters of coal seams/sections by the Dept. of Mining & Geology, Govt. of Orissa at the instance of CMPDI in December, 1977.

While proving Rampur and Ib horizons the overlying Lajkura horizon was intersected in certain boreholes in the Rampur lease hold area. The exploration thereafter was intensified in the south eastern part of the coalfield (i. e Rampur tract).

However, in the west-central & north-western part (i.e Himgir and Gopalpur tract) regional exploration by GSI was started in 1980. Subsequently detailed exploration in Gopalpur tract was commenced in 1984 and is continuing at present.

Geological blocks like Basundhara, Kulda, Garjanbahal, Chaturdhara, Manoharpur, Meenaskhi, Siarmal and Siarmal extension have been explored in detail and geological reports have been formulated. Detailed exploration in Siarmal west extension (Banapatra) has been completed and GR is under preparation. In Rampia geological block, scout drilling has been done to ascertain occurrence of coal and economic viability. Jamkani geological blocks has also been explored by MECL. Now detailed exploration in dip side of Kulda/ Garjanbahal and Prajapada block (dip side of Siarmal and Siarmal west extn. block) is under progress by CMPDI. Similarly, Madhupur block is under exploration by DG (O).

HISTORY OF COAL MINING

The first underground mine (Hingir-Rampur Colliery) was started in 1909 by M/S. Hingir Rampur Coal Co. Ltd. on the southern side of main Howrah-Mumbai railway line. In 1940 M/S. Raisaheb Chandanmull Indra Kumar Pvt. Ltd. opened Ib River Colliery (Orient mine no.1). Subsequently Orient mine no.2 was started in 1954 by M/s. Birla Brothers Ltd. Workings in Ib seam in Orient lease-hold was started in 1962 in the present area of Orient mine no.4 which was discontinued after some time.

Orient mine no.3 in Lajkura coal horizon was started in 1968. Workings in Orient mine no.4 in Rampur horizon was started in 1975. Hirakhand Bundia incline was started in 1980 and commenced coal production from 1982.

Subsequent to detailed exploration by Directorate of Mining & Geology, Govt. of Orissa, Lajkura OC (1.0 Mty) and Belpahar OC (2.0 Mty) were started in 1983. Lajkura OC is working Lajkura seam in the Orient leasehold area. Belpahar OC is working Ib & Rampur horizons in geological blocks Belpahar-I & II.

Lilari OC (0.8 Mty) was planned and sanctioned by SECL to work Lajkura seam in a part of Belpahar geological block-III, to the northern side of Lilari nallah, a tributary of Ib river. Subsequent to exploration on the dip side of Rampur block, Samaleswari OC (3 Mty) was planned which came into operation w.e.f. 1989. Lakhanpur OC (5 Mty) came into operation in 1993 to exploit Lajkura seam to the southern side of Lilari nallah in geological block Belpahar-III. In the souther part of IB Valley Coalfield five opencast and five underground mines are present out of which Lakhanpur OCP expansion (15 Mty), Belpahar (3.5 Mty), Lilari OCP (0.80 Mty) all are sanctioned phase wise from 1987 to 2008. All the above three mines are producing 28 Mty now. Two mines Lajkura (6 Mty) and Samleswari OCP (12 Mty) sanctioned in between 1983 and 2011 and now producing at together 16.50 Mty. All the above project is under Rampur track Out of five underground mines four mines are in operation and producing all together 0.90 Mty.

Gopalpur Tract was a Greenfield area till 1996. After formation of MCL and on the basis of detailed exploration, different mines were planned in the Gopalpur Tract as under:

1. Basundhara (East) OCP – 0.60 Mty June'89
2. Basundhara (W) OCP-2.40 Mty/ 7.0 Mty Nov.'89
3. Kulda OCP -10.0 Mty March'95
4. Garjanbahal OCP – 10.0 Mty March'98
5. Siarmal OCP-15.0 Mty March2008 (under revision for higher capacity)

Basundhara (E) OCP was opened in 1996-97 and exhausted in 2005-06.

Basundhara (W) OCP, 2.40 Mty was sanctioned in 2003 the mine has been expanded after being sanctioned in March 2011.

Kulda OCP (10 Mty) and there after Kulda expansion OCP of (15 mty) was sanctioned in January 2015 and June 2015 respectively Kulda OCP is now producing 8.0 Mty Garjanbahal OCP (10 Mty) has been sanctioned in November 2014 by CIL, which is yet to be in operation. PR of Basundhara west extension OCP (Mty) was formulated and sanctioned in May 2014 in the properties of Chatundhara geological block. All the above project is under Gopalpur track.

LOCATION

Ib-valley coalfield is a part of large synclinal Gondwana basin of Raigarh Himgir and Chhattisgarh coalfields and constitutes the south-eastern extension of the Sone-Mahanadi master basin bounded by latitudes: 21°30'00" to 22°06'00" N and longitudes: 83°32'00" to 84°10'00"E.

It is situated in the districts of Sambalpur, Jharsuguda and Sundargarh within the state of Orissa. Major part of the coalfield, including the present coal mining belt, falls in Jharsuguda district. The almost virgin Gopalpur tract in north and North West lies in Sundargarh district.

The headquarters of Mahanadi Coalfields Limited is located at Burla near Sambalpur town, Orissa.

COMMUNICATION

The south-eastern part of the coalfield (i.e. Rampur tract) where all the present coal mining activities are confined is situated alongside the main Howrah-Mumbai railway line of SEC Railways. The nearest rail head on this railway line is Brajrajnagar, which is situated at the focal point of the operative mines. The district headquarters township of Jharsuguda is about 14 kms away from the coalfield and is also connected by road.

The central and north-western part (i.e. Gopalpur tract) is communicable by all weathered black top road connecting Sundergarh of Orissa with Raigarh in Chhattisgarh. The distance from Sundargarh is about 42 km. The nearest railhead is Himgir, about 30 to 35 km connected by black top road.

A railway line connecting Talcher with Sambalpur/Jharsuguda has been constructed and commissioned in Aug. '1998.

TOPOGRAPHY AND DRAINAGE

The coalfield has been divided in three sectors.

The coalfield area is represented by low irregular upland of undulating topography and broadly can be divided into three different units:

- i) Rugged topography -represented by hard metamorphic rocks all along the boundaries of the coalfield in the north, east and south.
- ii) Low irregular plain country of rolling topography -represented by the rocks of Barakar formations.
- iii) Hilly rough terrain -represented by the rocks of Kamthi formation including Barren measures and Raniganj formations.

The altitude of the coalfield varies widely from less than 200m to more than 600m above MSL (mean sea level). The general altitude however, varies between 200m and 350m. A series of low parallel ridges of sandstone interspaced with valleys of shales & coal seams are the characteristics of coal bearing Barakar formations.

The drainage system of the coalfield is controlled by Ib river, a tributary of river Mahanadi. Ib river flows from north to south and discharges in Hirakud reservoir in the south-eastern fringe of the coalfield beyond the mining areas. The Bhedan river, Lilari, Basundhara, Lamtibahal, Chelduthi and Chaturdhara nallas discharge into the river Ib and provide drainage system within the coalfield.

CLIMATE AND RAINFALL

The area experiences typical warm to hot tropical climate with temperature varying from 9°C to 49°C. Average humidity varies from 26% to 83%. Generally the humidity is highest in August and least in March. Annual mean wind velocity is 7 Km/hr. with maximum speed of more than 20 Km/hr.

Average rainfall per annum is 1200 mm. Maximum rainfall during a year is 2200 mm and minimum is 700 mm as per the records available.

LIST OF ENVIRONMENTAL QUALITY MONITORING STATIONS

Table 01
List of Air Quality Monitoring Stations

Sl. No.	Area	PROJECT	Air Monitoring Station
1	Ib Valley	Samleswari	Project office
2			Kudopali Village
3			Lajkura Village
4			Near Chingriguda Village (weekly)
5			Near Chingriguda Village Fortnightly
6			Sainik Mining Camp
7			Near Re-Joice Club in Hilltop Colony
8		Lajkura	Near Project office
9			Near south coal stock
10			Adarsh Nagar Colony
11			Near bagmar nala
12	Lakhanpur	Lilari	Near Magazine house
13			Near east of CT road
14			Near Lilari Pump house
15		Lakhanpur	Near OB Dump no.1
16			West side of Quarry No 4
17			East of coal stock no.10
18			Near MGR siding
19			North west of quarry 3
20			North west of quarry 1
21		Belpahar	Near MDTP
22			Bandbahal township/BITP
23			Quarry no 2 jold view point
24			North East of Quarry No 2
25		Basundhara	Kulda
26	A2-Extranal CT Road		
27	A3-West of working face		
28	A4-South of warking face		
29	A5-North of CHP		
30	Basundhara		Khamarpara
31			Near Megdoot (CT Road)
32			Kulapada(Near Quarry)
33			Siarmal village
34			Orient
35	Orient Mine No.3		
36	Orient Mine No.4		
37	HBI Mine		
38	HRC Mine		
39	Rampur Colony		
40			Adarsh Nagar Colony (Reported Only)

Table 02
List of Noise Level Monitoring Stations

Sl. No.	Area	OCP/Project	Name of the station
1	Ib valley	Samaleswari	Project office
2			Kudopali Village
3			Lajkura Village
4			Near Chingriguda Village
5			Sainik Mining Camp
6			Near Re-Joice Club in Hilltop Colony
7		Lajkura	Near Project office
8			Near Adarsh nagar colony \$
9			Chhualiberna
10	Lakhanpur	Lilari	Near Magazine house
11			Near Old coal stock yard
12		Lakhanpur	Near OB Dump no.1 #
13			West side of Quarry no.4
14			East of coal stock no.10
15			Near MGR Siding
16			North West of quarry no 3
17			North west of quarry 1
18		Belpahar	Near MDTP
19			Bandbahal township/BIT
20			Quarry No .2 old View point
21			North west of quarry 2
22	Basundhara	Kulda	South of extranal OB dump
23			Extranal CT Road
24		Basundhara(W)	Khamarpara
25			Near CHP
26			Near Embankment
27			Tikilipara
28			Orient
29	Orient mine no. 3		
30	Orient mine no. 4		
31	HBI mine		
32	HRC mine		
33	Rampur Colony		
34	Near Adarsh nagar colony (Only Reported)		

Table 03
List of Effluent (22 Parameter) Quality Monitoring Stations

Sl. No.	Area	OCP	NAME OF STATIONS
1	IB-valley	Samaleswari	Outlet from Sedimentation pond
2		Lajkura	Outlet of MDTP
3	Lakhanpur	Liliari	Outlet from O&G trap
4		Lakhanpur	Outlet from Sedimentation pond
5		Belpahar	Outlet from Sedimentation pond
6	Basundhara	Kulda	Final discharge Point of Mine
7		Basundhara	Inlet/Outlet from settling pond,near Kanika Rly.sdg.
8	Orient	Orient	Mine sump of Mine no.2
9			Mine sump of Mine no.3
10			Mine sump of Mine no.4
11			Mine sump of HBI mine
12			Mine sump of HRC mine

Table 04
List of Effluent (4 Parameter) Quality Monitoring Stations

Sl. No.	Area	OCP	NAME OF STATIONS
1	IB-valley	Samaleswari	Outlet from sedimentation tank (MDTP)
2			Oil & Grease trap Outlet
3		Lajkura	Inlet & Outlet of Oil & Grease trap
4			u/s of Baghmara Nala at discharge point
5			d/s of Baghmara Nala at discharge point
6		Central hospital	Outlet of drain (6P)
7	Lakhanpur	Liliari	Oil & Grease trap outlet
8		Lakhanpur	Outlet of sedimentation Pond
9			Oil & Grease trap no 1 Outlet
10			Oil & Grease trap no 2 outlet
11		Belpahar	Oil & Grease trap Outlet
12	Outlet from sedimentation pond		
13	Basundhara	Kulda	Final discharge point of mine
14			Outlet to settling pond
15		Basundhara	Inlet/Outlet from settling pond near Kanika Rly Siding
16			Inlet/Outlet from Settling tank/abandoned quarry of Basundhara E
17			Inlet/outlet of Oil & Grease trap
18	Orient	Orient	Mine sump of Mine-2
19			Mine sump of Mine-3
20			Mine sump of Mine-4
21			Mine sump of HBI
22			Mine sump of HRC

Table 05
List of Effluent (3 Parameter) Quality Monitoring Stations

Sl. No.	Area	OCP	NAME OF STATIONS
1	IB-valley	Samaleswari	DETP/STP outlet

Table 06
List of Effluent (1 Parameter) Quality Monitoring Stations

Sl. No.	Area	OCP	NAME OF STATIONS
1	IB-valley	Samaleswari	Mine sump water
2		Lajkura	Mine sump water
3	Lakhanpur	Liliari	Mine sump water
4		Belpahar	Mine sump water

Table 07
List of Drinking Water Quality Monitoring Stations

SL NO	OCP / UG	NAME OF THE STATION
1	Samaleswari	Well Water from IWSS.Half yrly(sept-mar)
2		Well water from Chingriguda
3		Well water Kudopali
4		Well water Lajkura
5		Well water Ainlapali
6		Samleswari Colony tap water
8	Lajkura	Madhuban nagar well water
9		Adarsh nagar colony well water
10		Chauliberna village well water
11	Liliari	Jurabaga village well water
12	Lakhanpur	Khairkuni village tubewell water
13		LKP canteen tap water
14		Ubuda village well warter
15	Belpahar	Belphar Colony tap water
16		CHP tap water
17		Intake water of IWSS.Half yearly(sept-mar)
18		Darlipali village well water
19		Belpahar Integrated township-Indradhanush club outlet
20	Kulda	Well at Tumulia
21		Filter plant
22	Basundhara	Basundhra colony tap water
23		Water at intake well atBbasundhra nulla.Half yearly(sept-mar)
24		Sardega village well
25		Tiklipada village well
26	Orient	Tap water at Budhijaam colony
27		Tap water at Rampur colony
28		Mine no 1&2 filter plant
29		Mine no 3 filter plant
30		HBI filter plant
31	MCL(HQ)	Inlet to water treatment plant(anand vihar)qtrly (jun-sept-dec-mar)
32		Outlet of water treatment plant (anand vihar) qtrly (jun-sept-dec-mar)
33		Tap water at DAV school(anand vihar) monthly
34		Tap water at corporate office (jagriti vihar) monthly

Table 08
List of Ground Water Level Stations

Sl. NO	Area	OCP	Name of station
1	Ib valley	Samleswari	Well water from Chingriguda
2			Well water Kudopali
3			Well water Lajkura
4			Well water Ainlapali
5		Lajkura	Madhuban nagar well water
6			Adarsh nagar colony well water
7			Chauliberna village well water
8		Lakhanpur	Ubuda village well water
9		Belpahar	Darlipali Village Well Water
10	Basundhara	Kulda	Well of Tumulia
11			Well at Kulda
12		Basundhara	Sardega village well
13			Tiklipada village well

Table 09
List of Surface Water Monitoring Stations

SL.NO	OCP / UG	NAME OF THE STATION
1	Samaleswari	Pandren Jhor stream near Muchabahal village u/s of SOCP
2		Pandren Jhor stream before confluence point with Lilari Nallah
3	Lakhanpur	Pulijhor stream near Tingismal Village as u/s for Lakhanpur OCP
4		Pulijhor stream near Darlipalil Village before confluence to Lilari nallah as d/s water of Lakhanpur OCP
5		Lilari nallah at bridge point before joining Ib river near Dudolsingha village
6		Pond water at Samra village
7	Belpahar	Lilari nallah near Gouraparha village at bridge point of NH 200 as u/s water for Lakhanpur OCP and Belpahar OCP
8		Lilari nallah near Kirarama village as d/s of Lakhanpur OCP and Belpahar OCP
9		Ib river near Dumermunda village as d/s of the coalfield before joining to Hirakud reservoir
10		Hirakud reservoir for impact assessment of the coalfield
11	Kulda	Basundhara river near Kulaparha village just after meeting point of Basundhara & Chaturdhara river as u/s of Siarmal OCP
12		Basundhara river near Tiklipara village as d/s water of Siarmal OCP & u/s water of Kulda OCP
13		Basundhara river near Kusura village as d/s water of Kulda OCP
14		Pond water at Gopalpur village
15		Pond water at Gaddwar village
16	Orient	Ib river near Charbhati village as u/s water for Ib Valley Coalfield
17		Basundhara river near Degan village before confluence to Ib river
18		Ib river bridge of NH200 at Gondghora village as u/s of Orient area
19		Bhedan river before confluence point with Ib river
20		Ib river near Kotarbagga village at bridge point
21		Bagachoppa jhor Gangapur Village as u/s for Rampur colliery
22		Pond water at Burhijam village

Table 10
List of Piezometer Monitoring Stations

Sl. No.	Area	OCP	Name of station	
1	Ib valley	Samleswari	Piezometer No MIP 04 .GW level.quantity & quality	
2		Lajkura	Piezometer No MIP 02 .GW level.quantity & quality	
3	Lakhanpur	Lilari	Piezometer No MIP 06 .GW level.quantity & quality	
4			Piezometer No MIP 09.GW level.quantity	
5			Piezometer No MIP 10 .GW level.quantity & quality	
6		Belpahar		Piezometer No MIP 07 .GW level.quantity & quality
7				Piezometer No MIP 08 .GW level.quantity & quality
8		Basundhara	Kulda	Piezometer No MIP 12 .GW level.quantity & quality
9				Piezometer No MIP 14 .GW level.quantity & quality
10	Piezometer No MIP 01 .GW level.quantity & quality			
11	Piezometer No MIP 11 .GW level.quantity & quality			
12	Basundhara			Piezometer No MIP 15 .GW level.quantity & quality
13				Piezometer No MIP 16 .GW level.quantity & quality
14				Piezometer No MIP 13 .GW level.quantity & quality
15				Piezometer No MIP 17 .GW level.quantity & quality
16	Orient	Orient	Piezometer No MIP 03 .GW level.quantity & quality	
17			Piezometer No MIP 05 .GW level.quantity & quality	

FREQUENCY OF MONITORING

Table 11
Frequency of Monitoring

Sl. No.	Parameters	Sampling Frequency
1.	Air (5 Parameter) Quality Monitoring	Fortnightly
2.	Noise level (Day & Night) Monitoring	Fortnightly
3.	Effluent (1 Parameter) Quality Monitoring	Quarterly
4.	Effluent (4 & 3 Parameter) Quality Monitoring	Fortnightly/Monthly/ Quarterly
5.	Effluent (22 Parameter) Quality Monitoring	Yearly
6.	Drinking Water(26 Parameter) Quality Monitoring	Monthly
7.	Ground Water Level Monitoring	Quarterly
8.	Surface Water (21 Parameter) Quality Monitoring	Quarterly

METHODOLOGY AND INSTRUMENTS USED

Table 12

Methodology & Instruments used for Air Quality Analysis

Sl. No.	Parameters	Method	Instruments
1.	SPM and PM ₁₀	IS:5182 (Part-23):2006 Cyclonic Flow Technique, Gravimetric Method	Respirable Dust Sampler, Electronic Balance
2.	PM _{2.5}	Guideline for the measurement of Ambient Air Pollutants, Volume –I, May 2011	PM _{2.5} Sampler, Micro Balance
3.	SO ₂	IS:5182 (Part-2):2001, Improved West and Gaeke Method	Spectrophotometer, Respirable Dust Sampler with Impinger Box
4.	NO _x	IS:5182 (Part-6):2006, Jacob & Hoccheiser Modified Method	Spectrophotometer, Respirable Dust Sampler with Impinger Box

Table 13

Methodology & Instruments used for Noise level Monitoring

Sl. No.	Parameters	Method	Instruments
1.	Ambient Noise Level dB (Leq)	Protocol for Ambient Level Noise Monitoring, July 2015, CPCB	Weighted sound level i.e. dB(A) Meter

Table 14
Methodology & Instruments used for Drinking/Surface/Effluent Water Quality Analysis

Sl. No.	Parameters	Method	Instruments
Physical Parameter			
1.	PH	IS 3025 (PART 11) : 1983 , Electrometric	pH meter
2.	Turbidity	IS 3025 (PART10) : 1984, Nephelometric	Nepheloturbidity meter
3.	Temperature	IS 3025 (PART 09) : 1984, Thermometric	Temperature Probe
4.	Taste	IS 3025 (PART 07) : 1984, Physical	-
5.	Odour	IS 3025 (PART 05) : 1983 , Physical	-
6.	Colour	IS: 3025 (Part - 4): 1983, Visual Comparison	-
7.	Total suspended solids	IS 3025 (PART 17) : 1984, Gravimetric	Hot Air Oven, Electronic balance
8.	Total dissolved solids	IS 3025 (PART 16) : 1984, Gravimetric	Hot Air Oven, Electronic balance
In organic Parameters			
9.	Nitrate	APHA 22nd Edition	Microprocessor based spectrophotometer- DR 2800
10.	Nitrate nitrogen	APHA 22nd Edition	Microprocessor based spectrophotometer- DR 2800
11.	Ammonical Nitrogen	IS 3025 (PART 34) : 1988,	Microprocessor based spectrophotometer- DR 2800
12.	Total kjeldhal Nitrogen	IS 3025 (PART 34) : 1988	Microprocessor based spectrophotometer- DR 2800
13.	Total residual chlorine	IS 3025 (PART 26) : 1986	Microprocessor based spectrophotometer- DR 2800
14.	Calcium	IS 3025 (PART 40) : 1991,EDTA Titrimetric Method	Burette, Pipette
15.	Chloride	IS 3025 (PART 32) : 1988,	Microprocessor based spectrophotometer- DR 2800
16.	Fluoride	APHA 22nd Edition , IS 3025(Pat 60):SPANDS	Microprocessor based spectrophotometer- DR 2800
17.	Total Alkalinity	IS 3025 (PART 23) : 1986, Titration Method	Burette, Pipette
18.	Total hardness	IS 3025 (PART 21) : 1983, EDTA Volumetric Method	Burette, Pipette
19.	Dissolved phosphate	APHA 22nd Edition , IS 3025 (Pat 31): 1988	Microprocessor based spectrophotometer- DR 2800
20.	DO	IS 3025 (PART 38) : 1989, Winkler Azide Method	Burette, Pipette
21.	Sulfate	APHA 22nd Edition , IS 3025(Part 24): 1986, Turbidity Method	Microprocessor based spectrophotometer- DR 2800
22.	Sulfide	APHA 22nd Edition , IS 3025(Part 29):1986	Microprocessor based spectrophotometer- DR 2800
Trace Metals			
23.	Arsenic	APHA 22nd Edition , AAS-GTA Method	Atomic Absorption Spectrophotometer(AAS)
24.	Lead	APHA 22nd Edition , AAS-GTA Method	Atomic Absorption Spectrophotometer(AAS)
25.	Hexavalent chromium	APHA 22nd Edition	DR 2800
26.	Total Chromium	IS 3025 (PART 52) : 2003,AAS-Flame Method	Atomic Absorption Spectrophotometer(AAS)
27.	Copper	IS 3025 (PART 42) : 1992, AAS-Flame Method	Atomic Absorption Spectrophotometer(AAS)
28.	Zinc	IS 3025 (PART 49) : 1994, AAS-Flame Method	Atomic Absorption Spectrophotometer(AAS)
29.	Selenium	IS 3025 (PART 56) : 2003,AAS-VGA Method	Atomic Absorption Spectrophotometer(AAS)
30.	Cadmium	APHA 22nd Edition ,AAS-GTA Method	Atomic Absorption Spectrophotometer(AAS)
31.	Nickel	IS 3025 (PART 54) : 2003,AAS-Flame Method	Atomic Absorption Spectrophotometer(AAS)
32.	Manganese	APHA 22nd Edition ,AAS-Flame Method	Atomic Absorption Spectrophotometer(AAS)
33.	Iron	IS 3025 (PART 53) : 2003,AAS-Flame Method	Atomic Absorption Spectrophotometer(AAS)
34.	Boron	APHA 22nd Edition , Carmine Method	DR 2800
General Organics & Trace Organics			
35.	COD	APHA 22nd Edition , Titration Method	COD Digester
36.	O&G	IS 3025 (PART 39) : 1991, Partition gravimetric method	Hot Air Oven, Electronic Balance
37.	BOD	IS 3025 (PART 44) : 1993.3 day incubation	BOD Incubator
38.	Phenolics	APHA 22nd Edition ,4- Amino antipyrene Method	-
Microbiological Tests			
39.	Total coliform	MPN Test	LTEK MPN Kit

TABLES FOR AIR QUALITY DATA

Table 15
Project: Samleswari OCP
Monitoring Station: Kudopali Village

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
13-04-2017	18	180	19.23	<6	393	South to North Sunny
24-04-2017	86	401	23.92	<6	882	East to West, Sunny
10-05-2017	79	147	3.11	<6	522	West to East, Sunny
24-05-2017	86	235	2.2	<6	320	South to North, Sunny
09-06-2017	32	184	7.5	<6	354	East to West, Sunny
26-06-2017	25	40	6.77	<6	51	West to East, Sunny & Evening rainfall
11-07-2017	29	40	1.36	<6	74	East to West, Cloudy & Evening Rainfall
25-07-2017	41	51	3.05	<6	78	North to South, & Heavy rainfall
09-08-2017	20	31	1.56	<6	44	East to West, Heavy Rainfall
23-08-2017	13	57	2.09	<6	68	East to West, Sunny & Evening rainfall
08-09-2017	39	56	1.37	<6	122	West to East, Sunny & Evening Rainfall
22-09-2017	26	46	0.75	<6	51	North to South, Sunny
09-10-2017	24	92	0.31	1.37	151	South to North, Sunny & Evening Rainfall
26-10-2017	55	190	1.08	1.34	225	East to West, Sunny
09-11-2017	21	202	1.22	5	379	South to North, Sunny
23-11-2017						Power failure
08-12-2017						Power Failure
25-12-2017	52	698	2.65	10.02	937	East to West, Sunny
09-01-2018	32	218	0.21	<6	256	East to West, Sunny
23-01-2018	42	262	10.64	10.43	478	South-North,Sunny
08-02-2018	57	216	4.6	<6	488	West to East , Sunny
22-02-2018	56	186	9.14	<6	435	East-West, Sunny
09-03-2018	34	250	0.46	9.84	471	South to North, Sunny
23-03-2018	23	223	1.53	7.27	584	East-West, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	86	698	23.92	10.43	937	
Minimum	13	31	0.21	1.34	44	
Average	40.45	182.05	4.76	6.47	334.68	
95 Percentile	85.65	394.05	18.80	10.31	867.10	
98 Percentile	86.00	573.26	21.95	10.38	913.90	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 16
Project: Samleswari OCP
Monitoring Station: Lajkura Village

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
13-04-2017	166	229	3.52	<6	583	East to West Sunny
25-04-2017	55	289	9.08	<6	375	East to West, Sunny
09-05-2017	39	119	1.5	<6	178	West to East, Sunny
23-05-2017	39	199	3.61	36	262	West to East, Sunny & Cloudy
08-06-2017	27	134	6.58	<6	350	North to South, Sunny
23-06-2017	66	78	11.79	<6	104	North to South, Sunny
10-07-2017	43	196	1.94	<6	244	North to South, Cloudy & Evening Rainfall
24-07-2017	24	41	16.48	17	74	North to South, & Heavy rainfall
08-08-2017	25	43	1.04	<6	47	East to West, Heavy Rainfall
22-08-2017	29	140	2.57	9	195	West to East, & Heavy rainfall
08-09-2017	36	83	1.25	<6	108	East to West, Sunny & Evening Rainfall
22-09-2017	42	83	0.53	<6	107	West to East, Sunny
09-10-2017	18	199	1.01	1.83	317	South to North, Sunny & Evening Rainfall
26-10-2017	106	660	1.92	11.55	735	West to East, Sunny
08-11-2017	82	212	1.71	4.57	326	West to East, Sunny
22-11-2017	34	88	1.04	15.86	108	South to North, Sunny
07-12-2017	285	328	1.53	3.3	424	South to North, Sunny
22-12-2017	91	284	1.83	1.18	389	East to West, Sunny
08-01-2018	185	393	1.83	<6	661	West to East, Sunny
22-01-2018	250	432	35.43	29.74	559	West-East, Sunny
07-02-2018	91	342	3.62	<6	534	East to West, Cloudy & Sunny
21-02-2018	56	219	0.55	<6	256	West-East, Sunny
08-03-2018	78	347	1.15	<6	551	South to North, Sunny
22-03-2018	93	275	1.65	17.59	376	South to North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	285	660	35.43	36	735	
Minimum	18	41	0.53	1.18	47	
Average	81.67	225.54	4.72	13.42	327.63	
95 Percentile	240.25	426.15	15.78	32.87	649.30	
98 Percentile	268.90	555.12	26.71	34.75	700.96	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 17
Project: Samleswari OCP
Monitoring Station: Sainik Mining Camp

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
13-04-2017	118	239	4.27	<6	700	West to East Sunny
25-04-2017	53					East to West, Sunny & PM10 machine breakdown
02-05-2017	88	169	0.29	<6	439	West to East, Sunny
16-05-2017	30	241	3.39	<6	675	East to West, Hot & Sunny
01-06-2017	21	80	10.04	8	81	South to North, Sunny
16-06-2017	58	66	8.82	<6	91	East to West, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	118	241	10.04	8	700	
Minimum	21	66	0.29	8	81	
Average	61.33	159.00	5.36	8.00	397.20	
95 Percentile	110.50	240.60	9.80	8.00	695.00	
98 Percentile	115.00	240.84	9.94	8.00	698.00	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 18
Project: Samleswari OCP
Monitoring Station: Project Office

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
13-04-2017	85	265	5.41	<6	683	East to West Sunny
24-04-2017	61	231	4.29	<6	767	North to South, Sunny
09-05-2017	11	210	3.4	<6	659	East to West, Sunny
23-05-2017	48	281	2.31	11	407	West to East, Sunny & Cloudy
08-06-2017	28	97	9.13	<6	175	East to West, Sunny
23-06-2017	43	50	5.9	<6	77	West to East, Sunny & Evening rainfall
10-07-2017	34	62	2.21	8	76	South to North, Cloudy & Evening Rainfall
24-07-2017	30	47	22.3	37	107	North to South, & Heavy rainfall
08-08-2017	44	58	1	8	67	North to South, Heavy Rainfall
22-08-2017	41	59	1.06	7	93	East to West, & Heavy rainfall
08-09-2017	49	96	2.87	<6	129	North to South, Sunny & Evening Rainfall
22-09-2017	10	28	0.58	<6	40	East to West, Sunny
09-10-2017	19	49	0.44	2.28	116	East to West, Sunny & Evening Rainfall
25-10-2017	43	193	1.24	1.1	200	South to North, Sunny
08-11-2017	59	277	0.86	6.07	756	South to North, Sunny
22-11-2017	61	137	2.82	4.66	235	West to East, Sunny
07-12-2017	76	207	0.82	0.97	238	East to West, Sunny
22-12-2017	79	191	0.35	0.76	240	West to East, Sunny
08-01-2018	51	249	0.23	<6	268	South to North, Sunny
22-01-2018	18	218	21.44	8.11	368	South-North, Sunny
07-02-2018	79	258	0.22	<6	554	East to West, Cloudy & Sunny
21-02-2018	57	228	2.59	<6	274	West-East, Sunny
08-03-2018	35	122	1.37	<6	309	South to North, Sunny
22-03-2018	43	266	0.32	<6	391	South to North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	85	281	22.3	37	767	
Minimum	10	28	0.22	1.1	40	
Average	46.00	161.63	3.88	7.91	301.21	
95 Percentile	79.00	275.35	19.59	22.70	745.05	
98 Percentile	82.24	279.16	21.90	31.28	761.94	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 19
Project: Samleswari OCP

Monitoring Station: Near Rejoice club in Hiltop Colony

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
13-04-2017	39	239	7.09	<6	709	North to South Sunny
24-04-2017	33	121	5.52	<6	226	South to North, Sunny
09-05-2017	23	25	3.41	<6	110	South to North, Sunny
23-05-2017	40	205	2.73	<6	352	West to East, Sunny & Cloudy
08-06-2017	44	81	7.25	9	189	North to South, Sunny
23-06-2017	20	54	9.16	<6	60	East to West, Sunny
10-07-2017	26	42	11.09	70	58	North to South, Cloudy & Evening Rainfall
24-07-2017	20	36	1.5	<6	58	East to West, & Heavy rainfall
08-08-2017	10	13	1.35	<6	18	North to South, Heavy Rainfall
22-08-2017	50	70	7.38	60	89	West to East, & Heavy rainfall
08-09-2017	51	98	1.58	<6	162	North to South, Sunny & Evening Rainfall
22-09-2017	21	40	1.42	<6	59	East to West, Sunny
09-10-2017	13	76	0.42	0.77	141	East to West, Sunny & Evening Rainfall
25-10-2017	26	99	0.75	1.36	116	South to North, Sunny
08-11-2017	62	129	0.62	4.02	362	North to South, Sunny
22-11-2017	68	172	0.46	4.57	300	North to South, Sunny
07-12-2017	70	132	2.63	1.32	194	East to West, Sunny
22-12-2017	65	89	0.38	1.4	124	West to East, Sunny
08-01-2018	58	281	0.42	<6	393	North to South, Sunny
22-01-2018	18	247	31.87	14.59	359	South-North, Sunny
07-02-2018	78	564	0.55	<6	747	South-North, Cloudy & Sunny
21-02-2018	86	243	2.77	<6	310	East-West, Sunny
08-03-2018	59	206	0.24	9.55	347	South to North, Sunny
22-03-2018	83	546	0.78	9.09	713	North-South, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	86	564	31.87	70	747	
Minimum	10	13	0.24	0.77	18	
Average	44.29	158.67	4.22	15.47	258.17	
95 Percentile	82.25	506.25	10.80	64.50	712.40	
98 Percentile	84.62	555.72	22.31	67.80	731.36	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 20

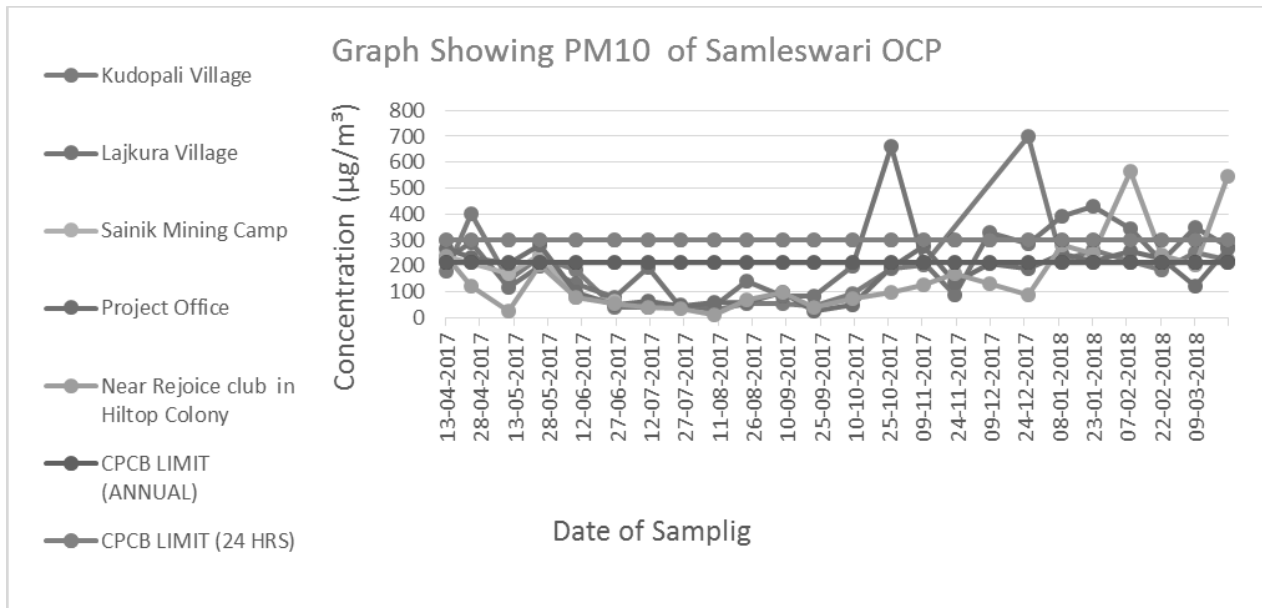
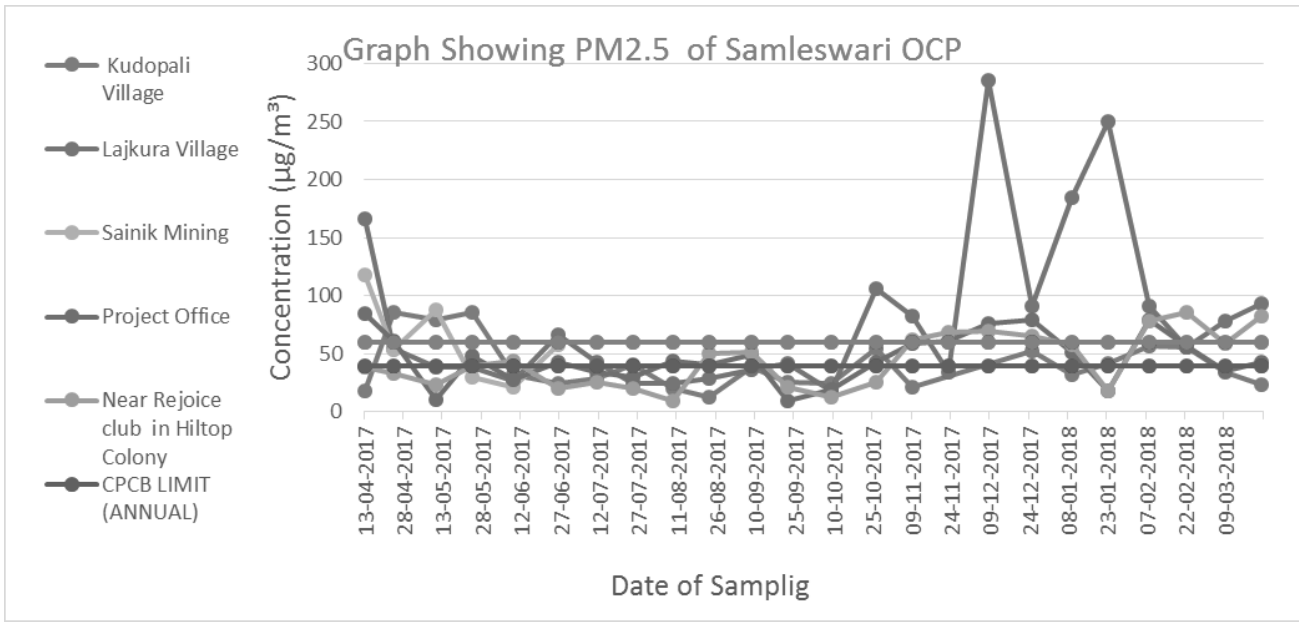
Project: Samleswari OCP
Monitoring Station: Near Chingriguda Village(NAAQS)

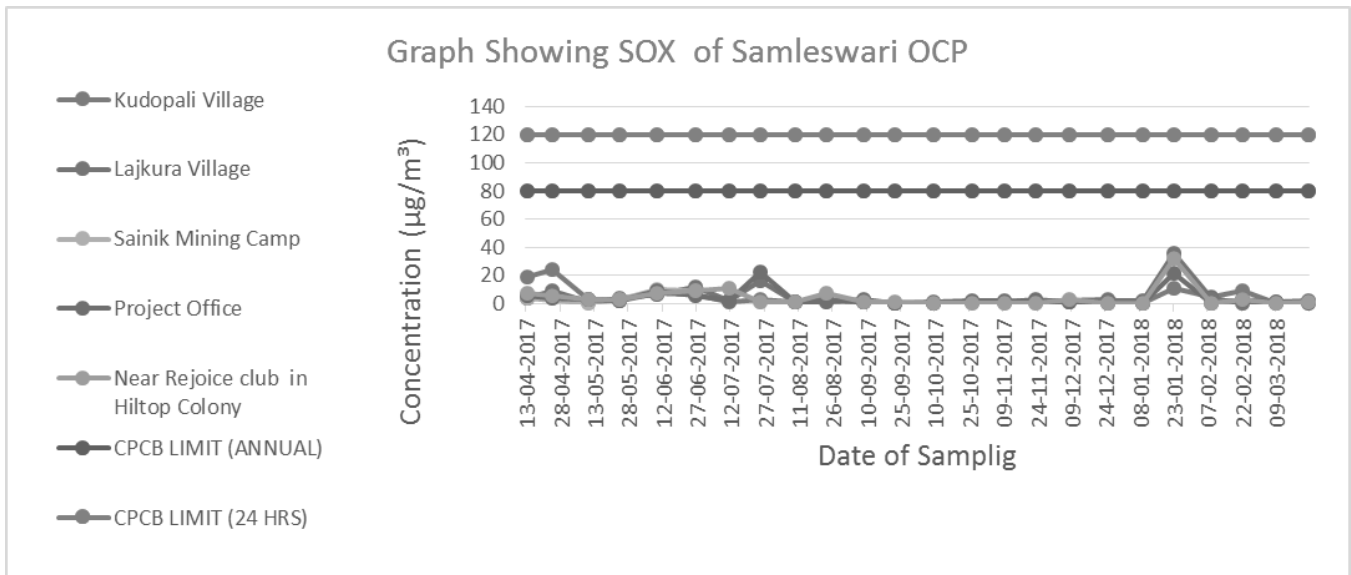
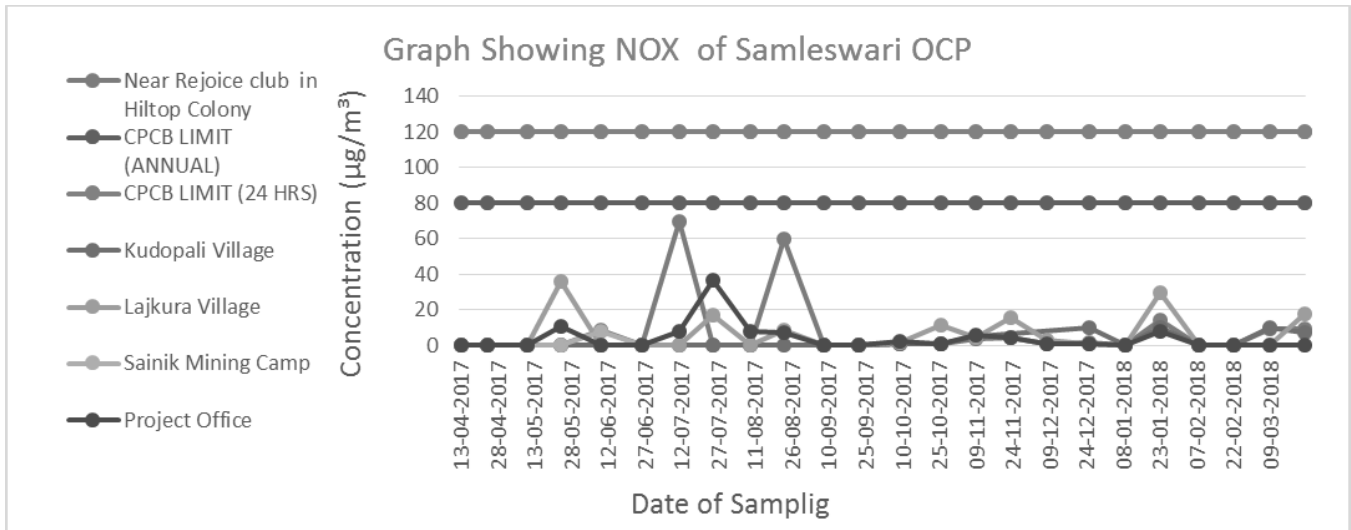
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
17-04-2017	20	102	6.71	<6	335	East to West, Sunny
18-04-2017	18	211	8.23	<6	555	South to North, Sunny
24-04-2017	31	113	3.9	<6	348	East to West, Sunny
25-04-2017	17	148	2.86	<6	334	West to East, Sunny
02-05-2017	32	95	1.83	<6	297	East to West, Sunny
03-05-2017	16	85	2.41	<6	156	South to North, Sunny
09-05-2017	30	285	2.58	<6	571	East to West, Sunny
10-05-2017	24	231	2.2	<6	466	East to West, Sunny
16-05-2017	27	140	3.35	<6	371	East to West, Hot & Sunny
17-05-2017	13	67	2.06	<6	122	East to West, Hot & Sunny
23-05-2017	45	243	1.48	7	590	East to West, Hot & Sunny
24-05-2017	49	207	2.24	<6	508	West to East, Sunny& Cloudy
01-06-2017	36	178	5.8	<6	406	East to West, Sunny
02-06-2017	53	68	5.47	<6	70	North to South, Sunny
08-06-2017	19	64	8.88	35	93	East to West, Sunny
09-06-2017	24	151	7.45	<6	203	East to West, Sunny
16-06-2017	53	69	6.01	<6	160	South to North, Sunny
17-06-2017	75	84	8.63	<6	274	East to West, Sunny
23-06-2017	36	39	7.97	<6	62	East to West, Sunny & Evening rainfall
24-06-2017	58	56	8.25	<6	66	East to West, Sunny & Evening rainfall
03-07-2017	10	42	1.13	26		East to West, Sunny
05-07-2017	13	23	1.24	7		South to North, Cloudy & Evening Rainfall
10-07-2017	18	25	1.7	<6		East to West, Cloudy & Evening Rainfall
11-07-2017	28	43	1.18	<6		East to West, Cloudy & Evening Rainfall
17-07-2017	21	31	1.63	<6		North to South, Cloudy & Evening rainfall
18-07-2017	10	49	34.06	13		East to West, Cloudy & Evening rainfall
24-07-2017	38	42	2.39	<6		East to West, & Heavy rainfall
25-07-2017	21	40	3.35	<6		North to South, & Heavy rainfall
02-08-2017	23	27	1.28	<6	36	East to West, Sunny & Evening Rainfall
03-08-2017	31	45	1.68	<6	64	West to East, Heavy Rainfall
09-08-2017	25	51	11.51	<6	74	South to North, Heavy Rainfall
10-08-2017	16	27	8.55	<6	48	West to East, Heavy Rainfall
16-08-2017	14	116	4.92	<6	118	East to West, & Heavy rainfall
17-08-2017	19	49	5.47	<6	103	South to North, & Heavy rainfall
23-08-2017	25	40	1.41	<6	65	South to North, Sunny & Evening rainfall
24-08-2017	15	49	1.28	6	60	North to South, Sunny & Evening rainfall
04-09-2017	34	57	3.8	12	128	East to West, Hot & Sunny
05-09-2017	18	75	1.55	<6	85	East to West, Sunny & Evening Rainfall
11-09-2017						Power failure
12-09-2017	24	64	1.77	<6	74	East to West, Sunny
18-09-2017		34	1.28	11	81	East to West Sunny & rainfall, PM2.5 M/C breakdown
19-09-2017	31	67	0.46	12	95	East to West, Sunny & rainfall
25-09-2017	33	54	2.93	<6	58	South to North, Sunny
26-09-2017	27	30	0.37	<6	46	East to West, Sunny
03-10-2017	28	99	0.91	1.16	121	East to West, Sunny & Evening Rainfall
04-10-2017	55	72	0.93	2.84	133	West to East, Sunny
10-10-2017	21	95	0.83	0.73	132	North to South, Sunny
11-10-2017	36	119	1	1.09	181	East to West, Sunny
16-10-2017	26	185	1.04	10.25	300	East to West, Sunny
17-10-2017	32	118	4.62	8.88	157	South to North, Sunny
24-10-2017	96	119	1.28	5.61	152	South to North, Sunny
25-10-2017	74	179	1.39	3.98	294	East to West, Sunny
03-11-2017	59	107	0.65	10.63	221	East to West, Sunny
04-11-2017	34	95	1.25	12.73	125	South to North, Sunny

09-11-2017	119	144	1.4	3.55	162	North to South, Sunny
10-11-2017	81	89	1.07	4.1	128	West to East, Sunny
16-11-2017	18	98	0.42	11.44	125	East to West, Sunny
17-11-2017	36	48	1.55	15.61	161	East to West, Sunny
23-11-2017	36	68	1.76	8.2	104	South to North, Sunny
24-11-2017	45	113	2.44	7.93	155	North to South, Sunny
01-12-2017	135	287	1.08	1.28	410	East to West, Sunny
02-12-2017	120	292	1.43	1.48	341	North to South, Sunny
08-12-2017	81	218	1.95	2.29	436	East to West, Sunny
09-12-2017	62	226	2.62	2.41	353	North to South, Sunny
15-12-2017	136	181	0.85	1.18	305	South to North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	136.00	292.00	34.06	35.00	590.00	
Minimum	10.00	23.00	0.37	0.73	36.00	
Average	39.68	104.19	3.50	8.21	207.46	
95 Percentile	116.70	241.20	8.62	21.32	519.75	
98 Percentile	131.40	286.48	10.83	29.78	569.40	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

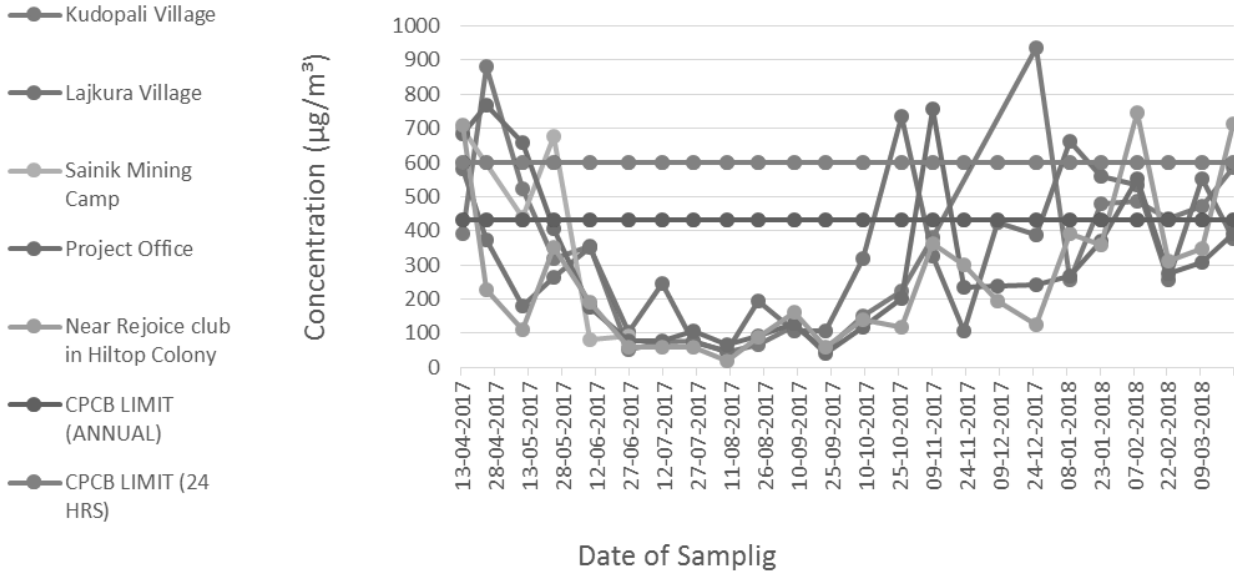
Table 14
Analysis of Heavy Metals & NAAQS Parameters

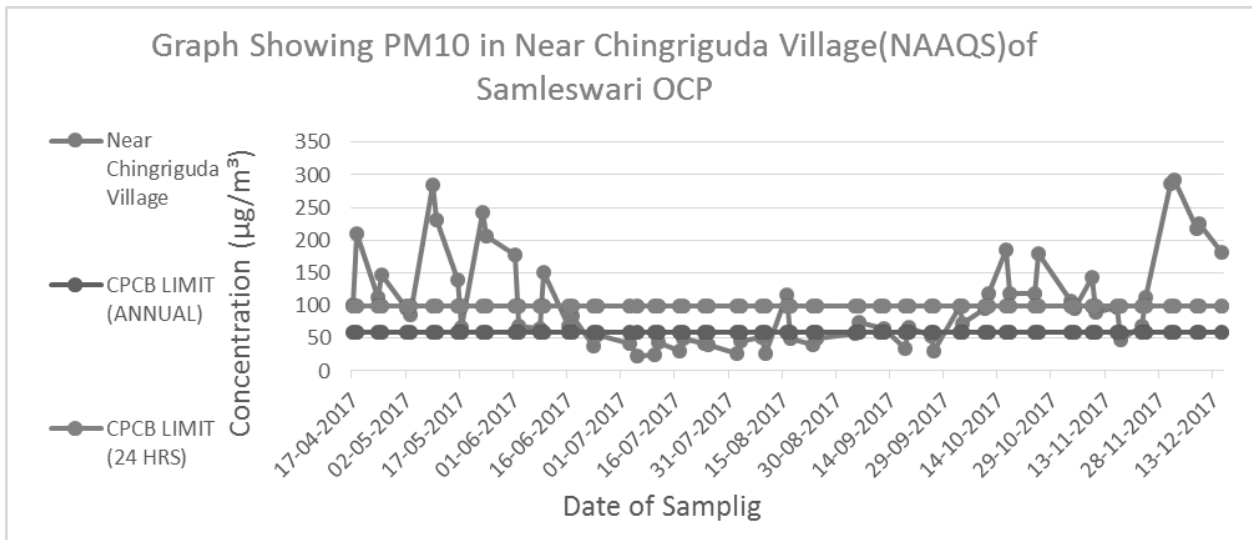
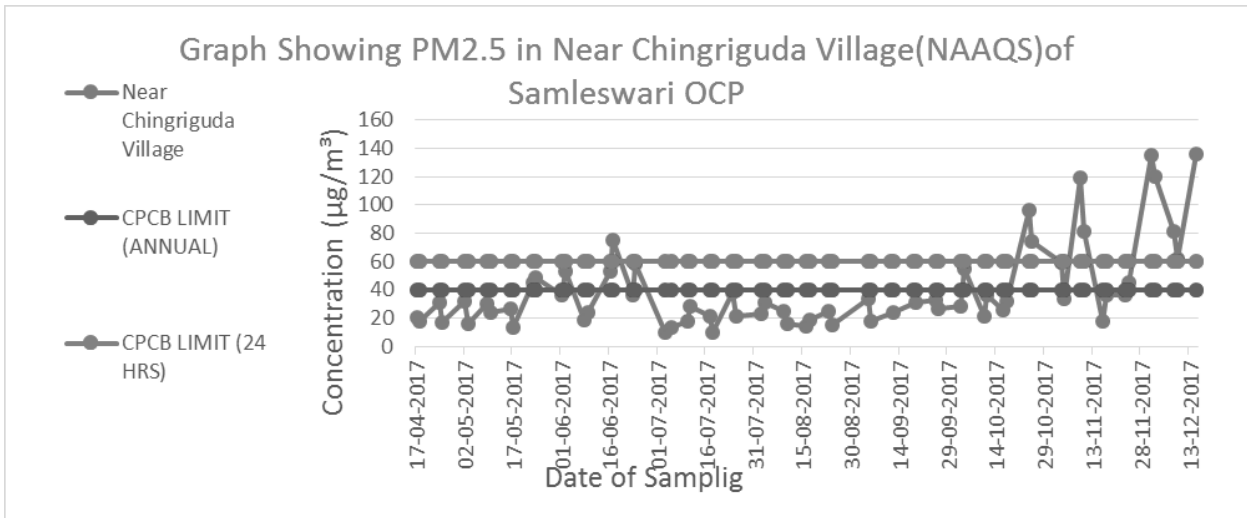
Project:	Samleswari OCP	Samleswari OCP	Samleswari OCP	Samleswari OCP	Samleswari OCP	Samleswari OCP
Name of the station	Units	Project office	Kudopali Village	Near Re-Joice Club in Hilltop Colony	Lajkura Village	<i>Standard</i>
Date Of Sampling		22/03/2018	23/03/2018	22/03/2018	22/03/2018	
Arsenic (As)	(ng/m ³)	<1.0	<1.0	<1.0	<1.0	6.0(Annual)
Nickle (Ni)	(ng/m ³)	<1.0	<1.0	<1.0	<1.0	20(Annual)
Mercury(Hg)	(ng/m ³)	4.28	3.8	1.71	2.55	
Chromium (Cr)	(µg/m ³)	<0.1	<0.1	<0.1	<0.1	
Cadmium (Cd)	(µg/m ³)	<0.1	<0.1	<0.1	<0.1	

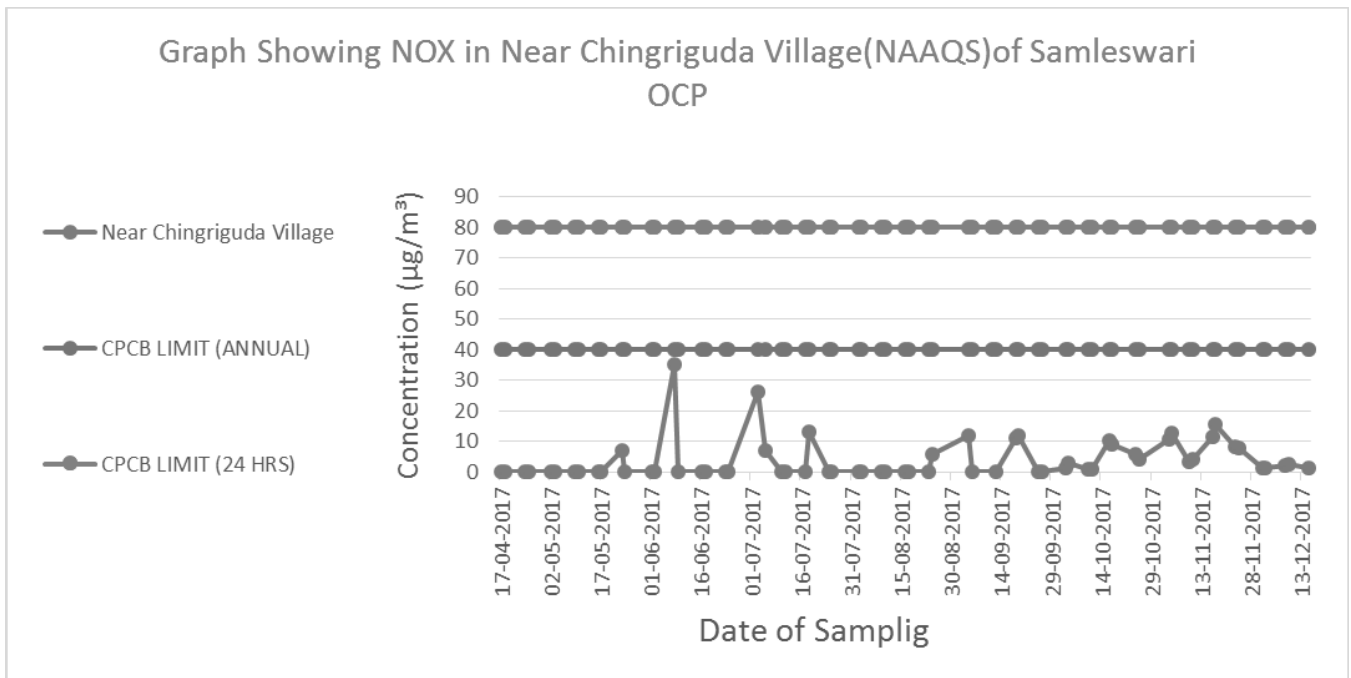
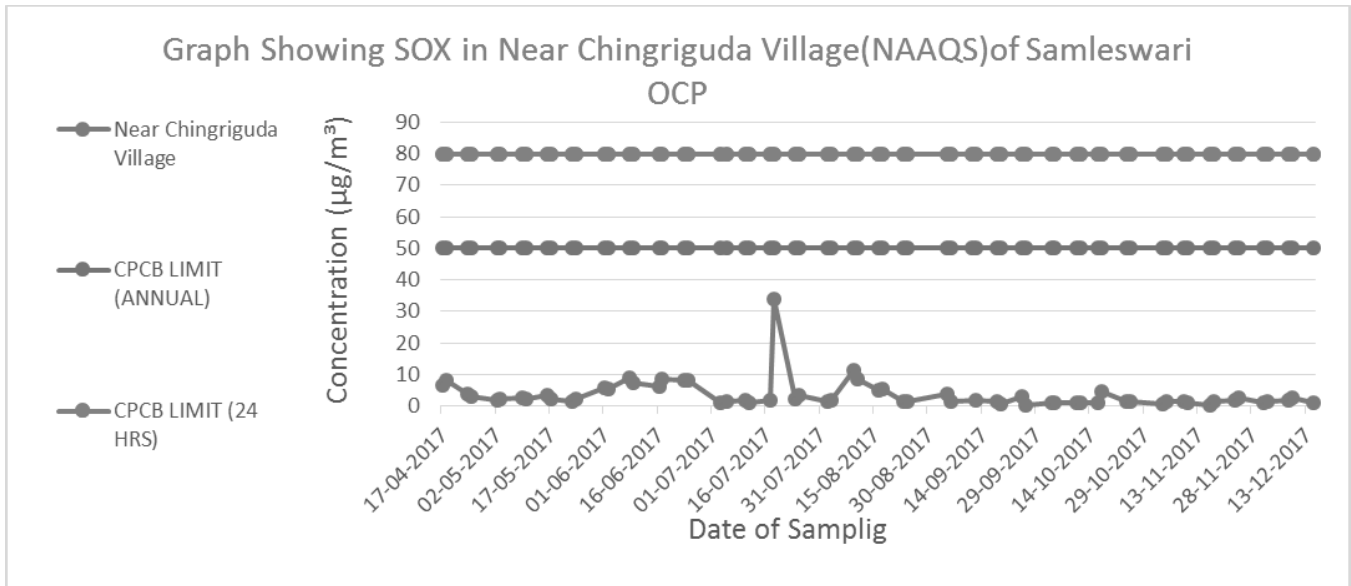




Graph Showing SPM of Samleswari OCP







Graph Showing SPM in Near Chingriguda Village(NAAQS)of Samleswari OCP

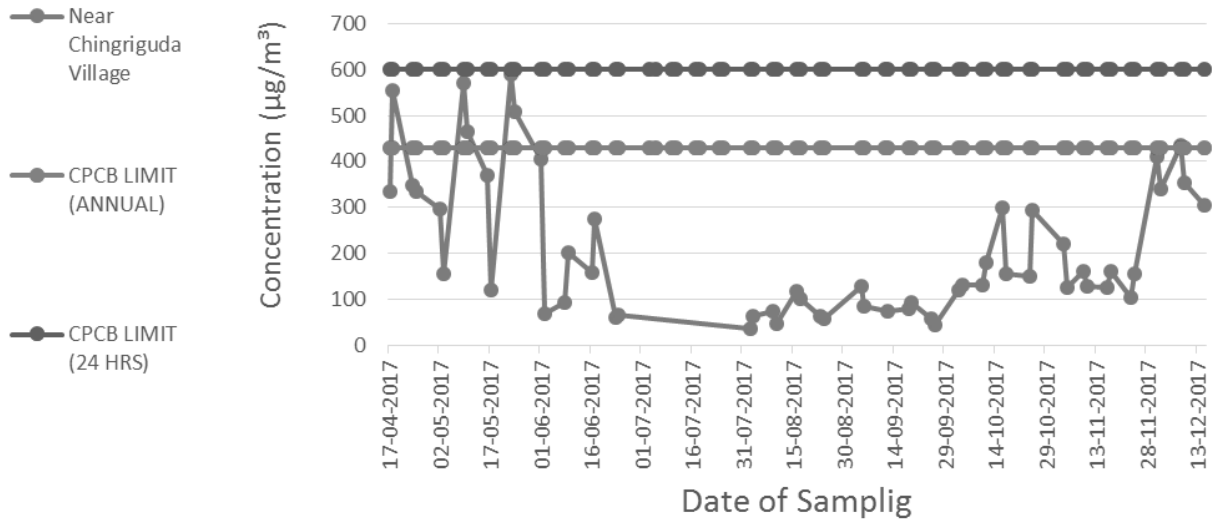


Table 22
Project: Lajkura OCP
Monitoring Station: Near Adarsh Nagar Colony

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
20-04-2017	36	189	2.59	<6	578	West to East, Sunny
05-05-2017	50	239	1.98	<6	370	East to West, Sunny
19-05-2017	35	211	2.95	27	434	East to West, Sunny
06-06-2017	48	169	10.29	<6	192	West to East, Sunny
21-06-2017	57	64	7.2	<6	140	East to West, Sunny & Evening rainfall
07-07-2017	19	54	1.79	<6	86	East to West, Cloudy & Evening Rainfall
20-07-2017	17	26	2.85	<6	34	East to West, Cloudy & Evening rainfall
07-08-2017	18	39	5.05	<6	45	North to South, Heavy Rainfall
21-08-2017	11	70	1.32	<6	113	South to North, Sunny
07-09-2017	17	80	1.48	<6	152	South to North, Sunny & Evening Rainfall
21-09-2017	51	62	0.51	<6	68	West to East, Sunny
07-10-2017	21	30	0.57	1.56	34	West to East, Sunny
25-10-2017	25	128	2.73	6.92	246	West to East, Sunny
07-11-2017	25	254	1.4	7.25	356	East to West, Sunny
21-11-2017	68	127	0.97	5.66	152	North to South, Sunny
06-12-2017	86	211	2.88	2.53	278	West to East, Sunny
21-12-2017	70	236	1.71	0.45	314	South to North, Sunny
05-01-2018	71	194	0.26	<6	306	East to West, Sunny
19-01-2018	10	181	0.6	<6	311	South-North, Sunny
06-02-2018	119	208	13.3	21.6	436	North to South, Sunny
20-02-2018	45	148	0.72	<6	355	West-East, Sunny
07-03-2018	58	168	1.22	8.32	333	South to North, Sunny
21-03-2018	57	253	0.76	6.48	463	South to North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	119	254	13.3	27	578	
Minimum	10	26	0.26	0.45	34	
Average	44.09	145.26	2.83	8.78	252.00	
95 Percentile	84.50	251.60	9.98	24.57	460.30	
98 Percentile	104.48	253.56	11.98	26.03	527.40	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 23
Project: Lajkura OCP
Monitoring Station: Near South Coal Stock

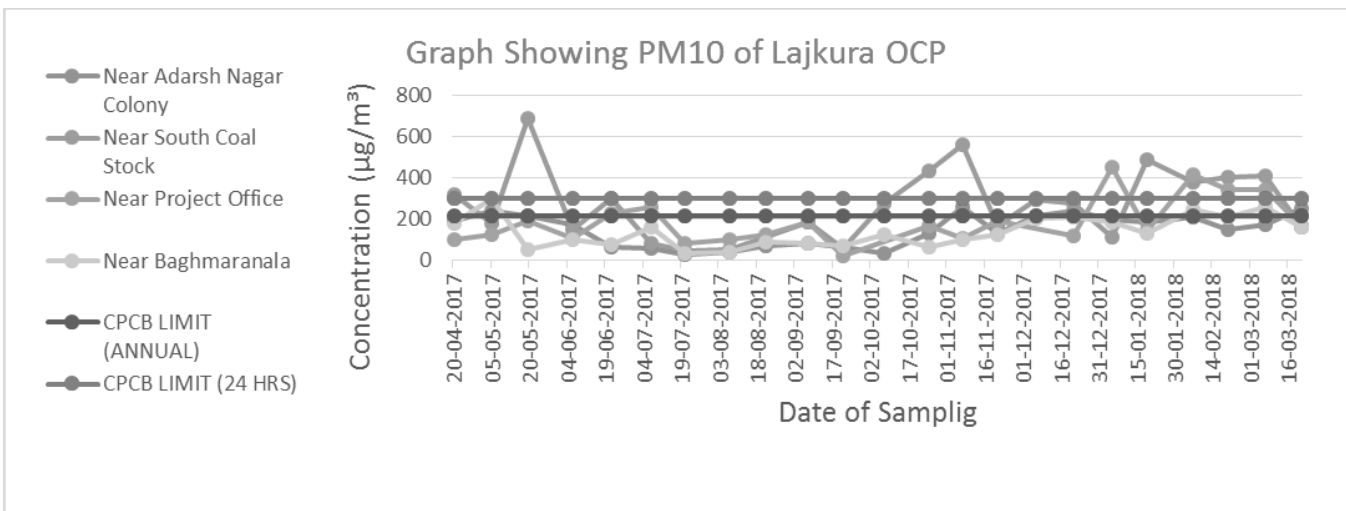
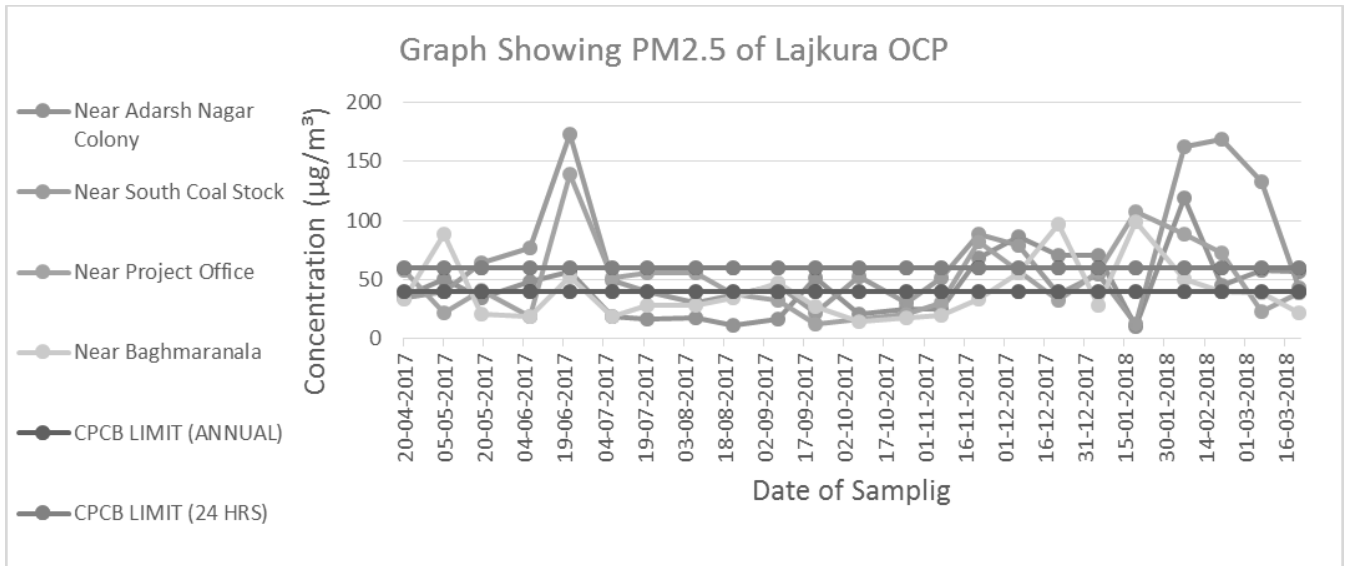
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
21-04-2017	35	319	3.63	<6	708	West to East, Sunny
08-05-2017	40	176	2.49	<6	374	East to West, Sunny
22-05-2017	64	688	2.71	<6	923	South to North, Hot & Sunny
07-06-2017	77	146	5.59	<6	241	West to East, Sunny
21-06-2017	173	298	6.94	<6	527	East to West, Sunny & Evening rainfall
08-07-2017	49	80	1.89	<6	130	East to West, Cloudy & Evening Rainfall
21-07-2017	40	42	1.99	<6	72	South to North, Cloudy & Evening rainfall
07-08-2017	30	49	1.71	<6	70	South to North, Heavy Rainfall
21-08-2017						POWER CUT
07-09-2017	45	186	1.28	<6	352	East to West, Sunny & Evening Rainfall
21-09-2017	22	54	0.21	9	57	West to East, Sunny
07-10-2017	53	274	2.57	24.14	439	North to South, Sunny
24-10-2017	30	434	0.81	2.42	649	West to East, Sunny
07-11-2017	52	563	0.13	3.77	1046	North to South, Sunny
21-11-2017	88	165	11.08	8.51	217	South to North, Sunny
06-12-2017	79	292	1.29	3.56	401	South to North, Sunny
21-12-2017	38	275	1.81	0.76	420	East to West, Sunny
05-01-2018	55	113	0.5	8.9	204	East to West, Sunny
19-01-2018	13	488	14.32	<6	1228	South-North, Sunny
06-02-2018	162	377	7.67	<6	821	West to East, Sunny
20-02-2018	169	402	1.62	<6	540	East-West, Sunny
07-03-2018	133	411	0.51	<6	961	South to North, Sunny
21-03-2018	43	156	1.74		275	South to North, Sunny & NOx Sample rejected
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	173	688	14.32	24.14	1228	
Minimum	13	42	0.13	0.76	57	
Average	67.73	272.18	3.30	7.63	484.32	
95 Percentile	168.65	559.25	10.91	18.84	1041.75	
98 Percentile	171.32	635.50	12.96	22.02	1151.56	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

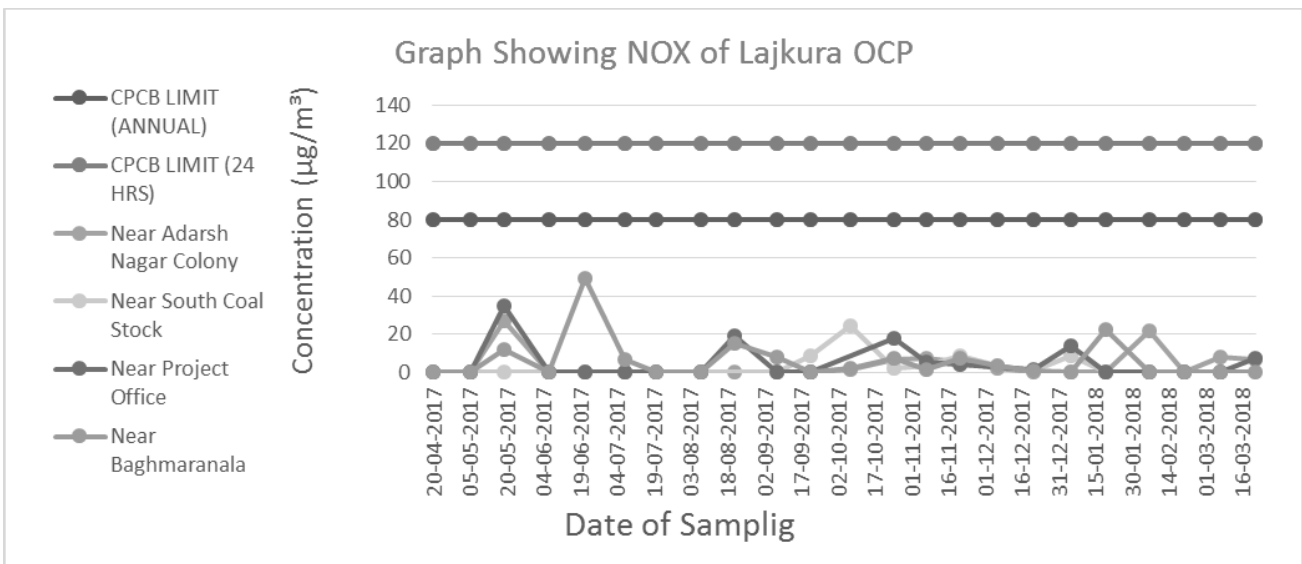
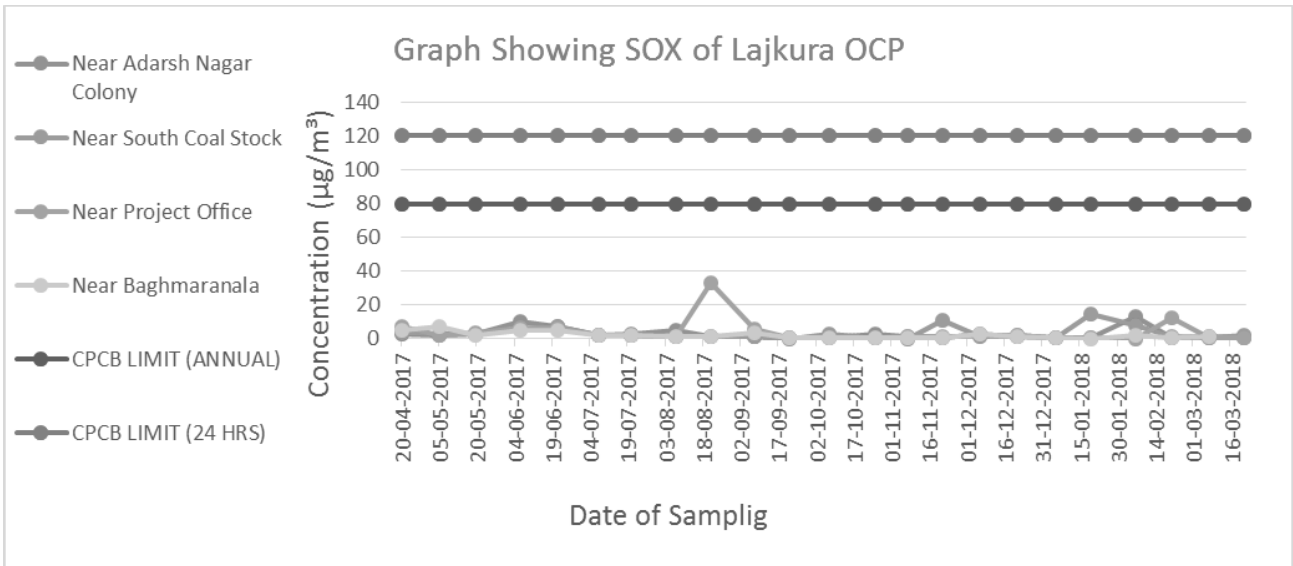
Table 24
Project: Lajkura OCP
Monitoring Station: Near Project Office

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
21-04-2017	58	95	7.03	<6	519	East to West, Sunny
08-05-2017	22	125	2.28	<6	397	East to West, Sunny
22-05-2017	41	190	3.41	35	778	South to North, Hot & Sunny
07-06-2017	19	106	6.29	<6	228	East to West, Sunny
21-06-2017	139	227	6.32	<6	391	North to South, Sunny & Evening rainfall
08-07-2017	52	257	1.78	<6	501	North to South, Cloudy & Evening Rainfall
21-07-2017	56	78	1.98	<6	106	South to North, Cloudy & Evening rainfall
07-08-2017	56	98	1.5	<6	110	North to South, Heavy Rainfall
21-08-2017	38	124	32.99	19	145	North to South, Sunny
07-09-2017	33	185	5.91	<6	275	East to West, Sunny & Evening Rainfall
21-09-2017	13	21	0.49	<6	34	West to East, Sunny
07-10-2017						Current Failure
24-10-2017	21	167	0.92	17.84	257	West to East, Sunny
07-11-2017	30	102	1.49	5.37	246	North to South, Sunny
21-11-2017	82	191	1	4.43	371	South to North, Sunny
06-12-2017						Power Failure
21-12-2017	32	117	1.9	1.36	314	East to West, Sunny
05-01-2018	57	449	0.55	14.28	636	North to South, Sunny
30-01-2018	107	139	0.38	<6	234	East-West, Sunny
06-02-2018	88	412	0.21	<6	586	North to South, Sunny
20-02-2018	73	342	12.67	<6	470	North-South, Sunny
07-03-2018	23	341	0.77	<6	447	South to North, Sunny
21-03-2018	39	167	0.94	7.77	431	South to North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	139	449	32.99	35	778	
Minimum	13	21	0.21	1.36	34	
Average	51.38	187.29	4.32	13.13	356.00	
95 Percentile	107.00	412.00	12.67	29.40	636.00	
98 Percentile	126.20	434.20	24.86	32.76	721.20	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 25
Project: Lajkura OCP
Monitoring Station: Near Baghmaranala

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
20-04-2017	34	175	5.28	<6	304	West to East, Sunny
05-05-2017	88	301	7.36	<6	590	East to West, Sunny
19-05-2017	21	47	1.83	12	109	East to West, Sunny
06-06-2017	19	95	5.32	<6	220	East to West, Sunny
21-06-2017	53	73	5.33	49	104	East to West, Sunny & Evening rainfall
08-07-2017	19	161	2.16	7	204	West to East, Cloudy & Evening Rainfall
21-07-2017	28	29	1.78	<6	52	East to West, Cloudy & Evening rainfall
07-08-2017	28	37	1.47	<6	47	West to East, Heavy Rainfall
21-08-2017	35	87	1.24	15	93	West to East, Sunny
07-09-2017	47	80	3.39	8	103	West to East, Sunny & Evening Rainfall
21-09-2017	27	68	0.46	<6	84	West to East, Sunny
07-10-2017	15	122	0.88	2.05	175	West to East, Sunny
24-10-2017	18	59	0.91	7.28	88	North to South, Sunny
07-11-2017	20	95	0.81	1.68	167	South to North, Sunny
21-11-2017	34	122	0.52	7.34	127	East to West, Sunny
06-12-2017	56	200	2.47	3.8	304	West to East, Sunny
21-12-2017	97	206	1.17	0.95	250	South to North, Sunny
05-01-2018	28	183	0.48	<6	283	South to North, Sunny
19-01-2018	99	130	0.12	22.35	251	East-West, Sunny
06-02-2018	50	246	2.32	<6	604	North to South, Sunny
20-02-2018	40	205	0.39	<6	330	North-South, Sunny
07-03-2018	39	254	1.62	<6	333	South to North, Sunny
21-03-2018	22	161		<6	272	West-East, Sunny & SO ₂ Sample rejected
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	99	301	7.36	49	604	
Minimum	15	29	0.12	0.95	47	
Average	39.87	136.35	2.15	11.37	221.48	
95 Percentile	96.10	253.20	5.33	34.34	564.30	
98 Percentile	98.12	280.32	6.51	43.14	597.84	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	





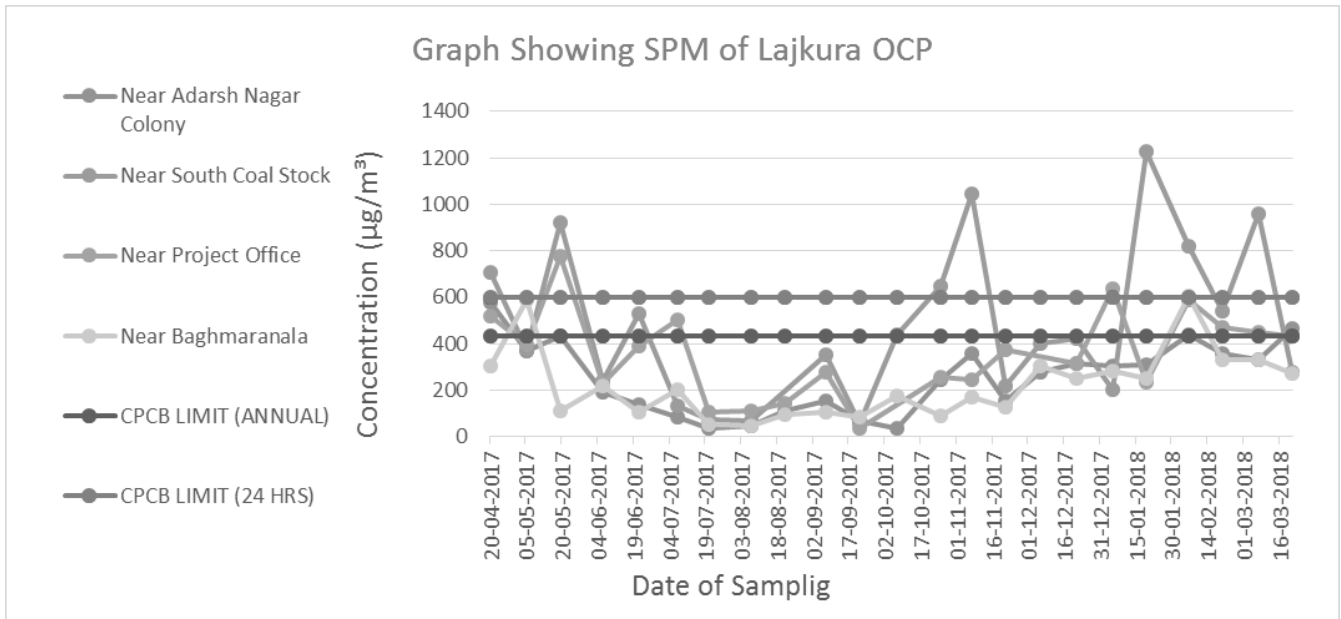


Table 26
Project: Lakhanpur OCP
Monitoring Station: East of Coal Stock no. 10

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
15-04-2017	92	216	8.19	<6	687	North to South Sunny
26-04-2017	22	123	3.48	<6	356	South to North, Sunny
11-05-2017	29	469	1.25	<6	572	West to East, Sunny
25-05-2017	41	56	2.74	<6	112	North to South, Hot & Sunny
12-06-2017	48	56	8.84	<6	115	North to South, Sunny
27-06-2017	15	16	6.44	12	58	East to West, Sunny & Evening rainfall
13-07-2017	13	26	1.77	<6	40	East to West, Cloudy & Evening Rainfall
27-07-2017	20	42	1.57	<6	80	West to East, Cloudy & rainfall
10-08-2017	14	59	4.09	<6	81	North to South, Heavy Rainfall
24-08-2017	18	48	3.3	12	162	East to West, Sunny & Evening rainfall
12-09-2017	40	135	1.89	<6	151	West to East, Sunny
26-09-2017	25	35	0.66	<6	49	South to North, Sunny
11-10-2017	53	101	0.88	0.77	145	West to East, Sunny
30-10-2017	19	52	1.07	1.51	84	South to North, Sunny
10-11-2017	107	124	0.68	4.38	166	South to North, Sunny
24-11-2017	81	63	1.75	4.14	108	West to East, Sunny
11-12-2017	120	136	0.66	1.46	183	North to South, Sunny
26-12-2017	52	186	1.53	1.58	321	East to West, Sunny
10-01-2018	62	238	0.52	<6	282	South to North, Sunny
25-01-2018	96	173	0.09	<6	282	West-East, Sunny
12-02-2018	27	179	0.81	<6	276	South to North, Sunny
23-02-2018	27	143	0.84	<6	265	West-East, Sunny
12-03-2018	48	381	4.77	47.81	630	South to North, Sunny
26-03-2018	43	214	0.51	11.15	337	East-West, Sunny
C	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	120	469	8.84	47.81	687	
Minimum	13	16	0.09	0.77	40	
Average	46.33	136.29	2.43	9.68	230.92	
95 Percentile	105.35	359.55	7.93	31.70	621.30	
98 Percentile	114.02	428.52	8.54	41.36	660.78	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 27

Project: Lakhanpur OCP
Monitoring Station: West Side of quarry no. 4

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
14-04-2017	44	453	15.72	<6	818	West to East Sunny
26-04-2017	38	344	7.32	<6	520	South to North, Sunny
11-05-2017	28	90	1.14	<6	267	West to East, Sunny
25-05-2017	29	38	2.33	<6	91	North to South, Hot & Sunny
12-06-2017	21	104	9.51	<6	337	West to East, Sunny
27-06-2017	25	40	7.44	<6	68	South to North, Sunny & Evening rainfall
12-07-2017	46	67	1.64	<6	142	South to North, Cloudy & Evening Rainfall
26-07-2017	22	33	2.32	74	45	West to East, & Heavy rainfall
10-08-2017	9	21	6.19	<6	40	East to West, Heavy Rainfall
24-08-2017	16	67	1.04	<6	112	East to West, Sunny & Evening rainfall
12-09-2017	22	109	1.86	<6	178	North to South, Sunny
26-09-2017	18	55	1.32	13	60	South to North, Sunny
11-10-2017	26	109	1.92	2.1	315	North to South, Sunny
27-10-2017	44	246	0.35	1.26	416	South to North, Sunny
10-11-2017	24	167	0.89	5.25	240	West to East , Sunny
24-11-2017	60	128	1.79	5.07	186	East to West, Sunny
11-12-2017	56	144	2.11	1.22	234	West to East , Sunny
26-12-2017	23	168	2.06	1.74	251	West to East, Sunny
10-01-2018	121	167	0.42	<6	321	West to East , Sunny
24-01-2018	39	111	0.74	12.2	340	East-West, Sunny
09-02-2018	37	113	1.27	<6	267	North to South, Sunny
23-02-2018	34	125	1.02	<6	303	North-South, Sunny
12-03-2018	97	434	0.51	16.5	722	South to North, Sunny
26-03-2018	135	463	0.83		776	West-East, Sunny & NOx Sample rejected
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	135	463	15.72	74	818	
Minimum	9	21	0.35	1.22	40	
Average	42.25	158.17	2.99	13.23	293.71	
95 Percentile	117.40	450.15	9.20	48.12	767.90	
98 Percentile	128.56	458.40	12.86	63.65	798.68	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 28
Project: Lakhanpur OCP
Monitoring Station: North West of Quarry no. 3

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
17-04-2017	21	253	8.89	<6	363	North to South, Sunny
11-05-2017	39	105	0.51	<6	197	East to West, Sunny
25-05-2017	40	140	2.15	<6	323	North to South, Hot & Sunny
12-06-2017	28	159	10	<6	265	East to West, Sunny
27-06-2017	25	70	8.15	<6	167	West to East, Sunny & Evening rainfall
13-07-2017	31	53	1.8	6	64	West to East, Cloudy & Evening Rainfall
27-07-2017	22	38	3.13	<6	48	West to East, & Heavy rainfall
10-08-2017	19	55	2.77	<6	76	West to East, Heavy Rainfall
24-08-2017	38	41	1.04	19	56	South to North, Sunny & Evening rainfall
13-09-2017	36	133	9.75	7	353	South to North, Sunny
26-09-2017	26	79	0.44	<6	110	South to North, Sunny
12-10-2017	28	37	0.46	1.17	85	North to South, Sunny
27-10-2017	39	655	3.91	2.61	866	West to East, Sunny
14-11-2017	31	157	0.73	5.58	232	South to North, Sunny
28-11-2017	106	180	3.49	33.4	390	West to East, Sunny
12-12-2017	96	144	2.12	1.56	248	South to North, Sunny
27-12-2017	50	318	3.35	2.27	510	North to South, Sunny
11-01-2018	104	149	0.47	6.2	210	East to West, Sunny
27-01-2018	150	219	0.28	<6	424	North-South, Sunny
12-02-2018	55	242	1.21	<6	403	South to North, Sunny
26-02-2018	74	323	0.89	<6	483	North-South, Sunny
13-03-2018	59	299	0.72	<6	469	South to North, Sunny
27-03-2018	43	134	1.1	26.74	253	North-South, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	150	655	10	33.4	866	
Minimum	19	37	0.28	1.17	48	
Average	50.43	173.17	2.93	10.14	286.74	
95 Percentile	105.80	322.50	9.66	30.07	507.30	
98 Percentile	130.64	508.92	9.89	32.07	709.36	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 29
Project: Lakhanpur OCP
Monitoring Station: North west of quarry 1

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
14-04-2017	69	237	23.92	<6	479	South to North Sunny
26-04-2017	32					West to East, Sunny & PM10 machine breakdown
12-05-2017	45	306	4.36	<6	751	East to West, Sunny
26-05-2017	27	520	2.81	<6	1065	North to South, Hot & Sunny
13-06-2017	16	86	9.18	<6	141	East to West, Sunny
28-06-2017	19	40	5.77	24	56	North to South, Sunny & Evening rainfall
13-07-2017	29	50	3.99	<6	101	West to East, Cloudy & Evening Rainfall
27-07-2017	11	24	3.26	<6	30	North to South, & Heavy rainfall
10-08-2017	19	33	2.01	<6	45	South to North, Heavy Rainfall
24-08-2017	34	69	1.37	15	150	East to West, Sunny & Evening rainfall
13-09-2017	22	157	0.87	<6	318	East to West, Sunny
27-09-2017	22	42	0.65	<6	54	South to North, Sunny
12-10-2017	24	93	1.42	4.66	134	North to South, Sunny
27-10-2017	11	125	1.72	7.15	285	North to South, Sunny
14-11-2017	51	278	0.97	3.73	660	West to East, Sunny
28-11-2017	14	370	1.58	5.29	641	West to East, Sunny
12-12-2017	56	211	3.91	0.47	382	East to West, Sunny
27-12-2017	17	173	0.79	4.65	184	South to North, Sunny
27-12-2017	17	173	0.79	4.65	184	South to North, Sunny
11-01-2018	64	158	0.26	<6	250	West to East, Sunny
27-01-2018	52	84	0.31	<6	191	East-West, Sunny
12-02-2018	43	235	1.11	<6	610	East to West, Sunny
26-02-2018	29	423	0.51	<6	539	East-West, Sunny
13-03-2018	56	526	1.07	<6	675	South to North, Sunny
27-03-2018	19	225	1.4	10.81	695	South-North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	69	526	23.92	24	1065	
Minimum	11	24	0.26	0.47	30	
Average	31.92	193.25	3.08	8.04	359.17	
95 Percentile	62.40	505.45	8.67	19.95	742.60	
98 Percentile	66.60	523.24	17.14	22.38	920.56	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 30
Project: Lakhanpur OCP
Monitoring Station: Near OB Dump no.1

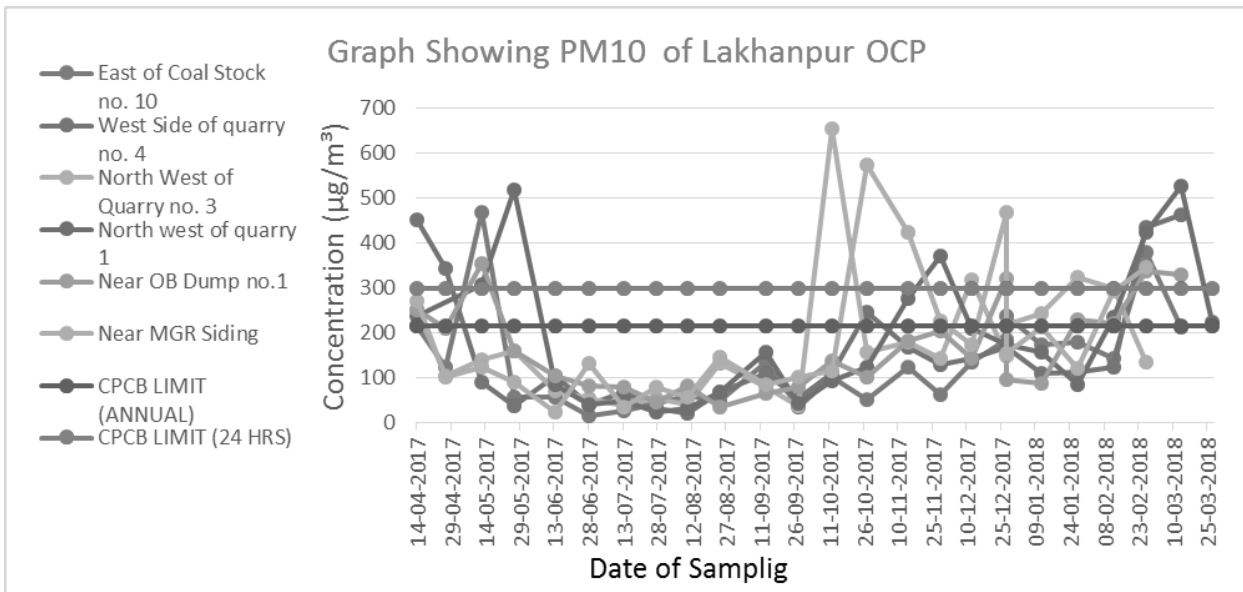
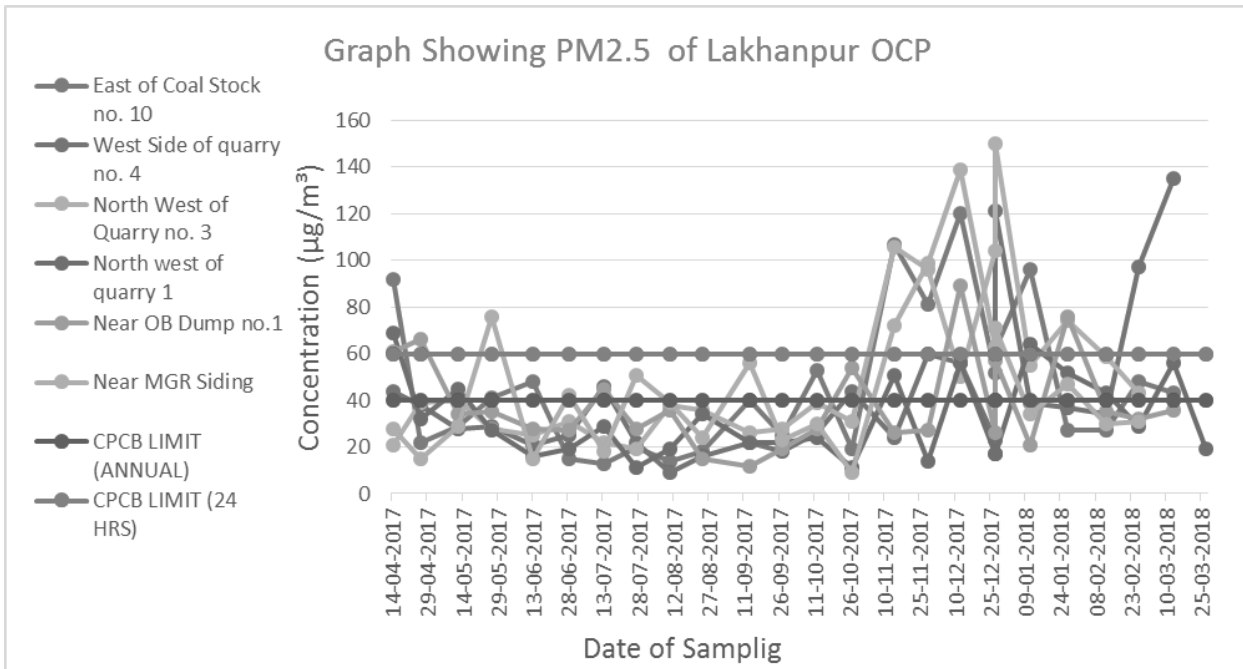
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
14-04-2017	61	253	3.62	<6	528	East to West Sunny
26-04-2017	66	209	13.36	<6	469	West to East, Sunny
11-05-2017	34	355	1.14	<6	733	North to South, Sunny
25-05-2017	35	160	4.03	7	222	North to South, Hot & Sunny
12-06-2017	28	104	9.67	<6	198	South to North, Sunny
27-06-2017	27	81	8.13	<6	108	North to South, Sunny & Evening rainfall
12-07-2017	45	80	1.98	<6	182	East to West, Cloudy & Evening Rainfall
26-07-2017	28	46	9.95	49	78	North to South, Sunny & Heavy rainfall
09-08-2017	36	83	2.4	14	122	North to South, Heavy Rainfall
23-08-2017	15	36	1.51	<6	66	North to South, Sunny & Evening rainfall
12-09-2017	12	65	1.81	<6	108	South to North, Sunny
26-09-2017	19	79	0.78	<6	95	East to West, Sunny
11-10-2017	28	138	0.79	2.3	237	North to South, Sunny
27-10-2017	54	101	1.37	4.71	206	East to West, Sunny
10-11-2017	26	183	0.52	3.11	239	East to West, Sunny
24-11-2017	27	205	0.98	6.97	289	South to North, Sunny
11-12-2017	89	143	1.45	3.53	152	North to South, Sunny
26-12-2017	26	322	1.88	0.93	451	West to East, Sunny
10-01-2018	57	95	0.14	<6	273	North to South, Sunny
24-01-2018	21	88	0.38	<6	408	West-East, Sunny
09-02-2018	76	230	1.26	7.51	566	West to East, Sunny
23-02-2018	35	220	0.62	<6	303	North-South, Sunny
12-03-2018	32	338	0.8	<6	524	South to North, Sunny
26-03-2018	36	331	1.09	10.22	651	South-North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	89	355	13.36	49	733	
Minimum	12	36	0.14	0.93	66	
Average	38.04	164.38	2.90	9.93	300.33	
95 Percentile	74.50	336.95	9.91	31.50	638.25	
98 Percentile	83.02	347.18	11.79	42.00	695.28	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

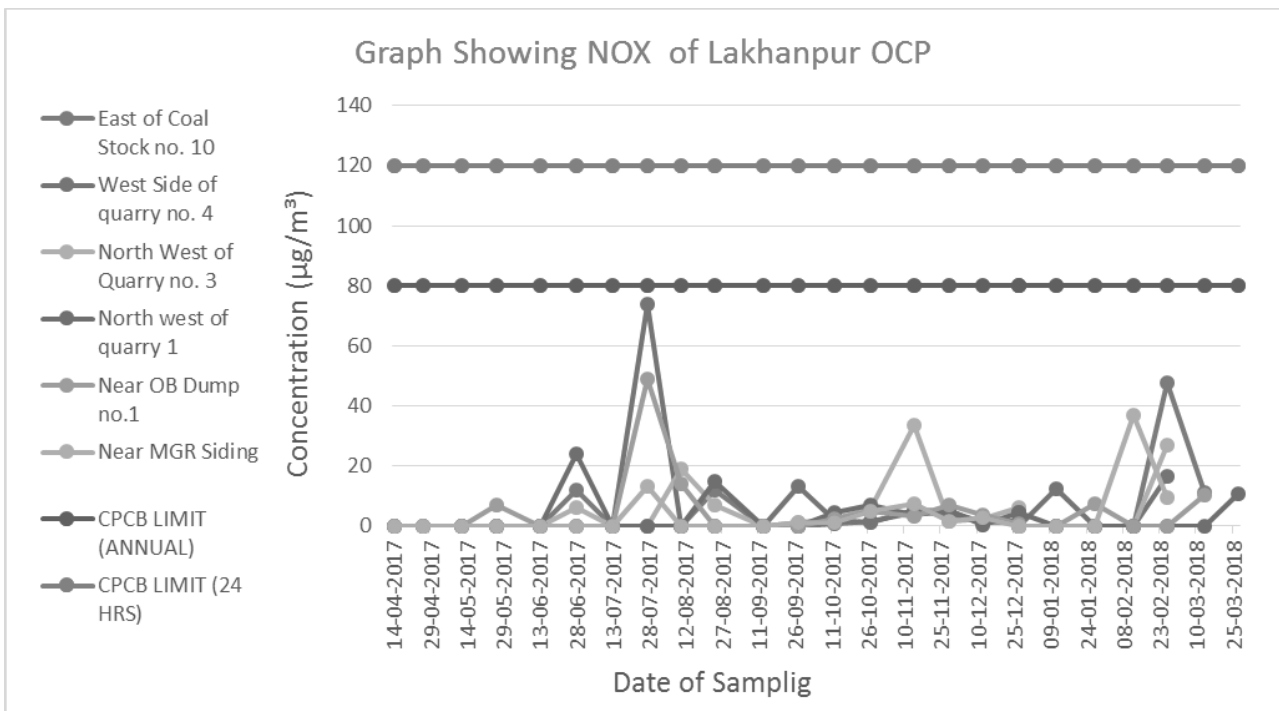
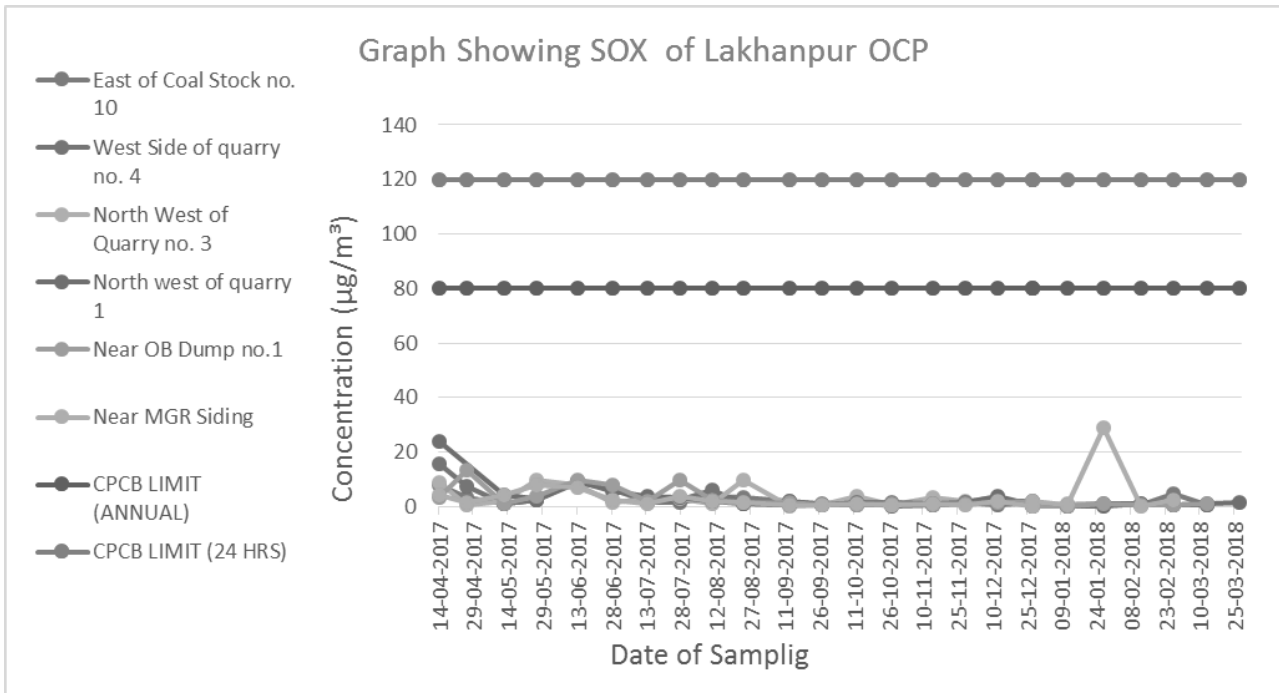
Table 31
Project: Lakhanpur OCP
Monitoring Station: Near MGR Siding

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
26-04-2017	28	272	4.21	<6	633	East to West, Sunny
11-05-2017	15	102	1.39	<6	285	East to West, Sunny
25-05-2017	29	125	4.43	<6	278	North to South, Hot & Sunny
12-06-2017	76	91	8.22	<6	265	West to East, Sunny
27-06-2017	15	23	6.93	<6	31	West to East, Sunny & Evening rainfall
13-07-2017	42	133	2.29	<6	185	East to West, Cloudy & Evening Rainfall
27-07-2017	18	36	1.3	<6	82	East to West, & Heavy rainfall
10-08-2017	51	78	3.72	13	128	North to South, Heavy Rainfall
24-08-2017	39	56	1.84	<6	98	East to West, Sunny & Evening rainfall
12-09-2017	24	147	1.58	<6	175	East to West, Sunny
26-09-2017	56	84	0.91	<6	101	North to South, Sunny
11-10-2017	23	101	0.54	1.04	217	West to East, Sunny
27-10-2017	30	116	1.18	1.03	200	East to West, Sunny
13-11-2017	9	573	0.55	4.69	1027	East to West, Sunny
27-11-2017	72	425	1.08	7.23	529	North to South, Sunny
12-12-2017	99	226	0.54	1.75	434	East to West, Sunny
27-12-2017	139	174	1.88	3	574	East to West, Sunny
11-01-2018	63	468	0.24	<6	619	North to South, Sunny
24-01-2018	71	154	1.86	<6	411	East-West, Sunny
09-02-2018	34	213	0.5	<6	299	North to South, Sunny
23-02-2018	47	121	29.11	<6	153	West-East, Sunny
12-03-2018	30	293	0.23	36.96	470	South to North, Sunny
26-03-2018	31	347	2.29	9.32	518	West-East, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	139	573	29.11	36.96	1027	
Minimum	9	23	0.23	1.03	31	
Average	45.26	189.48	3.34	8.67	335.30	
95 Percentile	96.70	463.70	8.09	27.38	631.60	
98 Percentile	121.40	526.80	19.92	33.13	853.64	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 32
Analysis of Heavy Metals & NAAQS Parameters

Project:		Lakhanpur OCP	Lakhanpur OCP	Lakhanpur OCP	Lakhanpur OCP	Lakhanpur OCP	Lakhanpur OCP	
Name of the station	Units	Near OB Dump no.1	Near MGR siding	North west of quarry 3	East of coal stock no.10	North west of quarry 1	West side of Quarry no.4	<i>Standard</i>
Date Of Sampling		26/03/2018	26/03/2018	27/03/2018	26/03/2018	27/03/2018	26/03/2018	
Arsenic (As)	(ng/m ³)	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	6.0(Annual)
Nickle (Ni)	(ng/m ³)	1.0	1.0	<1.0	1.0	<1.0	1.0	20(Annual)
Mercury(Hg)	(ng/m ³)	7.23	8.97	6.32	5.21	7.69	4.92	
Chromium (Cr)	(µg/m ³)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Cadmium (Cd)	(µg/m ³)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	





Graph Showing SPM of Lakhanpur OCP

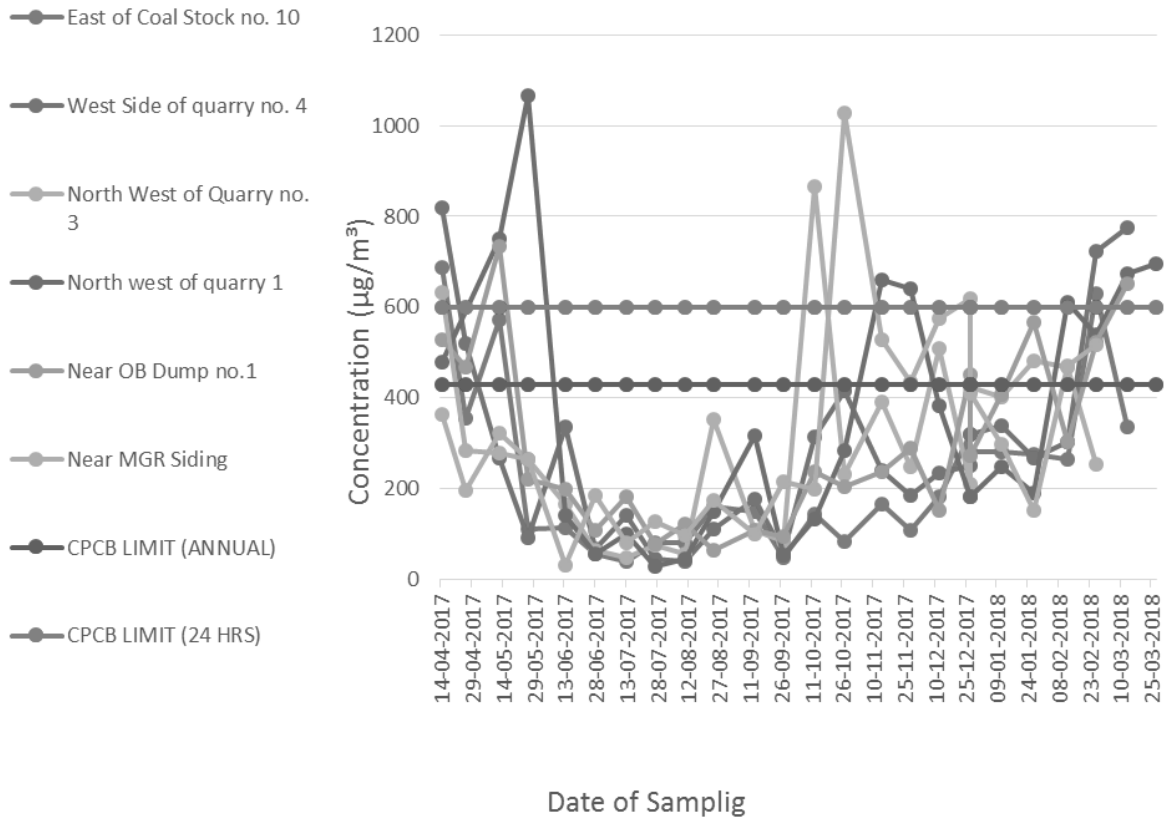


Table 33
Project: Lilari OCP
Monitoring Station: Near East of CT Road

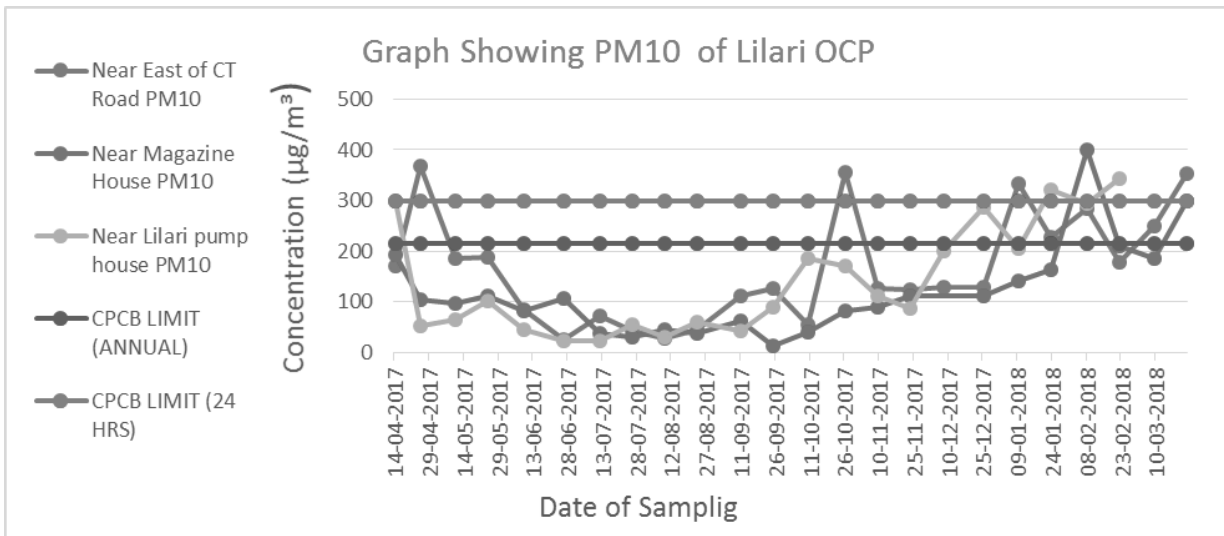
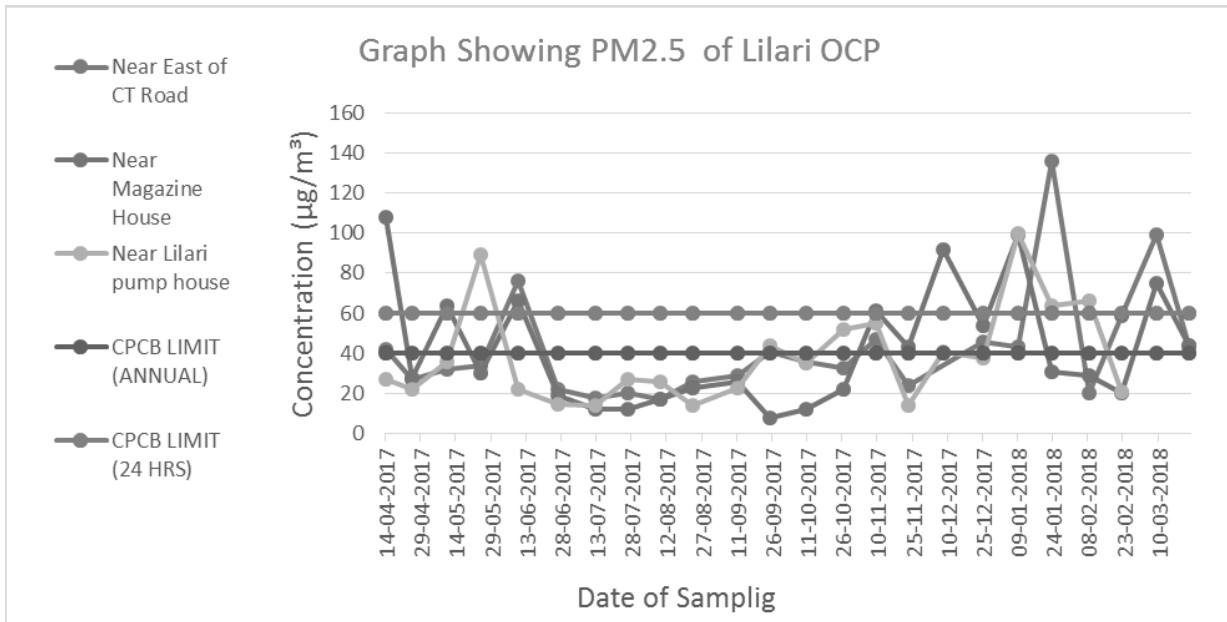
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
14-04-2017	42	170	6.04	<6	361	North to South Sunny
25-04-2017	27	367	6.03	<6	583	West to East, Sunny
10-05-2017	32	185	1.61	<6	606	West to East, Sunny
24-05-2017	34	188	3.55	<6	305	West to East, Sunny
09-06-2017	76	84	7.63	<6	165	North to South, Sunny
26-06-2017	22	25	8.02	<6	46	South to North, Sunny & Evening rainfall
12-07-2017	18	72	6.37	6	140	East to West, Cloudy & Evening Rainfall
26-07-2017	20	42	3.52	14	69	North to South, Sunny & Heavy rainfall
09-08-2017	17	29	1.52	<6	40	West to East, Heavy Rainfall
23-08-2017	26	46	2.01	16	83	West to East, Sunny & Evening rainfall
11-09-2017	29	111	2.11	6	474	North to South, Sunny
25-09-2017	41	126	2.35	<6	156	South to North, Sunny
10-10-2017	36	56	0.12	0.77	174	North to South, Sunny
26-10-2017	33	356	2.77	10.87	495	South to North, Sunny
09-11-2017	47	126	0.68	2.15	163	West to East, Sunny
23-11-2017	24	125	0.67	6.37	217	West to East, Sunny
08-12-2017		130	4.89	7.14	170	S-N, Sunny & PM2.5 Sampler Breakdown
25-12-2017	46	129	0.48	0.88	267	South to North, Sunny
09-01-2018	43	334	0.32	6.85	557	East to West, Sunny
23-01-2018	136	227	7.68	22.75	330	West-East, Sunny
08-02-2018	20	285	4.05	17.9	482	South-North, Sunny
22-02-2018	59	178	4.88	<6	354	South-North, Sunny
09-03-2018	99	250	3.17	9.96	374	South to North, Sunny
23-03-2018	44	354	1.46	<6	591	North-South, Sunny
C	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	136	367	8.02	22.75	606	
Minimum	17	25	0.12	0.77	40	
Average	42.22	166.46	3.41	9.12	300.08	
95 Percentile	96.70	355.70	7.67	19.60	589.80	
98 Percentile	119.72	361.94	7.86	21.49	599.10	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

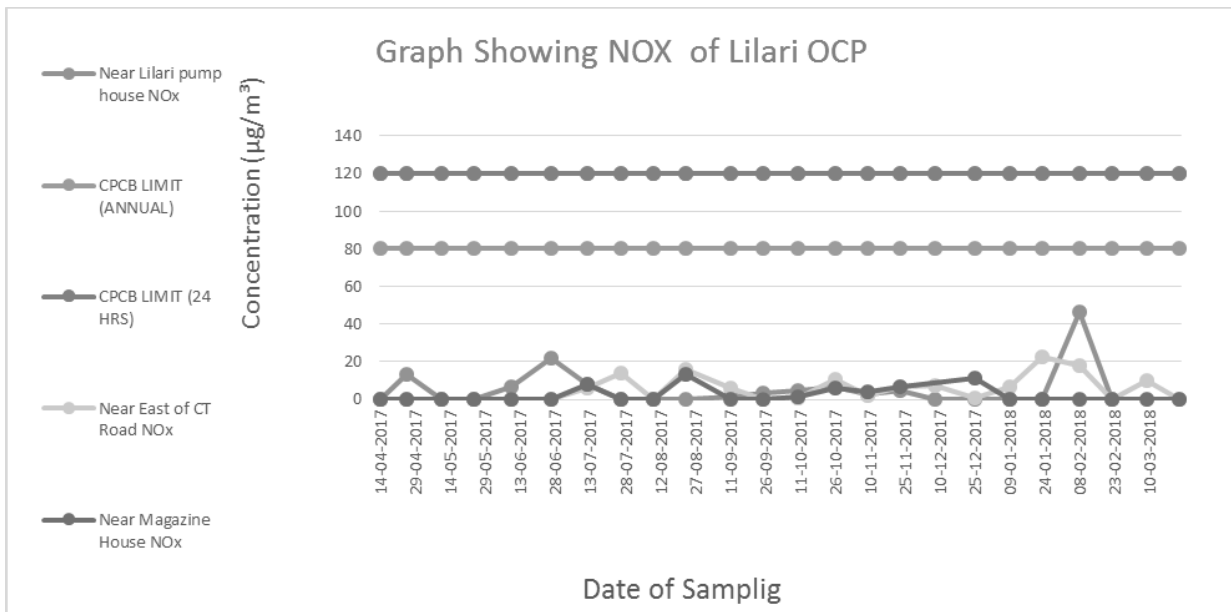
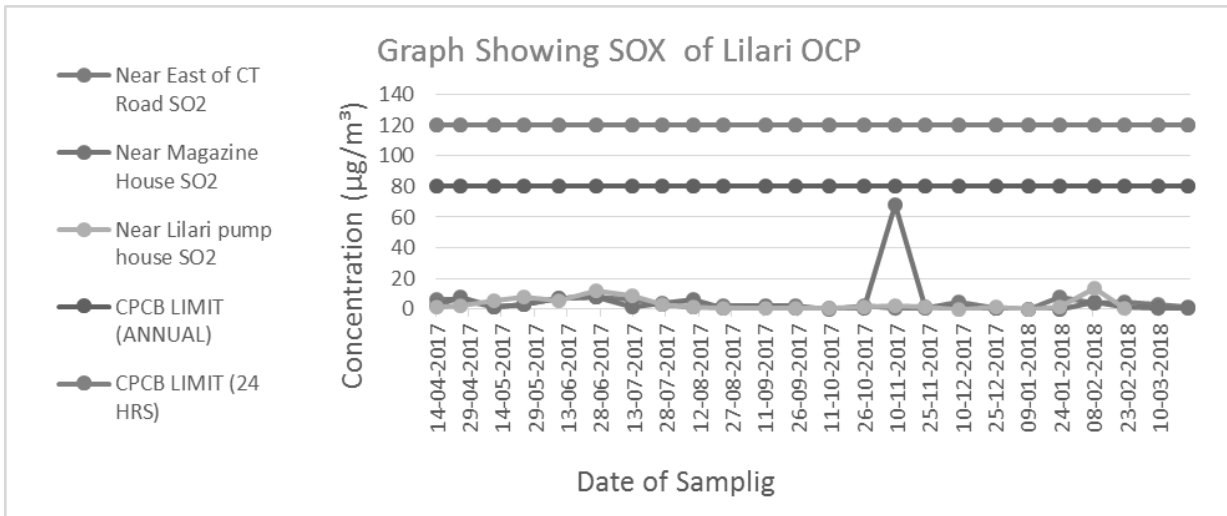
Table 34
Project: Lilari OCP
Monitoring Station: Near Magazine House

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
14-04-2017	108	192	2.09	<6	460	East to West Sunny
25-04-2017	28	104	8.11	<6	229	West to East, Sunny
10-05-2017	64	98	1.17	<6	170	West to East, Sunny
24-05-2017	30	111	3.55	<6	314	West to East, Sunny
09-06-2017	66	83	7.23	<6	212	West to East, Sunny
26-06-2017	19	107	8.38	<6	248	East to West, Sunny & Evening rainfall
11-07-2017	12	38	1.73	8	53	South to North, Cloudy & Evening Rainfall
25-07-2017	12	30	3.59	<6	46	North to South, Sunny & Heavy rainfall
09-08-2017	17	46	6.27	<6	66	West to East, Heavy Rainfall
23-08-2017	23	37	1.14	13	87	West to East, Sunny & Evening rainfall
11-09-2017	26	63	1.17	<6	91	West to East, Sunny
25-09-2017	8	14	0.57	<6	23	East to West, Sunny
10-10-2017	12	41	0.38	1.12	54	South to North, Sunny
26-10-2017	22	83	1	6	146	East to West, Sunny
09-11-2017	61	91	67.94	4.09	158	East to West, Sunny
23-11-2017	43	111	1.59	6.84	194	North to South, Sunny
08-12-2017	92					W-E, Sunny & PM10 Sampler Breakdown
25-12-2017	54	113	0.95	11.28	161	South to North, Sunny
09-01-2018	99	141	0.25	<6	243	East to West, Sunny
30-01-2018	31	163	0.23	<6	228	South-North, Sunny
08-02-2018	29	399	5.12	<6	482	South-North, Sunny
22-02-2018	20	210	1.17	<6	358	North-South, Sunny
09-03-2018	75	186	0.77	<6	380	South to North, Sunny
23-03-2018	44	298	0.49	<6	429	North-South, Sunny
C	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	108	399	67.94	13	482	
Minimum	8	14	00.23	1.12	23	
Average	41.46	119.96	5.43	7.19	210.09	
95 Percentile	97.95	289.20	8.35	12.48	456.90	
98 Percentile	103.86	354.56	41.73	12.79	472.32	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 35
Project: Lilari OCP
Monitoring Station: Near Lilari pump house

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
10-05-2017	27	298	1.28	<6	613	West to East, Sunny
24-05-2017	22	52	2.55	13	86	South to North, Sunny
09-06-2017	36	64	5.95	<6	213	West to East, Sunny
26-06-2017	89	103	8.14	<6	140	North to South, Sunny & Evening rainfall
12-07-2017	22	46	5.82	7	93	East to West, Cloudy & Evening Rainfall
26-07-2017	15	24	11.87	22	56	North to South, Sunny & Heavy rainfall
09-08-2017	14	24	8.92	8	80	North to South, Heavy Rainfall
23-08-2017	27	55	2.83	<6	107	East to West, Sunny & Evening rainfall
11-09-2017	26	30	1.54	<6	48	South to North, Sunny
25-09-2017	14	61	0.46	<6	66	East to West, Sunny
10-10-2017	23	42	0.61	1.47	65	South to North, Sunny
26-10-2017	44	90	0.7	3.66	160	South to North, Cloudy & Sunny
09-11-2017	35	187	0.76	4.6	289	East to West, Sunny
23-11-2017	52	171	1.19	6.55	239	East to West, Sunny
08-12-2017	55	112	2.53	2.5	134	East to West, Sunny
25-12-2017	14	87	1.39	4.79	118	West to East, Sunny
09-01-2018	41	201	0.22	<6	301	South to North, Sunny
23-01-2018	38	286	1.38	<6	353	South-North,Sunny
08-02-2018	100	206	0.28	<6	416	East to West, Sunny
22-02-2018	64	322	1.81	<6	579	West-East, Sunny
09-03-2018	66	293	13.5	46.55	525	South to North, Sunny
23-03-2018	21	343	0.55	<6	546	North-South, Sunny
C	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	100	343	13.5	46.55	613	
Minimum	14	24	0.22	1.47	48	
Average	38.41	140.77	3.38	10.92	237.59	
95 Percentile	87.85	320.80	11.72	34.28	577.35	
98 Percentile	95.38	334.18	12.82	41.64	598.72	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	





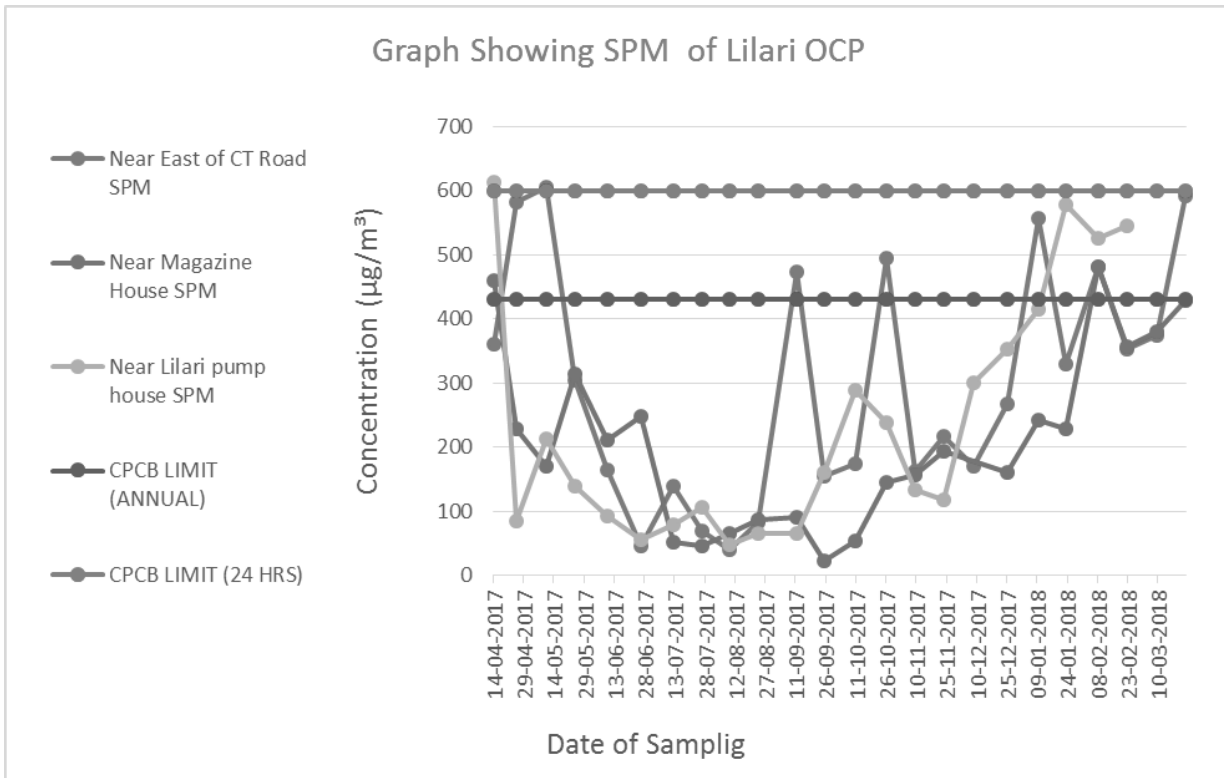


Table 36
Project: Belpahar OCP
Monitoring Station: Quarry no. 2 Old View Point

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
15-04-2017	37	198	2.98	<6	451	West to East Sunny
27-04-2017	43	193	5.11	<6	419	North to South, Sunny
12-05-2017	14	290	0.93	<6	827	East to West, Sunny
26-05-2017	44	353	3.27	<6	935	West to East, Sunny
13-06-2017	20	123	7.68	<6	191	West to East, Sunny
28-06-2017	13	36	7.14	26	95	West to East, Sunny & Evening rainfall
14-07-2017	17	25	2.1	<6	105	North to South, Cloudy & Evening Rainfall
28-07-2017	20	29	1.25	6	38	South to North, Cloudy & rainfall
11-08-2017	26	38	1.4	23	47	North to South, Heavy Rainfall
25-08-2017	17	24	1.37	<6	57	East to West, Cloudy
13-09-2017	36	45	0.77	<6	58	West to East, Sunny
27-09-2017	25	45	0.56	<6	50	East to West, Sunny
12-10-2017	15	66	8.11	1.07	109	West to East, Sunny
30-10-2017	77	191	4.88	15.97	268	East to West, Sunny
13-11-2017	40	129	0.78	1.07	168	West to East, Sunny
27-11-2017	37	110	1.35	5.51	143	East to West, Sunny
13-12-2017	47	199	0.45	0.21	503	West to East, Sunny
28-12-2017	25	144	0.93	0.57	242	West to East, Sunny
12-01-2018	50	102	0.66	<6	207	South to North, Sunny
29-01-2018	71	163	0.25	<6	210	East-West, Sunny
13-02-2018	30	75	0.62	<6	187	East to West, Sunny
27-02-2018	59	458	1.18	<6	616	West-East, Sunny
14-03-2018	80	373	0.66	<6	458	South to North, Sunny
26-03-2018	24	141	3.44	21.45	373	South-North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	80	458	8.11	26	935	
Minimum	13	24	0.25	0.21	38	
Average	36.13	147.92	2.41	10.09	281.54	
95 Percentile	76.10	370.00	7.60	24.65	795.35	
98 Percentile	78.62	418.90	7.91	25.46	885.32	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 37
Project: Belpahar OCP
Monitoring Station: Bandhbahal Township/BITP

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
15-04-2017	14	216	3.12	<6	450	East to West Sunny
27-04-2017	24	256	4.91	<6	753	West to East, Sunny
12-05-2017	27	142	5.85	<6	328	South to North, Sunny
26-05-2017	36	191	3.02	<6	380	West to East, Sunny
13-06-2017	54	60	11.14	<6	154	West to East, Sunny
28-06-2017	19	43	8.43	<6	64	East to West, Sunny & Evening rainfall
14-07-2017	9	15	1.82	<6	35	East to West, Cloudy & Evening Rainfall
28-07-2017	15	42	3.77	<6	100	East to West, Cloudy & rainfall
11-08-2017	25	29	1.44	12	41	West to East, Heavy Rainfall
25-08-2017	31	34	1.09	<6	48	North to South, Cloudy
14-09-2017	8	35	1.13	<6	46	East to West, Sunny
27-09-2017	30	113	0.75	10	130	West to East, Sunny
13-10-2017	13	135	11.39	5.51	148	East to West, Sunny & Cloudy
30-10-2017	47	261	1.32	3.52	393	North to South, Sunny
13-11-2017	37	107	0.82	1.08	258	East to West, Sunny
27-11-2017	69	180	0.86	6.91	345	West to East, Sunny
13-12-2017	129	576	0.53	4.37	767	North to South, Sunny
28-12-2017	77	147	1.1	0.56	258	East to West, Sunny
12-01-2018	41	413	0.74	<6	546	West to East, Sunny
29-01-2018	80	99	0.43	<6	219	South-North, Sunny
13-02-2018	41	84	0.54	<6	199	North to South, Sunny
27-02-2018	32	168	1.04	<6	366	North-South, Sunny
14-03-2018	127	323	1.5	<6	551	South to North, Sunny
27-03-2018	22	212	1.2	<6	273	West-East, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	129	576	11.39	12	767	
Minimum	8	15	0.43	0.56	35	
Average	41.96	161.71	2.83	5.49	285.50	
95 Percentile	119.95	399.50	10.73	11.30	722.70	
98 Percentile	128.08	501.02	11.28	11.72	760.56	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 38
Project: Belpahar OCP
Monitoring Station: North-East of Quarry no. 2

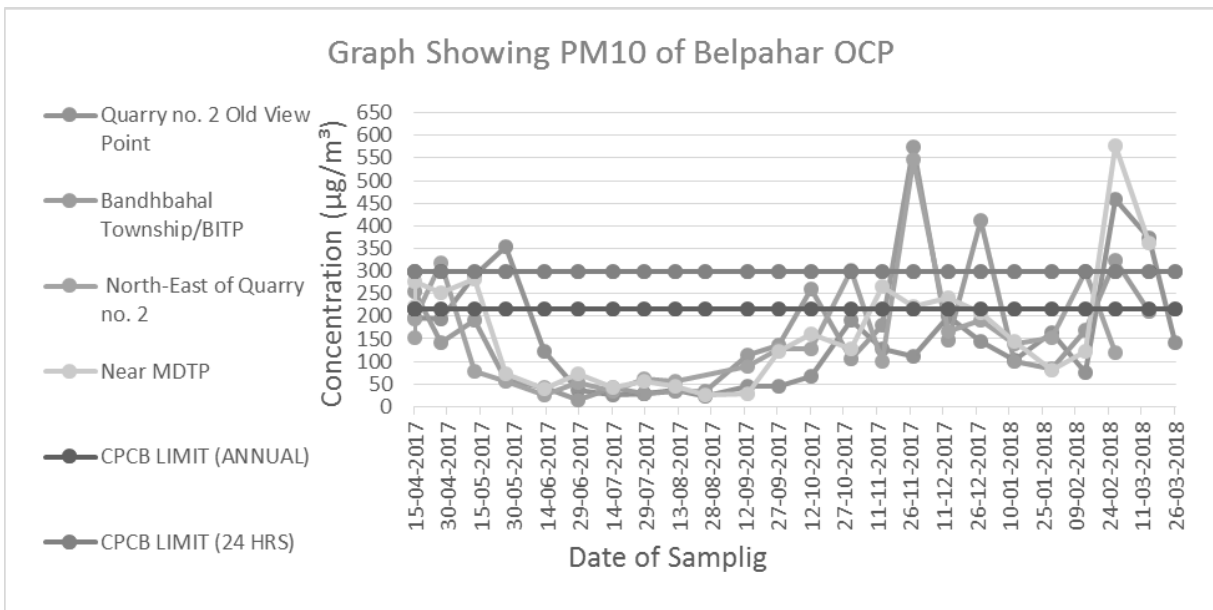
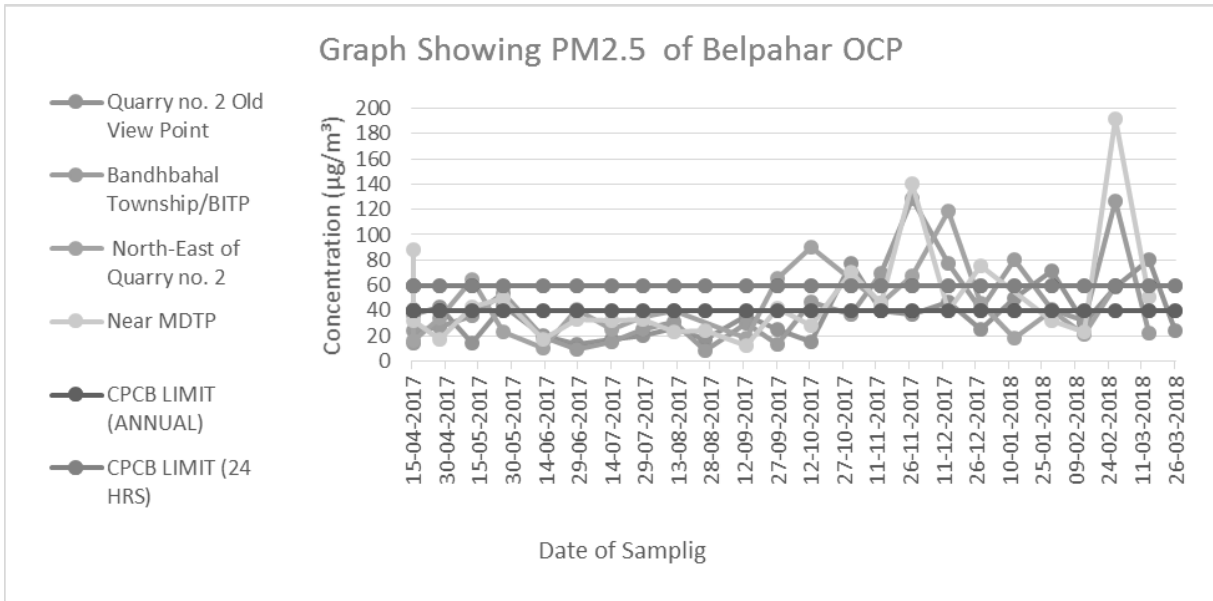
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
15-04-2017	41	154	4.53	<6	191	West to East Sunny
27-04-2017						Power failure
12-05-2017	16	194	1.84	<6	486	East to West, Sunny
26-05-2017	34	317	2.15	<6	756	West to East, Sunny
13-06-2017	64	77	7.29	<6	102	North to South, Sunny
28-06-2017	23	56	7.81	<6	87	East to West, Sunny & Evening rainfall
14-07-2017	10	26	1.81	<6	35	East to West, Cloudy & Evening Rainfall
28-07-2017	41	53	5.32	18	75	South to North, Cloudy & rainfall
11-08-2017	25	35	3.32	<6	53	East to West, Heavy Rainfall
25-08-2017	35	62	1.13	<6	87	West to East, & Cloudy
13-09-2017	40	56	0.98	<6	74	West to East, Sunny
27-09-2017						No electricity
12-10-2017	18	90	2.01	1.65	113	West to East, Sunny
30-10-2017	65	128	0.8	1.01	215	East to West, Sunny
14-11-2017	90	129	1.83	7.95	199	North to South, Sunny
28-11-2017		303	1.58	5.07	466	S-N, Sunny & PM _{2.5} Sampler breakdown
12-12-2017	46	99	0.61	0.11	201	West to East, Sunny
27-12-2017	67	547	0.98	2.94	563	West to East, Sunny
11-01-2018	119	166	0.38	<6	228	East to West, Sunny
27-01-2018	46	191	0.14	<6	289	South-North, Sunny
12-02-2018	18	140	1.29	<6	240	West to East, Sunny
26-02-2018	40	153	0.39	<6	214	West-East, Sunny
13-03-2018	21	300	2.11	<6	658	South to North, Sunny
27-03-2018	60	119	0.62		217	East-West, Sunny & NO _x Sample rejected
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	119	547	7.81	18	756	
Minimum	10	26	0.14	0.11	35	
Average	43.76	154.32	2.22	5.25	252.23	
95 Percentile	90.00	316.30	7.19	14.99	653.25	
98 Percentile	107.40	450.40	7.59	16.79	714.84	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

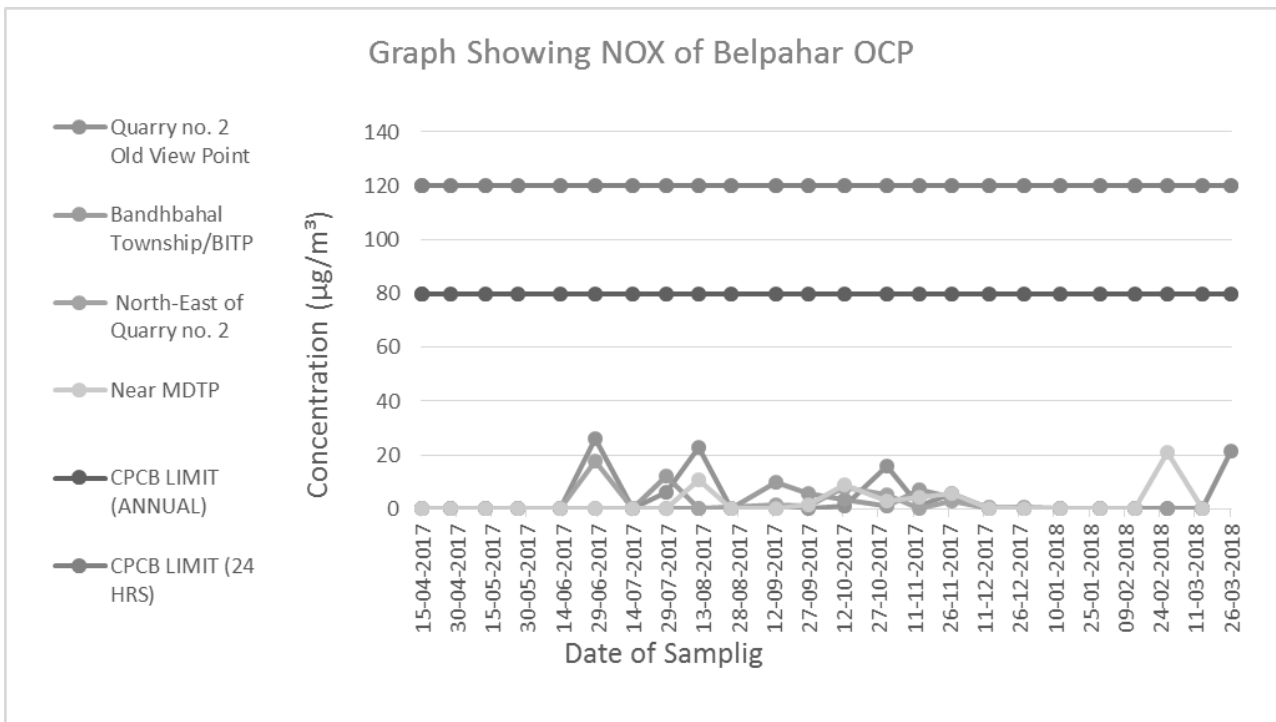
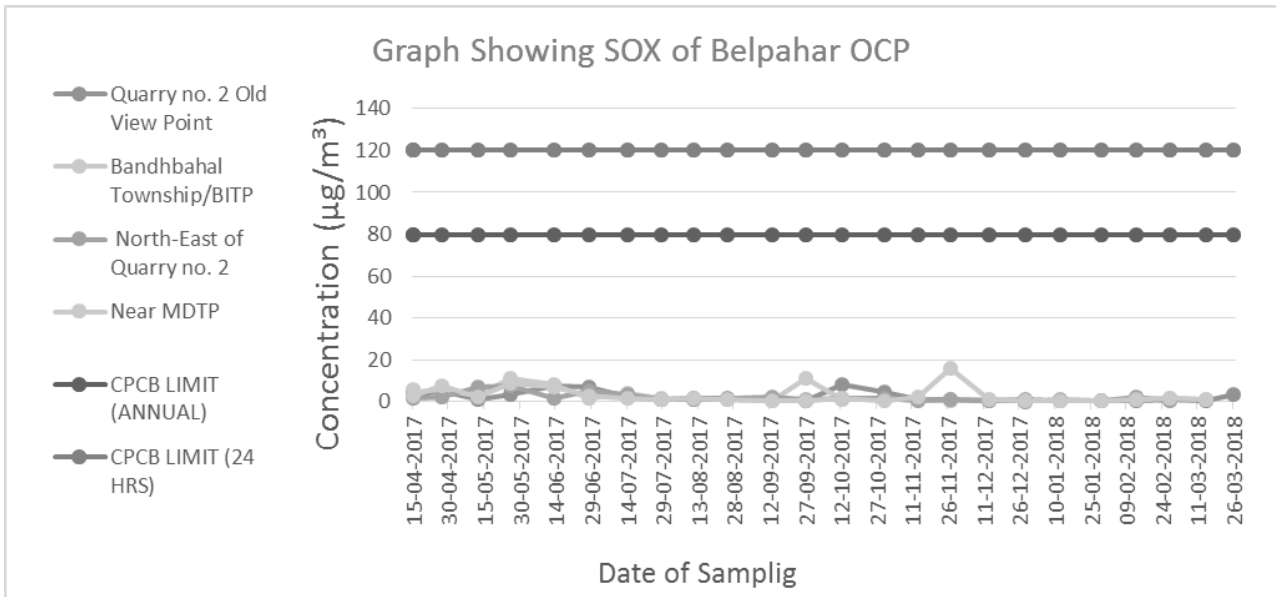
Table 39
Project: Belpahar OCP
Monitoring Station: Near MDTP

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
15-04-2017	88	223	5.76	<6	469	East to West Sunny
27-04-2017	32	278	2.73	<6	766	East to West, Sunny
12-05-2017	17	252	7.67	<6	374	East to West, Sunny
26-05-2017	43	283	2.14	<6	648	West to East, Sunny
13-06-2017	50	72	9.05	<6	158	East to West, Sunny
28-06-2017	17	40	6.77	<6	51	South to North, Sunny & Evening rainfall
14-07-2017	33	73	3.12	<6	140	West to East, Cloudy & Evening Rainfall
28-07-2017	32	42	1.58	<6	49	North to South, Cloudy & rainfall
11-08-2017	33	55	1.22	<6	95	East to West, Heavy Rainfall
25-08-2017	23	46	1.93	11	80	East to West, Cloudy
14-09-2017	24	27	0.97	<6	35	North to South, Sunny
27-09-2017	12	30	0.38	<6	47	West to East, Sunny
13-10-2017	42	122	0.38	1.38	212	East to West, Sunny & Cloudy
30-10-2017	28	160	1.78	9.08	308	North to South, Sunny
13-11-2017	70	129	0.26	2.74	169	North to South, Sunny
27-11-2017	46	266	2.08	4.13	424	South to North, Sunny
13-12-2017	140	222	16.12	5.62	414	South to North, Sunny
28-12-2017	40	242	0.94	0.37	458	East to West, Sunny
12-01-2018	75	207	0.35	<6	433	East to West, Sunny
29-01-2018		144	0.58	<6	304	East-West, Sunny & PM _{2.5} filter paper torn
12-02-2018	32	81	0.51	<6	298	South to North, Sunny
26-02-2018	23	122	0.97	<6	231	South-North,Sunny
13-03-2018	192	577	1.73	21	823	South to North, Sunny
27-03-2018	51	363	1.11	<6	613	South-North,Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	192	577	16.12	21	823	
Minimum	12	27	0.26	0.37	35	
Average	49.70	169.00	2.92	6.92	316.63	
95 Percentile	134.80	351.00	8.84	17.50	748.30	
98 Percentile	169.12	478.56	12.87	19.60	796.78	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 40
Analysis of Heavy Metals & NAAQS Parameters

<i>Project:</i>		<i>Belpahar OCP</i>	<i>Belpahar OCP</i>	<i>Belpahar OCP</i>	<i>Belpahar OCP</i>	
<i>Name of the station</i>	<i>Units</i>	Near MDTP	North east of quarry no- 2	Bandbahal township/BI TP	Quarry No-2 old view point	<i>Standard</i>
<i>Date Of Sampling</i>		27/03/2018	27/03/2018	27/03/2018	26/03/2018	
<i>Arsenic (As)</i>	<i>(ng/m³)</i>	<1.0	<1.0	<1.0	<1.0	<i>6.0(Annual)</i>
<i>Nickle (Ni)</i>	<i>(ng/m³)</i>	<1.0	1.0	1.0	1.0	<i>20(Annual)</i>
<i>Mercury(Hg)</i>	<i>(ng/m³)</i>	5.52	17.12	6.61	9.12	
<i>Chromium (Cr)</i>	<i>(µg/m³)</i>	<0.1	<0.1	<0.1	<0.1	
<i>Cadmium (Cd)</i>	<i>(µg/m³)</i>	<0.1	<0.1	<0.1	<0.1	





Graph Showing SPM of Belpahar OCP

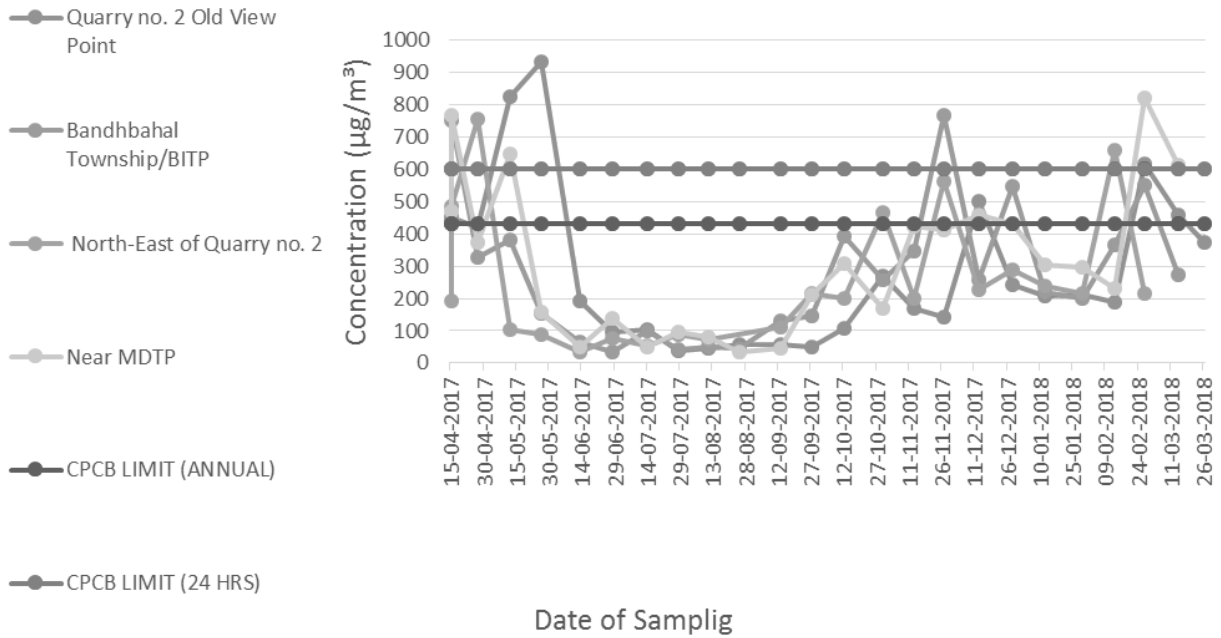


Table 41
Project: Kulda OCP
Monitoring Station: A5-North of CHP

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
19-04-2017	66	529	3.32	<6	814	West to East, Sunny
04-05-2017	29	181	1.13	<6	364	North to South, Sunny
18-05-2017	11	53	3.61	<6	79	West to East, Sunny
05-06-2017	48	98	6.47	<6	130	North to South, Sunny
20-06-2017	78	86	9.7	<6	104	West to East, Sunny & Evening rainfall
06-07-2017	33	82	2.7	6	126	East to West, Cloudy & Evening Rainfall
18-07-2017	25	75	4.52	<6	140	South to North, Cloudy & Evening rainfall
04-08-2017	43	52	1.15	<6	81	East to West, Heavy Rainfall
18-08-2017	30	38	2.61	11	50	East to West, & Heavy rainfall
06-09-2017	20	37	1.02	<6	46	South to North, Sunny & Evening Rainfall
18-09-2017	19	95	0.43	<6	159	East to West, Sunny & Rainfall
04-10-2017	32	51	0.72	1.37	65	North to South, Sunny
06-10-2017	54	196	1.15	11.95	312	East to West, Sunny
06-10-2017	54	196	1.15	10.61	312	East to West, Sunny
06-10-2017	54	196	1.15	10.61	312	East to West, Sunny
17-10-2017	46	139	1.34	5.84	245	North to South, Sunny
16-11-2017		93	2.86	19.38	98	W-E, Sunny & PM2.5 Sampler breakdown
01-12-2017	72	144	2.6	15.99	196	West to East, Sunny
18-12-2017	73	89	1.14	2.94	150	East to West, Sunny
17-01-2018	79	131	1.44	<6	170	West-East, Sunny
03-02-2018	48	124	0.6	<6	285	East to West, Sunny
16-02-2018	25	178	2.83	6.95	247	East-West, Sunny
05-03-2018	60	83	2.19	<6	351	South to North, Sunny
19-03-2018	36	237	1.03	<6	400	East-West, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	79	529	9.7	19.38	814	
Minimum	11	37	0.43	1.37	46	
Average	45.00	132.63	2.37	9.33	218.17	
95 Percentile	77.50	230.85	6.18	17.69	394.60	
98 Percentile	78.56	394.68	8.21	18.70	623.56	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Air: Table 42
Project: Kulda OCP
Monitoring Station: A1-South of External OB dump

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
19-04-2017	22	128	3.21	<6	299	East to West, Sunny
03-05-2017	117	294	3.1	<6	732	East to West, Sunny
17-05-2017	34	49	2.02	<6	104	East to West, Hot & Sunny
02-06-2017	39	67	7.2	<6	327	East to West, Sunny
19-06-2017	66	97	7.96	<6	135	West to East, Sunny & Evening rainfall
05-07-2017	44	71	4.14	<6	107	West to East, Cloudy & Evening Rainfall
18-07-2017	45	56	2.2	<6	97	South to North, Cloudy & Evening rainfall
03-08-2017	33	43	1.52	<6	54	North to South, Sunny & Evening Rainfall
17-08-2017	51	54	2.15	<6	82	East to West, & Heavy rainfall
05-09-2017	39	145	2.5	12	192	North to South, Sunny & Evening Rainfall
18-09-2017	43	134	0.76	<6	222	North to South, Sunny & Rainfall
05-10-2017	18	43	1.5	1.02	63	West to East, Sunny & Cloudy
20-10-2017	36	62	3.06	13.57	78	South to North, Sunny & Evening Rainfall
03-11-2017	17	154	1.91	6.54	502	East to West, Sunny
16-11-2017	16	23	0.8	7.9	34	South to North, Sunny
01-12-2017	26	219	3.09	14.83	306	East to West, Sunny
18-12-2017	23	97	11.32	1.13	167	East to West, Sunny
02-01-2018	26	255	0.63	14.36	449	North to South, Sunny
17-01-2018	43	235	0.22	<6	416	North-South, Sunny
03-02-2018	45	121	1.31	11.2	265	East-West, Sunny
16-02-2018	42	294	1.31	<6	505	East-West, Sunny
05-03-2018	12	194	2.88	8.27	265	South to North, Sunny
19-03-2018	68	276	1.21	107.08	369	West-East, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	117	294	11.32	107.08	732	
Minimum	12	23	0.22	1.02	34	
Average	39.35	135.26	2.87	17.99	250.87	
95 Percentile	67.80	292.20	7.88	60.96	504.70	
98 Percentile	95.44	294.00	9.84	88.63	632.12	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Air: Table 43
Project: Kulda OCP
Monitoring Station: A2-External CT Road

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
19-04-2017	37	137	4.49	<6	352	North to South, Sunny
03-05-2017	17	172	4.13	<6	318	East to West, Sunny
17-05-2017	26	143	5.82	<6	289	East to West, Hot & Sunny
02-06-2017	31	68	7.66	<6	234	South to North, Sunny
19-06-2017	64	71	7.35	<6	160	South to North, Sunny & Evening rainfall
05-07-2017	38	60	1.53	<6	112	West to East, Cloudy & Evening Rainfall
17-07-2017	44	57	11.62	<6	69	East to West, Cloudy & Evening rainfall
03-08-2017	18	27	1.3	<6	49	East to West, Heavy Rainfall
17-08-2017	16	60	1.94	<6	77	West to East, & Heavy rainfall
05-09-2017	36	122	2.06	7	159	West to East, Sunny & Evening Rainfall
19-09-2017						No electricity
05-10-2017	36	84	17.53	10.16	122	North to South, Sunny & Cloudy
20-10-2017	15	98	1.99	29.65	126	West to East, Sunny
04-11-2017						E-W, Sunny & Sampler breakdown
17-11-2017	50	62	4.24	12.63	93	South to North, Sunny
04-12-2017						Power Failure
19-12-2017	92	149	1.89	7.26	226	South to North, Sunny
02-01-2018	84	158	0.1	8.52	317	East to West, Sunny
16-01-2018	30	194	0.24	<6	337	East-West, Sunny
02-02-2018	43	177	2.97	13.4	381	North to South, Sunny
15-02-2018	27	123	2.58	<6	358	North-South, Sunny
03-03-2018	94	170	1.09	17.95	400	South to North, Sunny
16-03-2018	33	324	0.92	<6	724	West-East, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	94	324	17.53	29.65	724	
Minimum	15	27	0.1	7	49	
Average	41.55	122.80	4.07	13.32	245.15	
95 Percentile	92.10	200.50	11.92	25.56	416.20	
98 Percentile	93.24	274.60	15.28	28.01	600.88	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 44
Project: Kulda OCP
Monitoring Station: A4-South of Working face

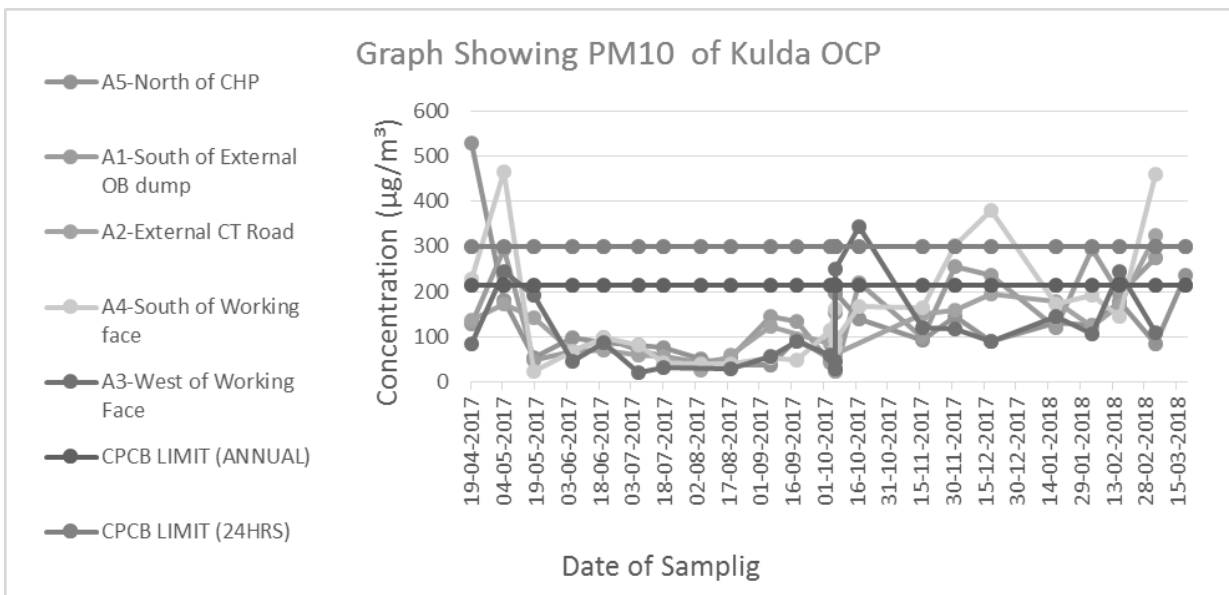
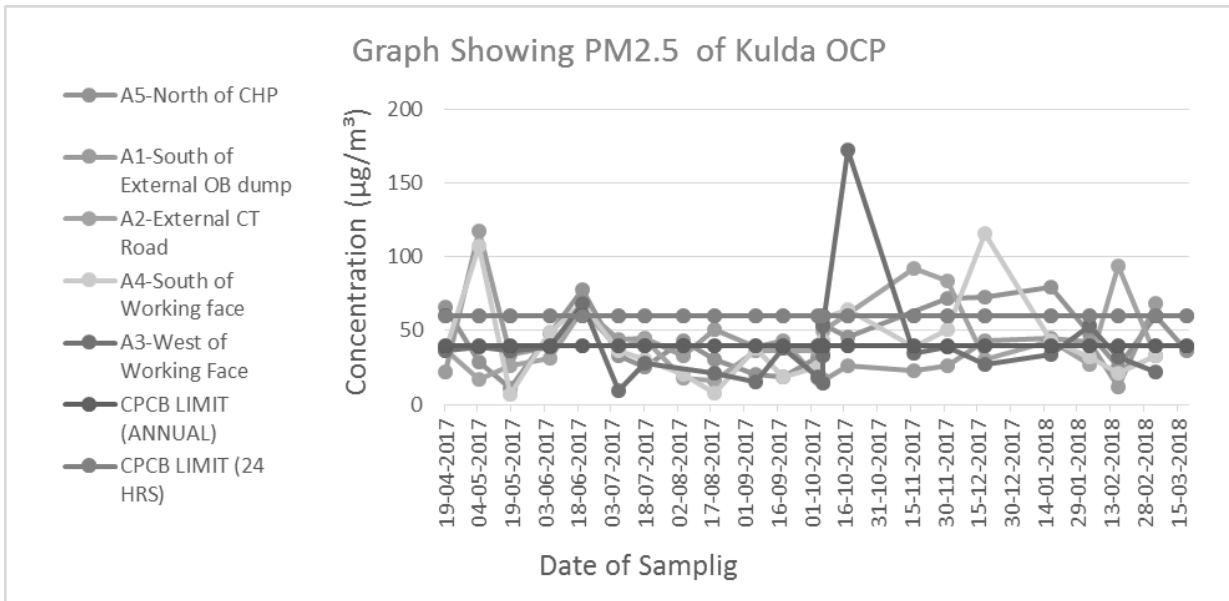
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
19-04-2017	36	227	1.99	<6	459	South to North, Sunny
04-05-2017	107	466	2.52	<6	673	West to East, Sunny
18-05-2017	7	22	1.88	<6	162	West to East, Sunny
05-06-2017	49	67	6.23	<6	161	East to West, Sunny
19-06-2017	68	97	11.8	<6	254	West to East, Sunny & Evening rainfall
06-07-2017	36	81	3.39	9	159	North to South, Cloudy & Evening Rainfall
18-07-2017	30	42	1	6	168	East to West, Cloudy & Evening rainfall
03-08-2017	20	39	1.35	<6	46	North to South, Sunny & Evening Rainfall
17-08-2017	8	41	1.55	8	80	North to South, & Heavy rainfall
06-09-2017	38	53	1.01	<6	73	West to East, Sunny & Evening Rainfall
20-09-2017	19	48	0.93	<6	132	North to South, Sunny & Rainfall
04-10-2017	25	114	1.81	2.71	156	South to North, Sunny & Cloudy
17-10-2017	34	161	1.59	63.31	217	East to West, Sunny
03-11-2017	43	75	1.52	8.04	224	West to East, Sunny
16-11-2017	58	91	3.61	23.47	152	South to North, Sunny
01-12-2017	64	166	0.76	0.7	214	South to North, Sunny
18-12-2017	39	165	0.74	8.36	625	North to South, Sunny
03-01-2018	51	301	0.68	14.85	328	South to North, Sunny
17-01-2018	116	381	0.29	<6	557	North-South, Sunny
03-02-2018	43	172	0.75	<6	235	West to East, Sunny
16-02-2018	32	191	0.45	<6	431	West-East, Sunny
05-03-2018	21	146	1.96	<6	314	South to North, Sunny
19-03-2018	33	461	1.78	7.06	706	North-South, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	116	466	11.8	63.31	706	
Minimum	7	22	0.29	0.7	46	
Average	42.48	156.83	2.16	13.77	283.74	
95 Percentile	103.10	453.00	5.97	43.39	668.20	
98 Percentile	112.04	463.80	9.35	55.34	691.48	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

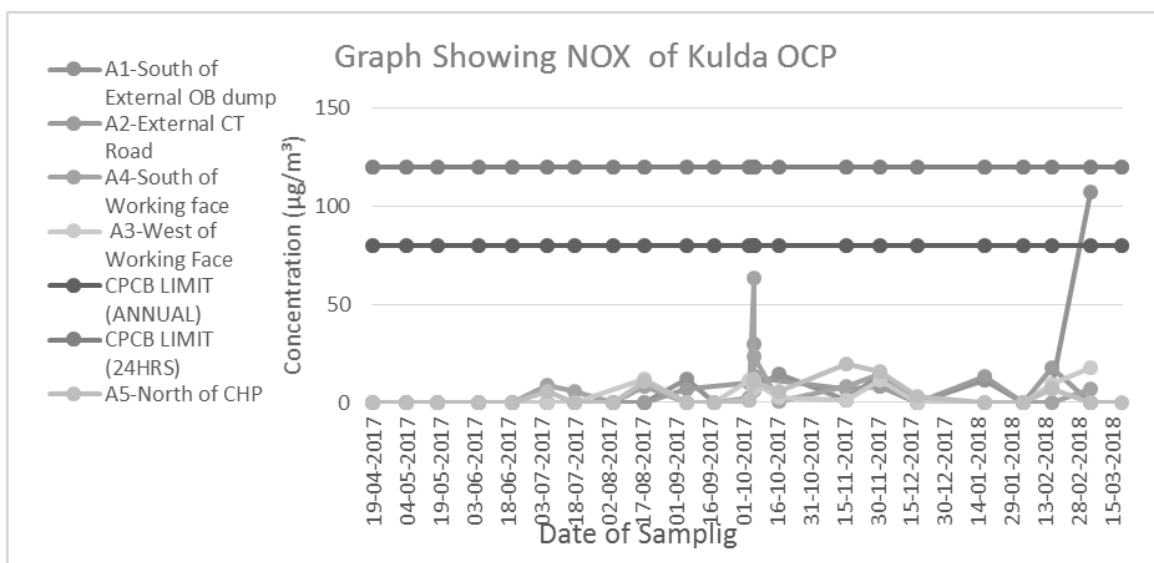
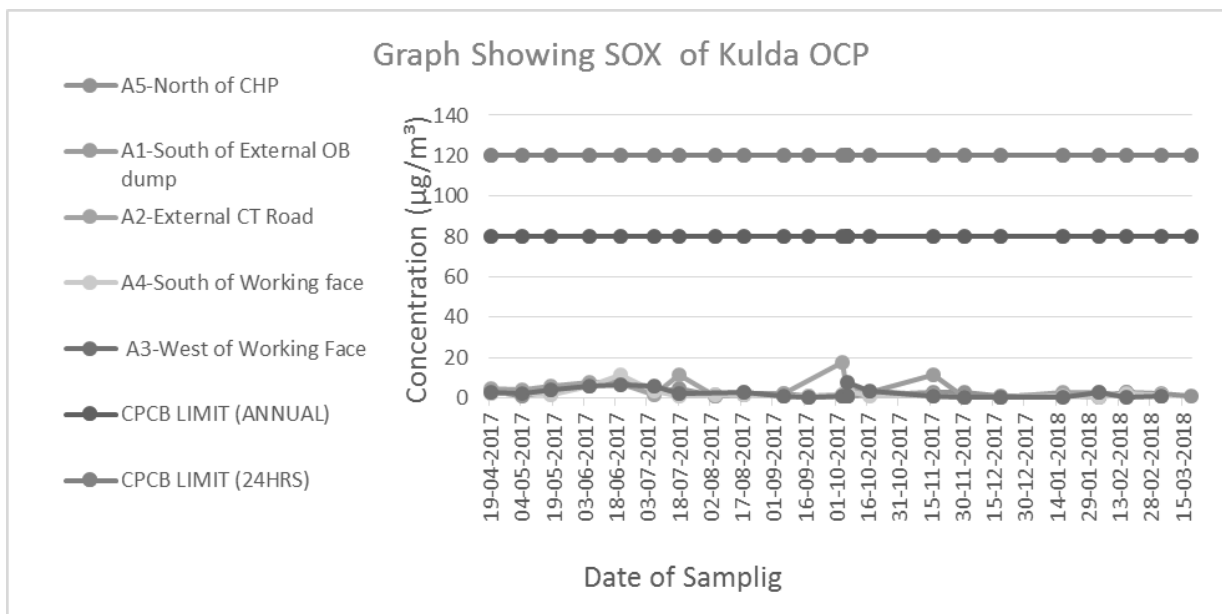
Air: Table 45
Project: Kulda OCP
Monitoring Station: A3-West of Working Face

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
19-04-2017	36	83	2.82	<6	281	Sunny
03-05-2017	39	244	2.09	<6	414	Sunny
17-05-2017	36	193	3.97	<6	443	Hot & Sunny
02-06-2017	39	46	6.14	<6	222	Sunny
19-06-2017	68	86	6.46	<6	117	Sunny & Evening rainfall
05-07-2017	9	19	5.68	<6	29	Cloudy & Evening Rainfall
19-07-2017	28	32	2.25	<6	45	Cloudy & Evening rainfall
03-08-2017			—	—		No Electricity
18-08-2017	21	29	2.57	12	37	& Heavy rainfall
05-09-2017	15	55	1.01	<6	83	Sunny & Evening Rainfall
18-09-2017	38	89	0.31	<6	164	Sunny & Rainfall
05-10-2017	19	60	0.96	11.22	90	Sunny & Cloudy
20-10-2017	14	28	1.18	7.07	44	Sunny
04-11-2017	33	44	0.97	8.48	59	Sunny
17-11-2017	53	249	7.63	10.13	414	Sunny
04-12-2017	172	345	3.34	2.84	895	Sunny
19-12-2017	35	119	1.06	1.22	201	Sunny
03-01-2018	39	118	0.58	11.56	144	Sunny
16-01-2018	27	89	0.43	<6	140	Sunny
02-02-2018	34	146	0.3	<6	251	Sunny
15-02-2018	53	106	2.95	<6	167	Sunny
03-03-2018	32	245	0.53	9.29	393	Sunny
16-03-2018	22	109	0.72	17.85	217	Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	172	345	7.63	17.85	895	
Minimum	9	19	0.3	1.22	29	
Average	39.18	115.18	2.45	9.17	220.45	
95 Percentile	67.25	248.80	6.44	15.22	441.55	
98 Percentile	128.32	304.68	7.14	16.80	705.16	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 46
Analysis of Heavy Metals & NAAQS Parameters

Project:	Kulda OCP	Kulda OCP	Kulda OCP	Kulda OCP	Kulda OCP	Kulda OCP
Name of the station	A1-South of external OB dump	A2- external CT road	A3-West of working face	A4-South of working face	A5-North of CHP	<i>Standard</i>
Date Of Sampling	19/03/2018	16/03/2018	16/03/2018	19/03/2018	19/03/2018	
Arsenic (As)	7.22	<1.0	<1.0	<1.0	4.9	6.0(Annual)
Nickle (Ni)	1.0	1.37	<1.0	1.07	<1.0	20(Annual)
Mercury(Hg)	12.23	9.5	15.91	7.43	4.32	
Chromium (Cr)	<0.1	<0.1	<0.1	<0.1	<0.1	
Cadmium (Cd)	<0.1	<0.1	<0.1	<0.1	<0.1	





Graph Showing SPM of Kulda OCP

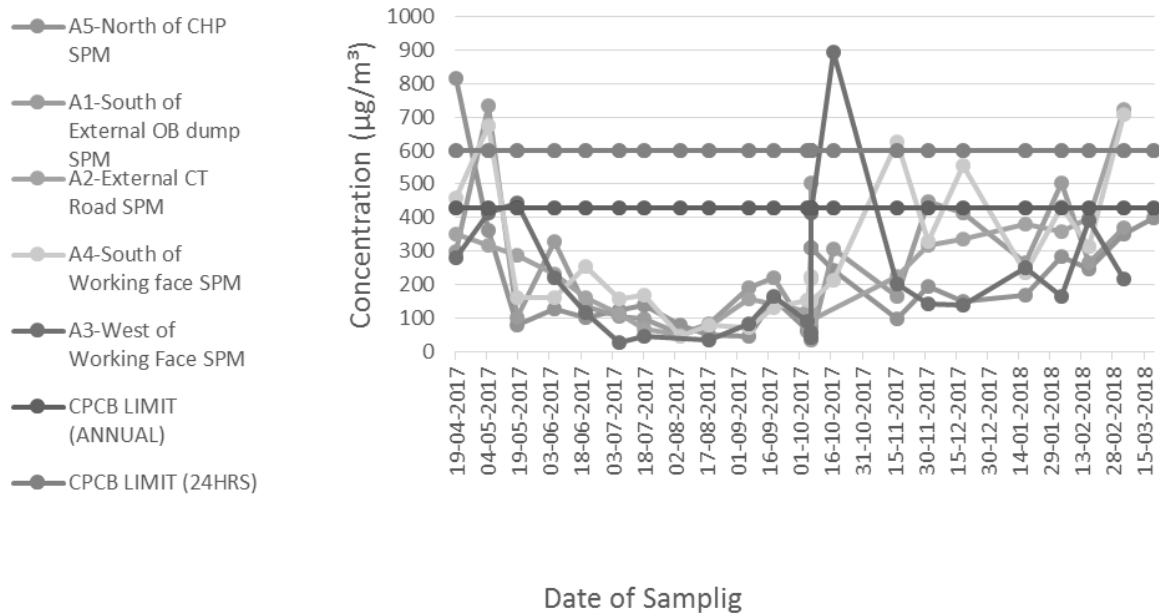


Table 47
Project: Basundhara OCP
Monitoring Station: Siarmal Village

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
18-04-2017	34	146	4.82	<6	347	Sunny
04-05-2017	30	74	3.29	<6	147	Sunny
18-05-2017	10	32	3.63	<6	43	Sunny
05-06-2017	46	185	4.77	<6	247	Sunny
20-06-2017	84	106	7.87	87	178	Sunny & Evening rainfall
06-07-2017	45	90	14.35	43	191	Cloudy & Evening Rainfall
19-07-2017	21	32	2.83	<6	39	Cloudy & Evening rainfall
02-08-2017	17	61	3.9	<6	101	Sunny & Evening Rainfall
16-08-2017	41	47	2.79	8	66	Heavy rainfall
04-09-2017	25	83	0.62	<6	148	Hot & Sunny
19-09-2017	14	28	0.61	<6	66	Sunny & Rainfall
04-10-2017	47	58	0.8	1.89	99	Sunny
17-10-2017	19	86	1.63	3.81	222	Sunny
06-11-2017	31	66	0.7	10.14	198	Sunny
20-11-2017	44	86	0.41	7.49	183	Sunny
05-12-2017	47	142	6.67	12.74	222	Sunny
20-12-2017	108	294	1.44	1.55	444	Sunny
04-01-2018	40	169	0.47	6.43	230	Sunny
18-01-2018	79	138	0.1	9.47	223	Sunny
05-02-2018	48	159	0.86	8.07	314	Sunny
19-02-2018	15	215	1.25	<6	246	Sunny
06-03-2018	32	84	21.44	20.24	220	Sunny
20-03-2018	31	171	0.67	36.87	327	,Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	108	294	21.44	87	444	
Minimum	10	28	0.41	1.55	39	
Average	39.48	110.96	3.74	18.34	195.70	
95 Percentile	83.50	212.00	13.70	58.40	345.00	
98 Percentile	97.44	213.50	14.03	58.40	326.35	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 48
Project: Basundhara OCP
Monitoring Station: Khamarpara

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
17-04-2017	24	171	6.09	<6	213	Sunny
02-05-2017	21	138	1.2	<6	306	Sunny
16-05-2017	26	134	2.22	<6	233	Hot & Sunny
01-06-2017	28	71	8.79	<6	215	Sunny
16-06-2017	65	93	11	<6	224	Sunny & Evening rainfall
03-07-2017	19	22	1.23	<6	32	Sunny & Evening Rainfall
17-07-2017	9	39	3.42	<6	54	Cloudy & Evening rainfall
02-08-2017		141	6.28	12	211	Evening Rainfall, M/C PM2.5 Break Down
16-08-2017	10	23	3.22	8	43	Heavy rainfall
04-09-2017	28	90	1.59	<6	119	Hot & Sunny
19-09-2017	24	27	2.16	<6	29	Sunny & Rainfall
03-10-2017	16	33	0.88	2.7	41	Sunny
16-10-2017	9	99	0.97	14.44	128	Sunny
04-11-2017	12	93	0.34	13.14	122	Sunny
17-11-2017	23	38	1.3	6.14	59	Sunny
04-12-2017	24	171	0.7	1.55	342	Sunny
19-12-2017	29	123	0.62	2.14	229	Sunny
02-01-2018	32	107	0.88	<6	149	Sunny
16-01-2018	28	171	0.42	<6	306	Sunny
02-02-2018	85	118	0.38	16.2	191	Sunny
15-02-2018	17	124	1.1	11.72	252	Sunny
03-03-2018	52	232	2.38	8.56	429	Sunny
16-03-2018	52	222	0.87	7.75	808	Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	85	232	11	16.2	808	
Minimum	9	22	0.34	1.55	29	
Average	28.77	107.83	2.52	8.70	205.87	
95 Percentile	64.35	216.90	8.54	15.23	420.30	
98 Percentile	76.60	219.45	8.66	15.23	424.65	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 49

Project: Basundhara OCP
Monitoring Station: Kulapara (Near Quarry)

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
18-04-2017		128	7.17	<6	395	Sunny & PM _{2.5} machine breakdown
04-05-2017	24	116	2.88	<6	518	Sunny
18-05-2017	19	36	2.93	<6	133	Sunny
05-06-2017	27	105	8.17	<6	328	Sunny
20-06-2017	60	100	6.93	59	144	Sunny & Evening rainfall
06-07-2017	12	26	15.16	<6	30	Cloudy & Evening Rainfall
19-07-2017	18	24	40.76	7	37	Cloudy & Evening rainfall
02-08-2017			—	—		No Electricity
17-08-2017	11	33	2.2	6	56	Heavy rainfall
04-09-2017	48	129	2.69	11	166	Hot & Sunny
18-09-2017	49					Sunny & Rainfall, PM10 M/C Breakdown
03-10-2017	12	70	0.47	1.42	87	Sunny
16-10-2017						Current Failure
03-11-2017						Sunny & Sampler breakdown
20-11-2017						Power failure
05-12-2017	57	192	0.82	3.76	434	Sunny
20-12-2017	20	140	1.91	0.96	252	Sunny
04-01-2018	46	243	0.48	10.52	306	Sunny
18-01-2018	73	175	0.27	<6	340	Sunny
05-02-2018						PM ₁₀ & PM _{2.5} Sampler breakdown
19-02-2018	29	203	0.57	<6	241	Sunny
06-03-2018	127	161	26.4	11.46	256	Sunny
20-03-2018	38	231	1.14	8.45	340	Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	127	243	40.76	59	518	
Minimum	11	24	0.27	0.96	30	
Average	39.41	124.24	7.11	11.96	239.00	
95 Percentile	83.80	233.40	29.27	37.61	450.80	
98 Percentile	109.72	234.00	29.99	37.61	455.00	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

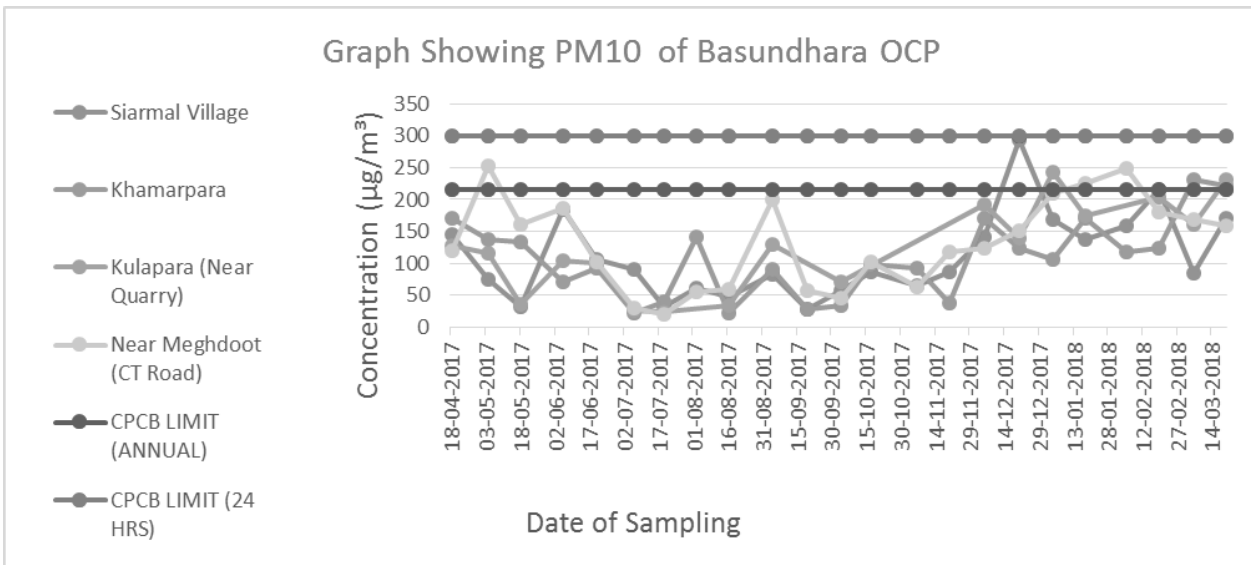
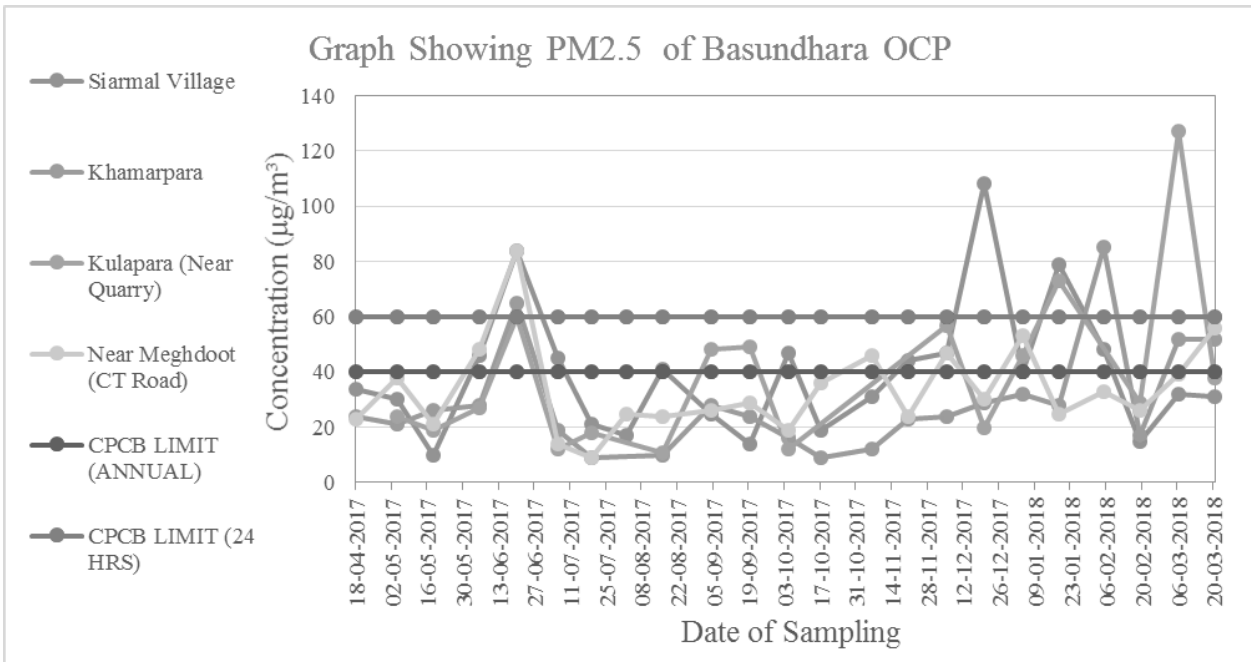
Table 50

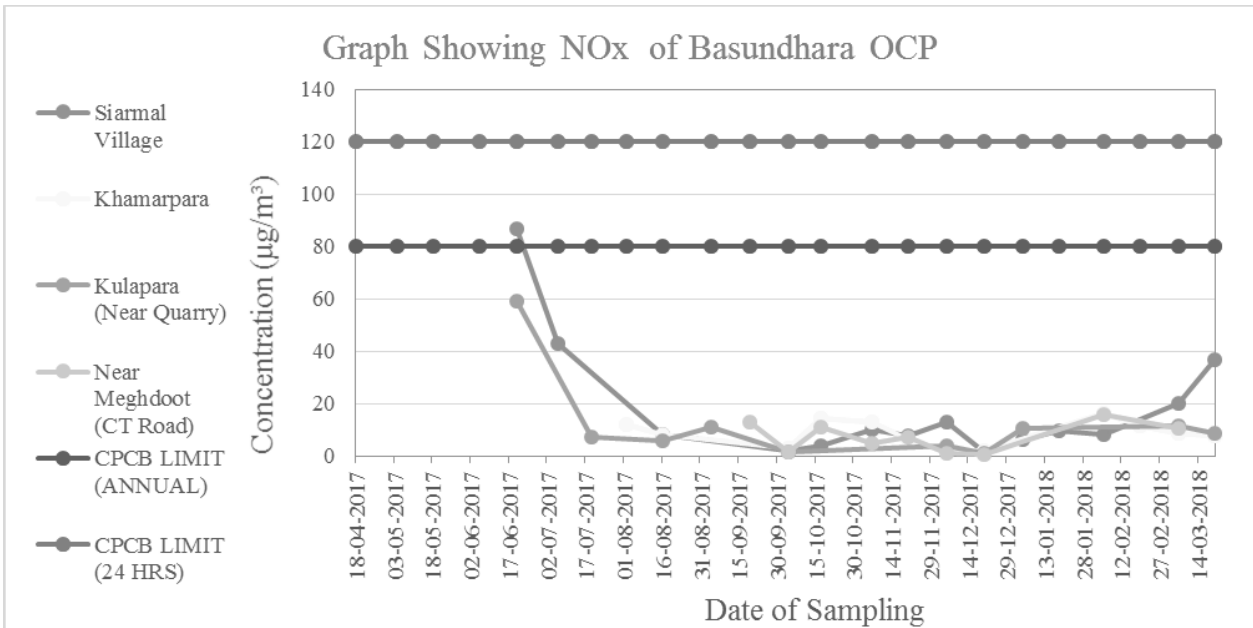
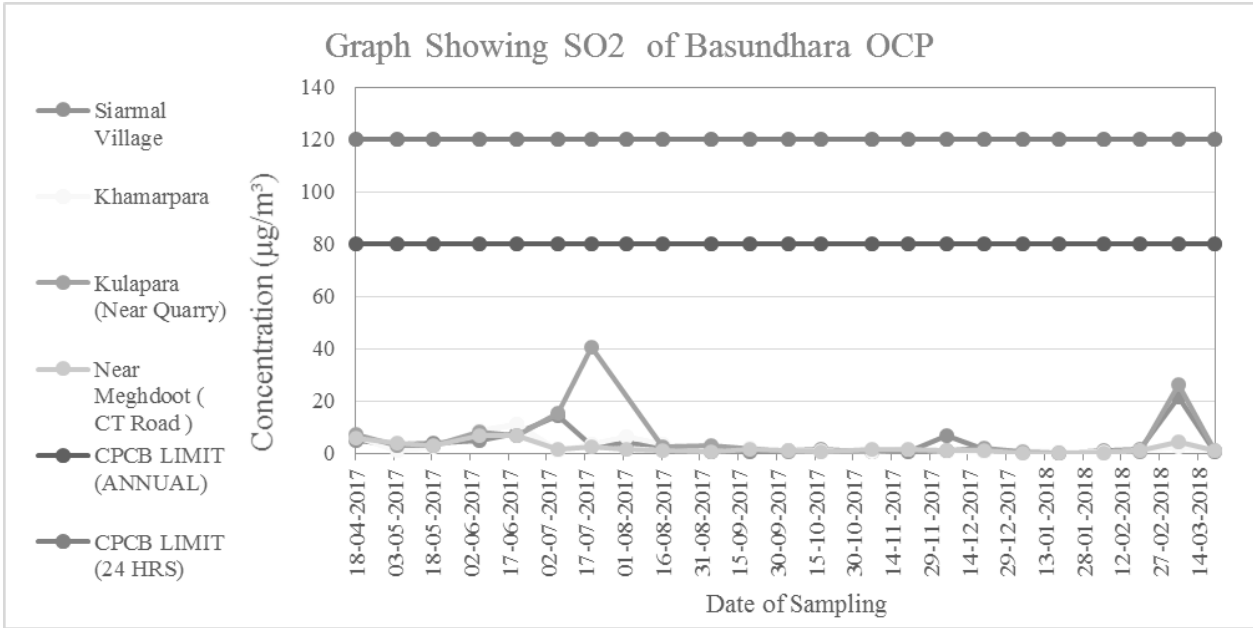
Project: Basundhara OCP
Monitoring Station: Near Meghdoot (CT Road)

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
17-04-2017	23	120	5.63	<6	314	Sunny
02-05-2017	38	252	3.8	<6	358	Sunny
16-05-2017	21	160	2.99	<6	303	Hot & Sunny
01-06-2017	48	186	6.56	<6	372	Sunny
16-06-2017	84	102	6.49	<6	158	Sunny & Evening rainfall
03-07-2017	14	30	1.47	<6	84	Sunny & Evening Rainfall
17-07-2017	9	21	2.27	<6	51	Cloudy & Evening rainfall
04-08-2017	25	56	1.7	<6	67	Heavy Rainfall
16-08-2017	24	59	1.05	<6	106	Heavy rainfall
04-09-2017	26	200	0.63	<6	235	Hot & Sunny
18-09-2017	29	57	1.5	13	58	Sunny & Rainfall
03-10-2017	19	46	1.06	1.54	64	Sunny
16-10-2017	36	103	0.72	10.81	221	Sunny
04-11-2017	46	63	1.55	4.76	126	Sunny
17-11-2017	24	117	1.66	7.12	141	Sunny
04-12-2017	47	123	0.84	0.78	177	Sunny
19-12-2017	30	151	0.83	0.55	263	Sunny
02-01-2018	53	210	0.2	<6	233	Sunny
16-01-2018	25	226	0.07	<6	375	Sunny
02-02-2018	33	248	0.07	15.7	358	Sunny
15-02-2018	26	180	1.07	<6	343	Sunny
03-03-2018	39	169	4.53	10.33	315	Sunny
16-03-2018	56	159	1.13	<6	397	,Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m ³
Maximum	84	252	6.56	15.7	397	
Minimum	9	21	0.07	0.55	51	
Average	33.70	132.09	2.08	7.18	222.57	
95 Percentile	55.70	245.80	6.40	14.62	374.70	
98 Percentile	71.68	246.90	6.39	14.62	374.85	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 51
Analysis of Heavy Metals & NAAQS Parameters

Project:	Basundhara OCP	Basundhara OCP	Basundhara OCP	Basundhara OCP
Name of the station	Kulapada (Near Quarry)	Siarnal village	Khamarpura	Near Megdoot
Date Of Sampling	20/03/2018	20/03/2018	16/03/2018	16/03/2018
Arsenic (As)	<1.0 (ng/m ³)	<1.0	<1.0	8.41 6.0(Annual)
Nickle (Ni)	<1.0 (ng/m ³)	<1.0	<1.0	<1.0 20(Annual)
Mercury(Hg)	7.94 (ng/m ³)	10.28	20.5	3.25
Chromium (Cr)	<0.1 (ug/m ³)	<0.1	<0.1	<0.1
Cadmium (Cd)	<0.1 (ug/m ³)	<0.1	<0.1	<0.1
				Standard





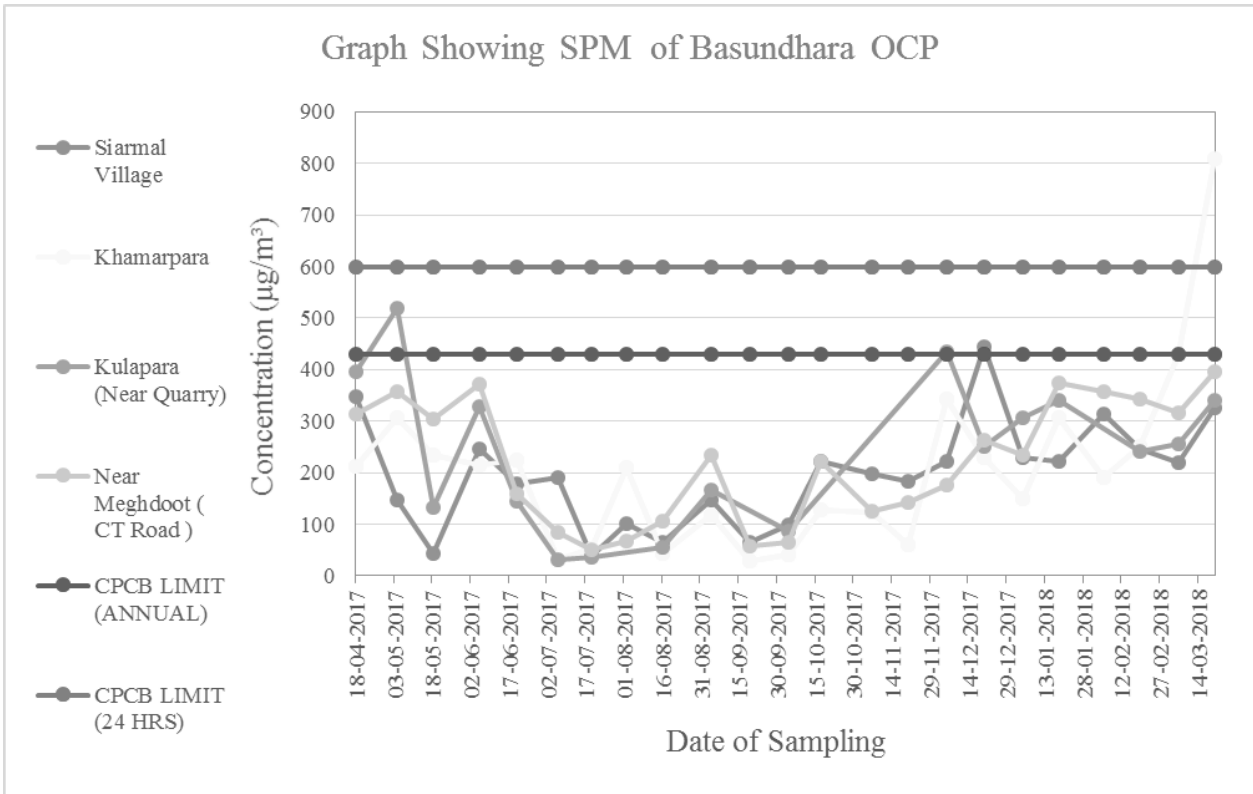


Table 52
Project: Orient
Monitoring Station: HBI Mine

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
21-04-2017	56	260	7.13	<6	482	Sunny
08-05-2017	57	319	3.07	<6	714	Sunny
22-05-2017	63	192	2.03	<6	242	Hot & Sunny
07-06-2017	44	85	8.84	<6	190	Sunny
26-06-2017	19	87	6.3	64	186	Sunny & Evening rainfall
11-07-2017	53	193	3.14	<6	298	Cloudy & Evening Rainfall
25-07-2017	36	51	4.15	<6	76	Heavy rainfall
08-08-2017	17	35	1.15	<6	75	Sunny & Evening Rainfall
22-08-2017	26	57	1.14	<6	106	Heavy rainfall
11-09-2017	18	43	1.38	<6	70	Sunny
25-09-2017	25	38	0.25	<6	42	Sunny
09-10-2017	44	145	0.44	1.43	171	Sunny & Evening Rainfall
25-10-2017						Current Failure
08-11-2017	24	264	0.25	4.24	280	Sunny
22-11-2017						Power failure
07-12-2017	25	547	0.34	0.74	1008	Sunny
22-12-2017	83	216	1.08	0.75	335	Sunny
08-01-2018	73	153	0.3	<6	278	Sunny
22-01-2018	75	295	0.45	19.5	449	Sunny
09-02-2018	71	233	0.86	<6	490	Sunny
21-02-2018	94	305	0.56	<6	536	Sunny
07-03-2018	22	392	0.55	<6	592	Sunny
22-03-2018	63	328	1.95	9.56	605	Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	94	547	8.84	64	1008	
Minimum	17	35	0.25	0.74	42	
Average	47.05	201.81	2.16	14.32	344.05	
95 Percentile	83.00	392.00	7.13	50.65	714.00	
98 Percentile	89.60	485.00	8.16	58.66	890.40	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 53
Project: Orient
Monitoring Station: Rampur Colony

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
21-04-2017	19	114	3.82	<6	161	Sunny
08-05-2017	50	154	3.26	<6	383	Sunny
22-05-2017	32	211	2.8	<6	304	Hot & Sunny
07-06-2017	39	69	10.28	<6	154	Sunny
23-06-2017	44	52	5.12	<6	127	Sunny & Evening rainfall
10-07-2017	31	100	4.32	26	130	Cloudy & Evening Rainfall
24-07-2017	17	21	2.57	<6	33	Heavy rainfall
08-08-2017	29	44	1.08	19	113	Sunny & Evening Rainfall
22-08-2017	21	69	1.19	<6	99	Heavy rainfall
08-09-2017	23	60	1.83	<6	89	Sunny & Evening Rainfall
22-09-2017	40	64	1.4	<6	71	Sunny & Rainfall
06-10-2017	17	33	0.49	2.29	55	Sunny & Evening Rainfall
23-10-2017	19	48	2.2	3.32	56	Sunny
08-11-2017	79	136	0.68	3.45	222	Sunny
22-11-2017	57	155	1.91	10.57	202	Sunny
07-12-2017	104	149	1.17	1.4	182	Sunny
22-12-2017	23	98	0.56	1.03	122	North to South, Sunny
08-01-2018	74	180	0.54	<6	210	West to East , Sunny
22-01-2018	101	256	0.27	10.17	311	East-West, Sunny
07-02-2018	57	226	6.66	<6	325	West to East , Sunny
21-02-2018	16	313	2.12	<6	435	West-East, Sunny
08-03-2018	20	216	1.26	<6	309	South to North, Sunny
22-03-2018	96	318	0.55	<6	642	East-West, Sunny
Brief Statistics	PM2.5	RPM	SO2	NOx	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	104	318	10.28	26	642	
Minimum	16	21	0.27	1.03	33	
Average	43.83	134.17	2.44	8.58	205.87	
95 Percentile	100.50	307.30	6.51	23.20	429.80	
98 Percentile	102.68	315.80	8.69	24.88	550.92	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 54
Project: Orient
Monitoring Station: Orient Mine no. 4

Date of Sampling	PM2.5	PM10	SO ₂	NO _x	SPM	Remarks
20-04-2017	36	193	13.07	<6	297	South to North, Sunny
05-05-2017	35	290	4.84	<6	436	West to East, Sunny
19-05-2017	72	184	1.68	<6	222	East to West, Sunny
06-06-2017	25	44	8.13	23	111	West to East, Sunny
20-06-2017	23	27	8.81	<6	56	East to West, Sunny & Evening rainfall
07-07-2017	17	41	2.9	12	57	North to South, Cloudy & Evening Rainfall
20-07-2017	15	16	3.45	<6	33	West to East, Cloudy & Evening rainfall
04-08-2017	34	45	2.95	7	62	East to West, Heavy Rainfall
18-08-2017	9	28	1.07	<6	42	East to West, & Heavy rainfall
06-09-2017	20	71	1.99	<6	126	North to South, Sunny
20-09-2017	11	13	0.6	10	21	North to South, Sunny & Rainfall
05-10-2017	26	53	1.18	2.09	93	South to North, Sunny & Cloudy
20-10-2017	13	62	0.65	5.71	119	East to West, Sunny & Evening Rainfall
06-11-2017	19	55	0.72	4.23	115	North to South, Sunny
20-11-2017	49	145	0.92	6.74	312	East to West, Sunny
05-12-2017	61	115	0.52	7.69	189	South to North, Sunny
20-12-2017	46	110	0.28	0.9	213	East to West, Sunny
04-01-2018	59	124	0.22	<6	206	East to West, Sunny
18-01-2018	19	138	2.53	8.51	325	West-East, Sunny
05-02-2018	99	152	3.15	<6	278	East to West, Sunny
19-02-2018	19	133	4.58	<6	182	East-West, Sunny
06-03-2018	60	154	2.26	9.96	294	South to North, Sunny
20-03-2018	100	280	0.95	<6	408	South-North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	100	290	13.07	23	436	
Minimum	9	13	0.22	0.9	21	
Average	37.70	107.52	2.93	8.15	182.48	
95 Percentile	96.30	271.30	8.74	16.95	399.70	
98 Percentile	99.56	285.60	11.20	20.58	423.68	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 55
Project: Orient
Monitoring Station: Orient Mine no. 3

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
20-04-2017	50	458	21.42	<6	741	East to West, Sunny
05-05-2017	29	167	1.6	<6	295	East to West, Sunny
19-05-2017	22	165	2.04	<6	225	East to West, Sunny
06-06-2017	22	64	8.33	14	340	North to South, Sunny
22-06-2017	35	44	8.33	<6	106	East to West, Sunny & Evening rainfall
07-07-2017	29	44	12.82	51	51	North to South, Cloudy & Evening Rainfall
20-07-2017	8	15	3.6	<6	27	North to South, Cloudy & Evening rainfall
04-08-2017	40	46	2.13	<6	68	South to North, Heavy Rainfall
18-08-2017	21	44	2.36	<6	59	East to West, & Heavy rainfall
06-09-2017	27	77	2.18	<6	149	North to South, Sunny
20-09-2017	20	21	1.05	<6	31	South to North, Sunny & Rainfall
06-10-2017	14	32	5.67	6.19	52	East to West, Sunny & Evening Rainfall
23-10-2017	28	86	0.83	8.84	186	East to West, Sunny
06-11-2017	28	40	0.88	6.2	82	East to West, Sunny
20-11-2017	53	233	0.82	4.89	312	East to West, Sunny
05-12-2017	12	207	0.65	1.33	289	East to West, Sunny
20-12-2017	51	155	0.92	0.48	243	West to East, Sunny
04-01-2018	27	202	0.51	<6	281	West to East, Sunny
18-01-2018	50	144	3.59	9.72	373	East-West, Sunny
05-02-2018	44	165	0.33	<6	328	South-North, Sunny
19-02-2018	52	194	4.14	<6	351	South-North, Sunny
06-03-2018	18	185	1.03	<6	273	South to North, Sunny
20-03-2018	60	345	1.41	<6	512	East-West, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m ³
Maximum	60	458	21.42	51	741	
Minimum	8	15	0.33	0.48	27	
Average	32.17	136.22	3.77	11.41	233.65	
95 Percentile	52.90	333.80	12.37	36.20	498.10	
98 Percentile	56.92	408.28	17.64	45.08	640.24	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 56
Project: Orient
Monitoring Station: Orient Mine no. 2

Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
20-04-2017	57	191	18.23	<6	319	West to East, Sunny
05-05-2017	44	158	3.45	<6	256	East to West, Sunny
19-05-2017	31	111	2.84	<6	282	East to West, Sunny
06-06-2017	27	108	7.77	<6	211	East to West, Sunny
22-06-2017	60	89	5.07	<6	127	West to East, Sunny & Evening rainfall
07-07-2017	45	72	2.92	7	121	East to West, Cloudy & Evening Rainfall
20-07-2017	17	22	5.03	<6	34	North to South, Cloudy & Evening rainfall
04-08-2017	36	43	2.52	6	49	West to East, Heavy Rainfall
18-08-2017	26	65	3.08	9	93	East to West, & Heavy rainfall
06-09-2017	36	159	1.59	<6	280	East to West, Hot & Sunny
20-09-2017	16	26	0.8	<6	37	South to North, Sunny & Rainfall
06-10-2017	22	86	0.83	17.78	122	East to West, Sunny & Evening Rainfall
23-10-2017	61	91	0.98	9.89	138	East to West, Sunny
06-11-2017	16	240	1.28	4.32	347	East to West, Sunny
20-11-2017	13	89	2.5	6.62	104	North to South, Sunny
05-12-2017	8	76	0.81	1.49	87	North to South, Sunny
20-12-2017	131	195	1.1	0.51	352	East to West, Sunny
04-01-2018	97	282	0.35	<6	430	North to South, Sunny
18-01-2018	72	217	0.3	<6	404	East-West, Sunny
05-02-2018	78	349	0.16	<6	590	West to East, Sunny
19-02-2018	59	230	0.64	<6	291	West-East, Sunny
06-03-2018	50	473	0.96	<6	591	South to North, Sunny
20-03-2018	82	180		16.06	339	West-East, Sunny & SO ₂ Sample rejected
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	131	473	18.23	17.78	591	
Minimum	8	22	0.3	0.51	34	
Average	47.13	154.43	2.87	7.87	243.65	
95 Percentile	95.50	342.30	7.64	17.01	574.00	
98 Percentile	116.04	418.44	13.84	17.47	590.56	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 57
Project: Orient
Monitoring Station: Near Adarsh Nagar Colony

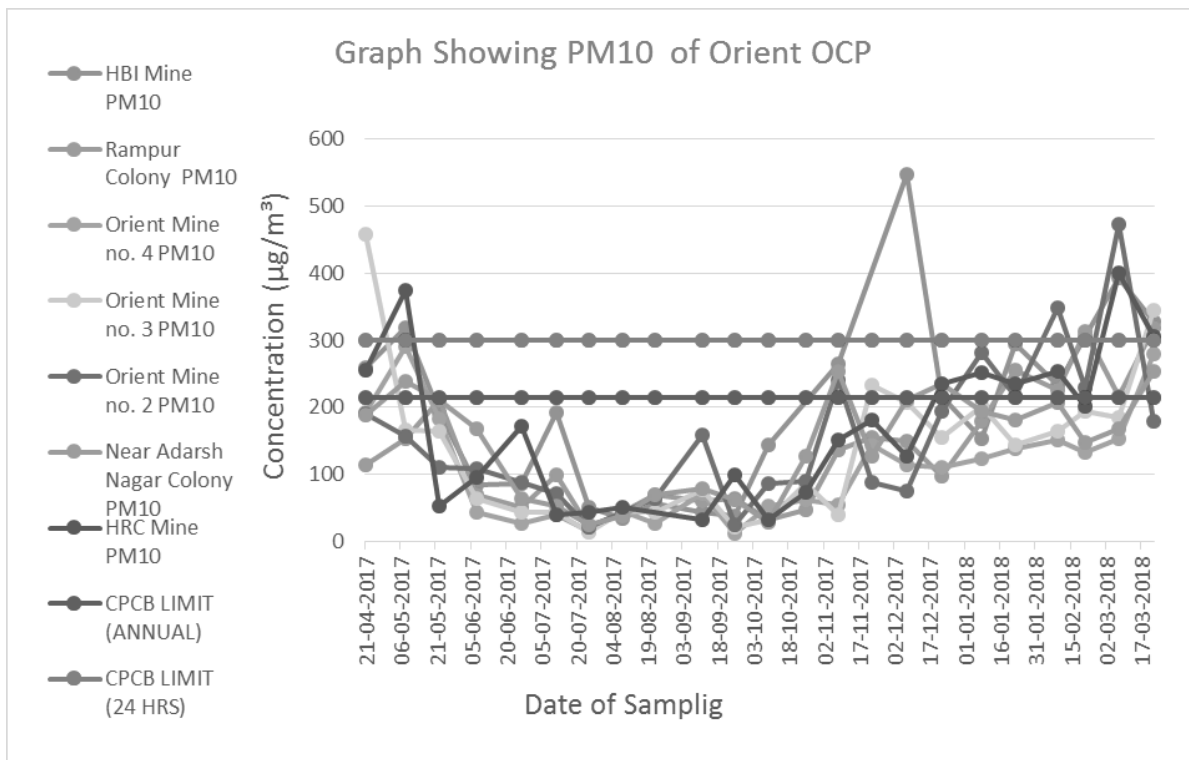
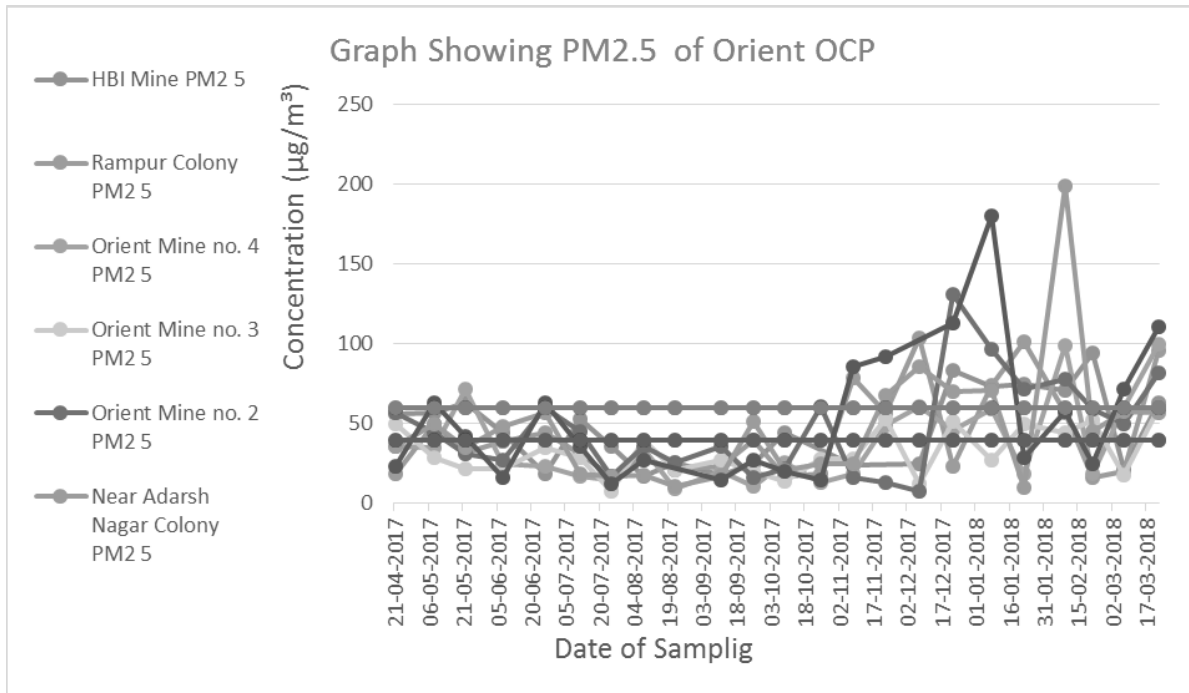
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
20-04-2017	36	189	2.59	<6	578	West to East, Sunny
05-05-2017	50	239	1.17	<6	370	West to East, Sunny
19-05-2017	35	211	2.18	27	434	East to West, Sunny
06-06-2017	48	169	10.29	<6	192	West to East, Sunny
21-06-2017	57	64	7.2	10	140	East to West, Sunny & Evening rainfall
07-07-2017	19	54	1.79	<6	86	East to West, Cloudy & Evening Rainfall
20-07-2017	17	26	2.85	<6	34	East to West, Cloudy & Evening rainfall
07-08-2017	18	39	5.05	<6	45	North to South, Heavy Rainfall
21-08-2017	11	70	1.32	<6	113	South to North, Sunny
07-09-2017	17	80	1.48	<6	152	South to North, Sunny & Evening Rainfall
21-09-2017	51	62	0.51	<6	68	West to East, Sunny
07-10-2017	21	30	0.57	1.56	34	West to East, Sunny
25-10-2017	25	128	2.73	6.92	246	West to East, Sunny
07-11-2017	25	254	1.4	7.25	356	East to West, Sunny
21-11-2017	68	127	0.83	5.66	152	North to South, Sunny
06-12-2017	86	211	2.88	2.53	278	West to East, Sunny
21-12-2017	70	236	1.71	0.45	314	South to North, Sunny
05-01-2018	71	194	0.26	<6	306	East to West, Sunny
19-01-2018	10	181	0.6	<6	311	South-North, Sunny
06-02-2018	199	208	13.3	21.6	436	North to South, Sunny
20-02-2018	45	148	0.72	<6	355	West-East, Sunny
07-03-2018	58	168	1.22	8.32	333	South to North, Sunny
21-03-2018	57	253	0.76	6.48	463	South to North, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in µg/m³
Maximum	199	254	13.3	27	578	
Minimum	10	26	0.26	0.45	34	
Average	47.57	145.26	2.76	8.89	252.00	
95 Percentile	84.50	251.60	9.98	24.30	460.30	
98 Percentile	149.28	253.56	11.98	25.92	527.40	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

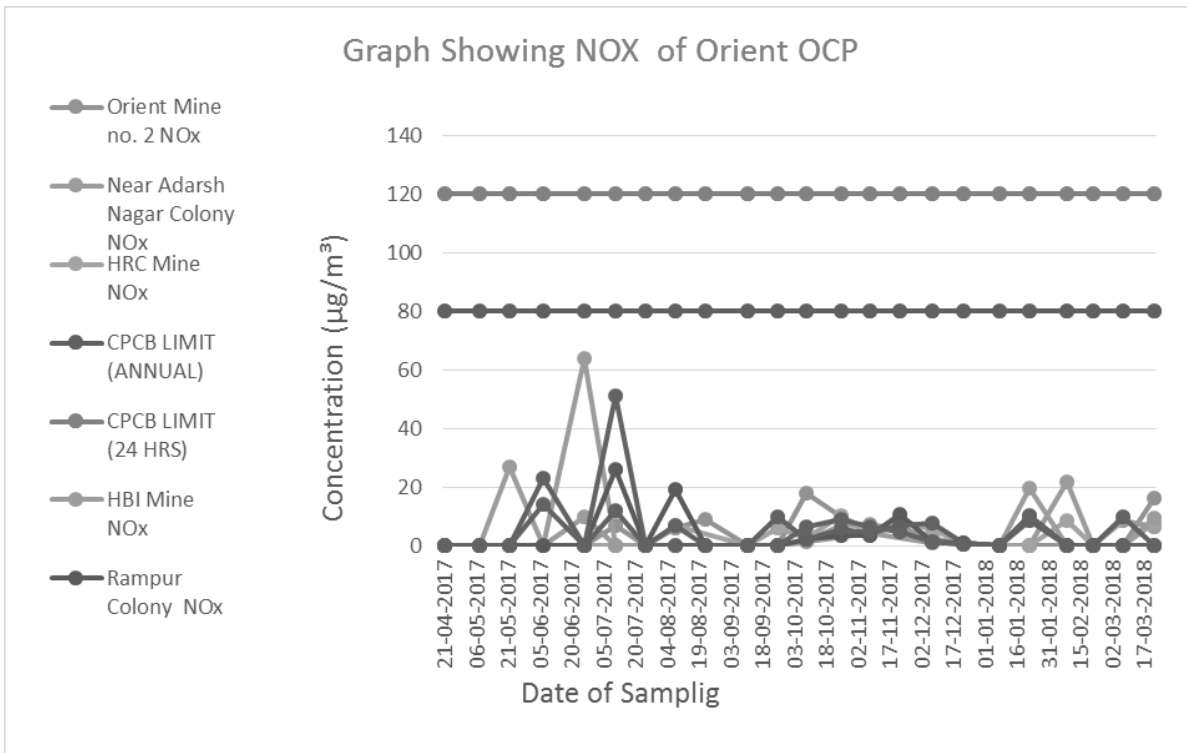
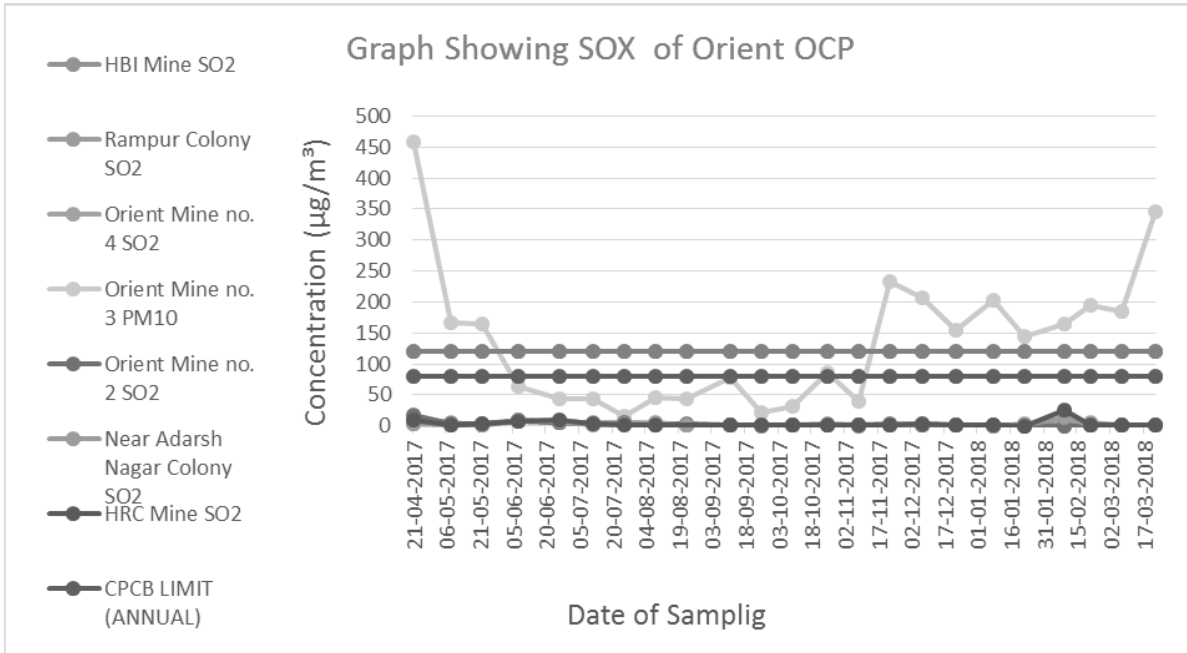
Table 58
Project: Orient
Monitoring Station: HRC Mine

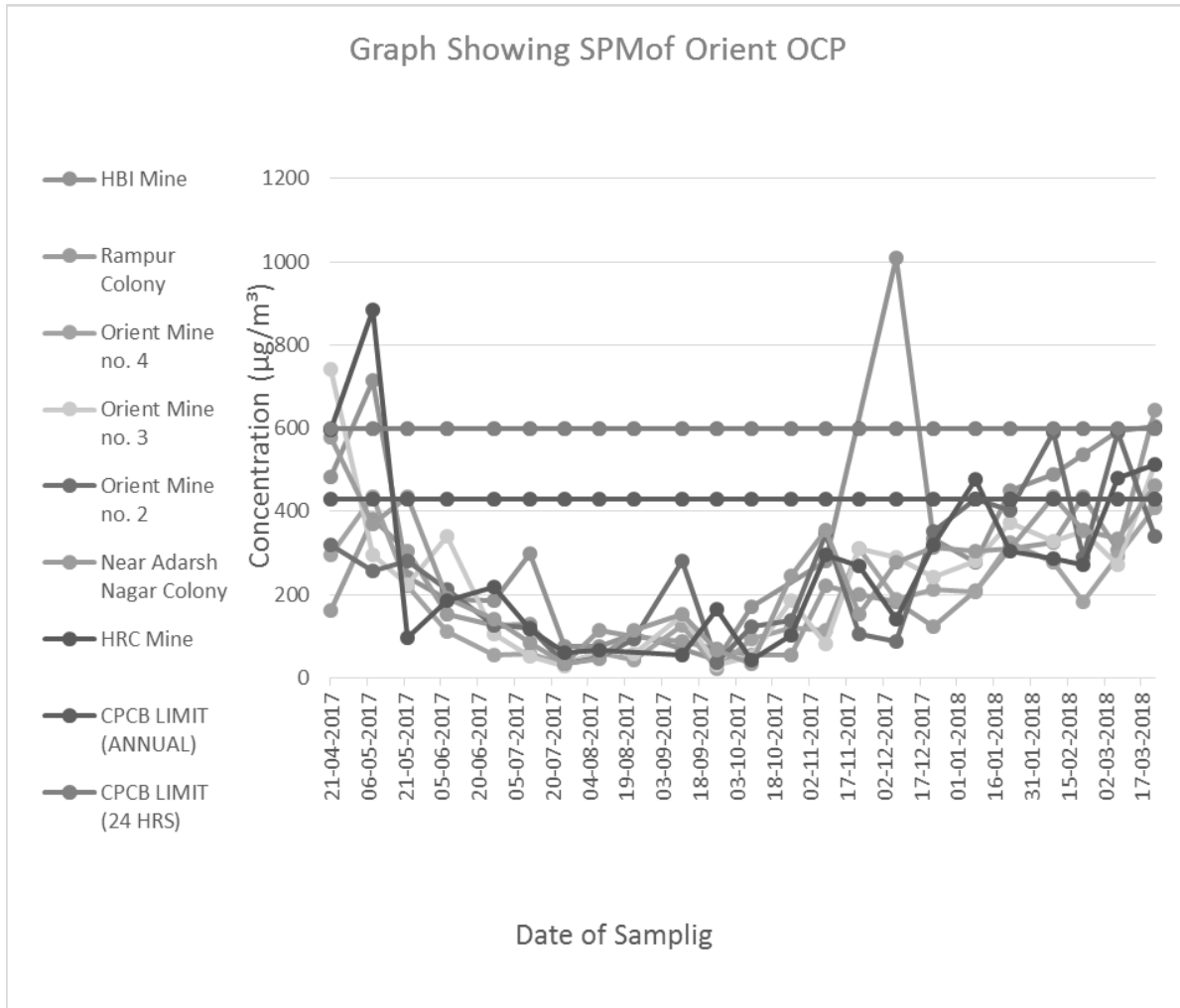
Date of Sampling	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Remarks
21-04-2017	23	256	9.18	<6	596	West to East, Sunny
08-05-2017	63	375	2.04	<6	885	East to West, Sunny
22-05-2017	42	54	4.23	<6	97	West to East, Hot & Sunny
07-06-2017	16	95	6.52	<6	186	West to East, Sunny
23-06-2017	63	172	9.84	<6	217	East to West, Sunny & Evening rainfall
08-07-2017	36	40	3.24	<6	117	South to North, Cloudy & Evening Rainfall
21-07-2017	12	44	1.37	<6	60	West to East, Cloudy & Evening rainfall
07-08-2017	27	51	1.93	7	68	East to West, Heavy Rainfall
21-08-2017						POWER CUT
07-09-2017	15	33	1.61	<6	54	East to West, Sunny & Evening Rainfall
21-09-2017	27	99	0.75	6	166	South to North, Sunny
06-10-2017	20	32	0.57	2.49	42	West to East, Sunny & Evening Rainfall
23-10-2017	15	73	0.89	10.38	103	North to South, Sunny
07-11-2017	86	151	0.61	4.25	296	West to East, Sunny
21-11-2017	92	182	1.61	8.67	270	West to East, Sunny
06-12-2017		128	2.62	5.41	140	E-W, Sunny & PM2.5 Sampler Breakdown
21-12-2017	113	235	1.06	0.81	319	West to East, Sunny
05-01-2018	180	252	0.41	<6	476	West to East, Sunny
19-01-2018	29	235	0.2	<6	306	South-North, Sunny
06-02-2018	58	254	24.7	8.31	287	East to West, Sunny
20-02-2018	25	201	1	<6	272	East-West, Sunny
07-03-2018	72	400	1.08	<6	481	South to North, Sunny
21-03-2018	111	306	1.15	7.53	514	West-East, Sunny
Brief Statistics	PM_{2.5}	PM₁₀	SO₂	NO_x	SPM	All values in $\mu\text{g}/\text{m}^3$
Maximum	180	400	24.7	10.38	885	
Minimum	12	32	0.2	0.81	42	
Average	53.57	166.73	3.48	6.09	270.55	
95 Percentile	113.00	371.55	9.81	9.61	591.90	
98 Percentile	153.20	389.50	18.46	10.07	763.62	
Standard (24 Hrs)	60	300	120	120	600	
Standard (Annual)	40	215	80	80	430	

Table 59
Analysis of Heavy Metals & NAAQS Parameters

<i>Project:</i>		<i>Orient</i>	<i>Orient</i>	<i>Orient</i>	<i>Orient</i>	
<i>Name of the station</i>	<i>Units</i>	HBI mine	Orient mine no. 4	Orient mine no. 3	Orient mine no.2	<i>Standard</i>
<i>Date Of Sampling</i>		22/03/2018	20/03/2018	20/03/2018	20/03/2018	
<i>Arsenic (As)</i>	(ng/m ³)	<1.0	<1.0	<1.0	<1.0	6.0(Annual)
<i>Nickle (Ni)</i>	(ng/m ³)	<1.0	<1.0	<1.0	<1.0	20(Annual)
<i>Mercury(Hg)</i>	(ng/m ³)	14.61	11.4	12.67	17.99	
<i>Chromium (Cr)</i>	(µg/m ³)	<0.1	<0.1	<0.1	<0.1	
<i>Cadmium (Cd)</i>	(µg/m ³)	<0.1	<0.1	<0.1	<0.1	







TABLES FOR NOISE LEVEL MONITORING DATA

Table 60

Project: Samleswari OCP

Monitoring Station: Sainik Mining Camp

DATE OF SAMPLING	DAY	NIGHT
13-04-2017	64.9	63.3
13-04-2017	67.1	67.9
25-04-2017	68.3	69.8
09-05-2017	71.6	62
23-05-2017	68.8	69.9
08-06-2017	69.2	64.8
16-06-2017	69	65.9
Brief Statistic (in dB)	Day	Night
Minimum	64.9	62
Maximum	71.6	69.9
Mean	68.4	66.2
Noise Standard	75	70

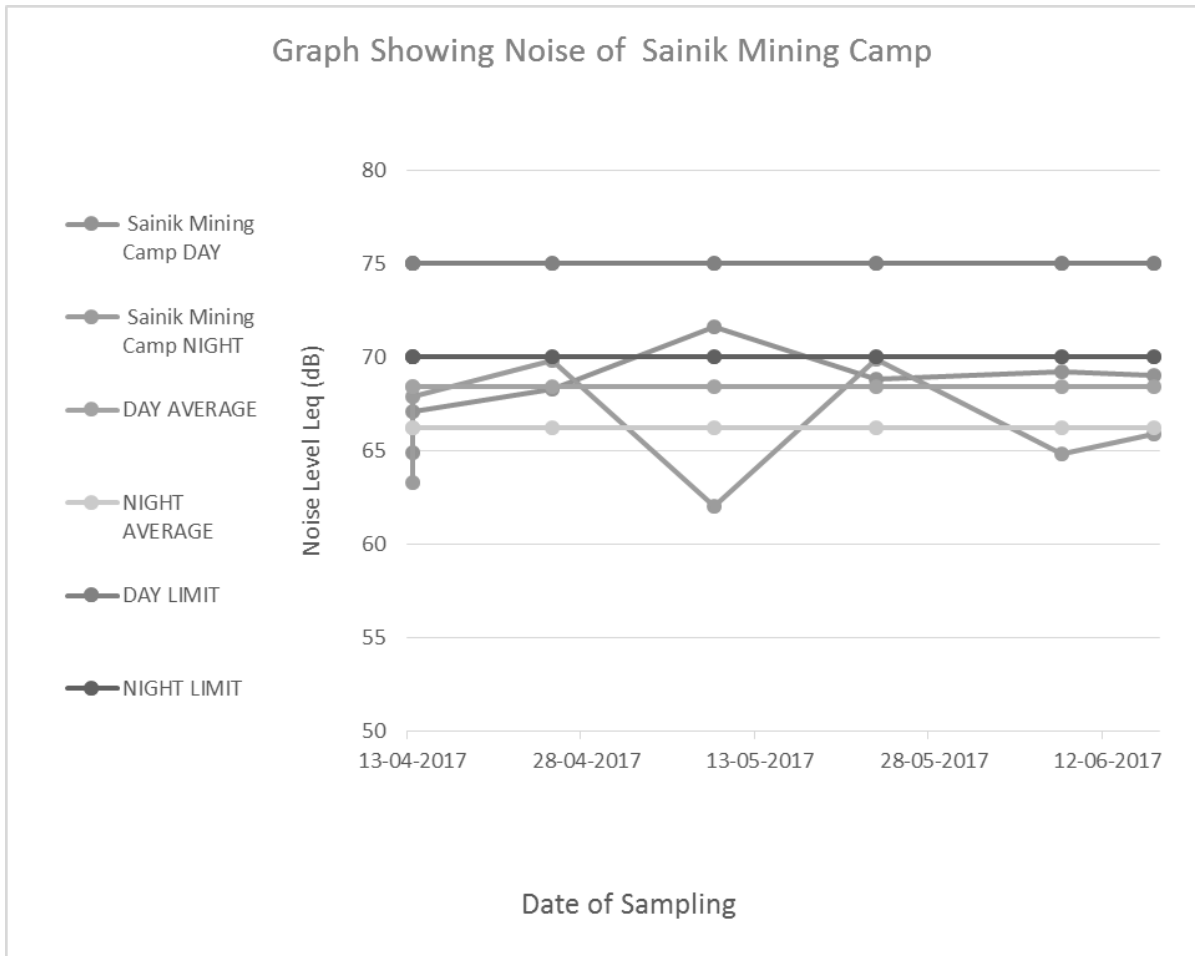


Table 61
Project: Samleswari OCP
Monitoring Station: Project office

DATE OF SAMPLING	DAY	NIGHT
24-04-2017	65.8	66.9
09-05-2017	68.7	66.2
23-05-2017	68.7	65.8
08-06-2017	70.9	68.9
23-06-2017	70.6	68.5
10-07-2017	68.2	65.9
24-07-2017	68.5	65.4
08-08-2017	66.3	64.7
22-08-2017	60.2	58.2
08-09-2017	67.6	64.8
22-09-2017	63.2	60.2
09-10-2017	67.3	65.1
25-10-2017	73.2	59.8
08-11-2017	63.2	61.8
22-11-2017	59.8	65.8
07-12-2017	59.6	59.4
22-12-2017	70.3	66.7
08-01-2018	64.8	62.5
22-01-2018	60.4	57.1
06-02-2018	61.9	60.2
20-02-2018	69.4	64.2
07-03-2018	59.5	58.2
21-03-2018	66.5	65.6
Brief Statistic (in dB)	Day	Night
Minimum	59.5	57.1
Maximum	73.2	68.9
Mean	65.9	63.6
Noise Standard	75	70

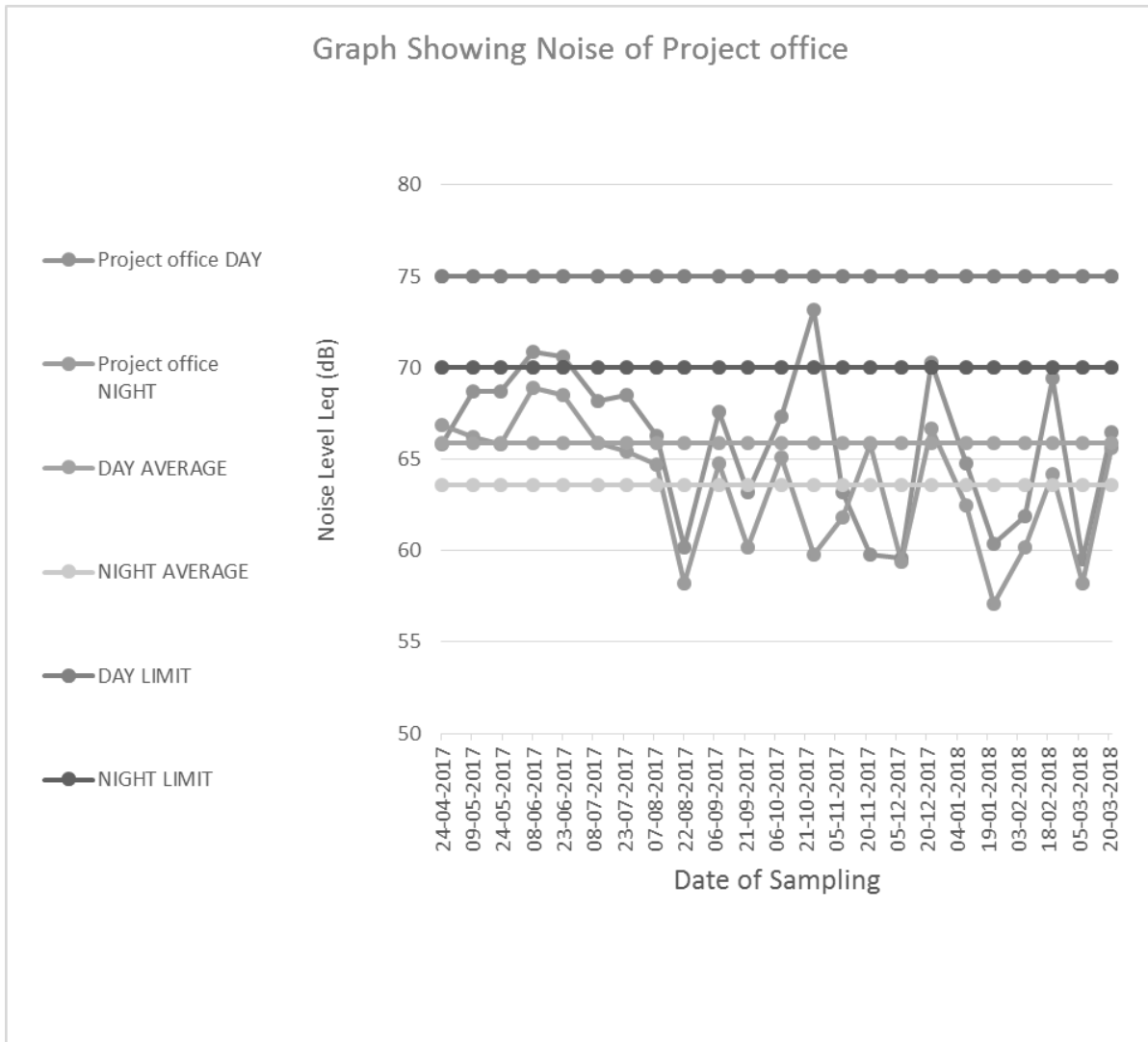


Table 62
Project: Samleswari OCP
Monitoring Station: Near Re-Joice Club in Hiltop Colony

DATE OF SAMPLING	DAY	NIGHT
13-04-2017	57.7	63.5
24-04-2017	67.6	62.1
09-05-2017	72.1	62.4
23-05-2017	65.7	64.8
08-06-2017	65.5	59.4
23-06-2017	65.5	59.4
10-07-2017	63.1	61
24-07-2017	66	63.5
08-08-2017	66.9	64.5
22-08-2017	60.4	60.7
08-09-2017	69.8	66.2
22-09-2017	65.8	59
09-10-2017	63.4	65
25-10-2017	66.1	59.4
08-11-2017	63.5	61.6
22-11-2017	62	63.2
07-12-2017	60.9	58.5
22-12-2017	59.3	63.5
08-01-2018	66.2	61.5
22-01-2018	71.4	65.5
06-02-2018	62.9	60.3
20-02-2018	64.3	59.2
07-03-2018	70.2	62
21-03-2018	64.3	60.2
Brief Statistic (in dB)	Day	Night
Minimum	57.7	58.5
Maximum	72.1	66.2
Mean	65.0	61.9
Noise Standard	75	70

Graph Showing Noise of Near Re-Joice Club in Hiltop Colony

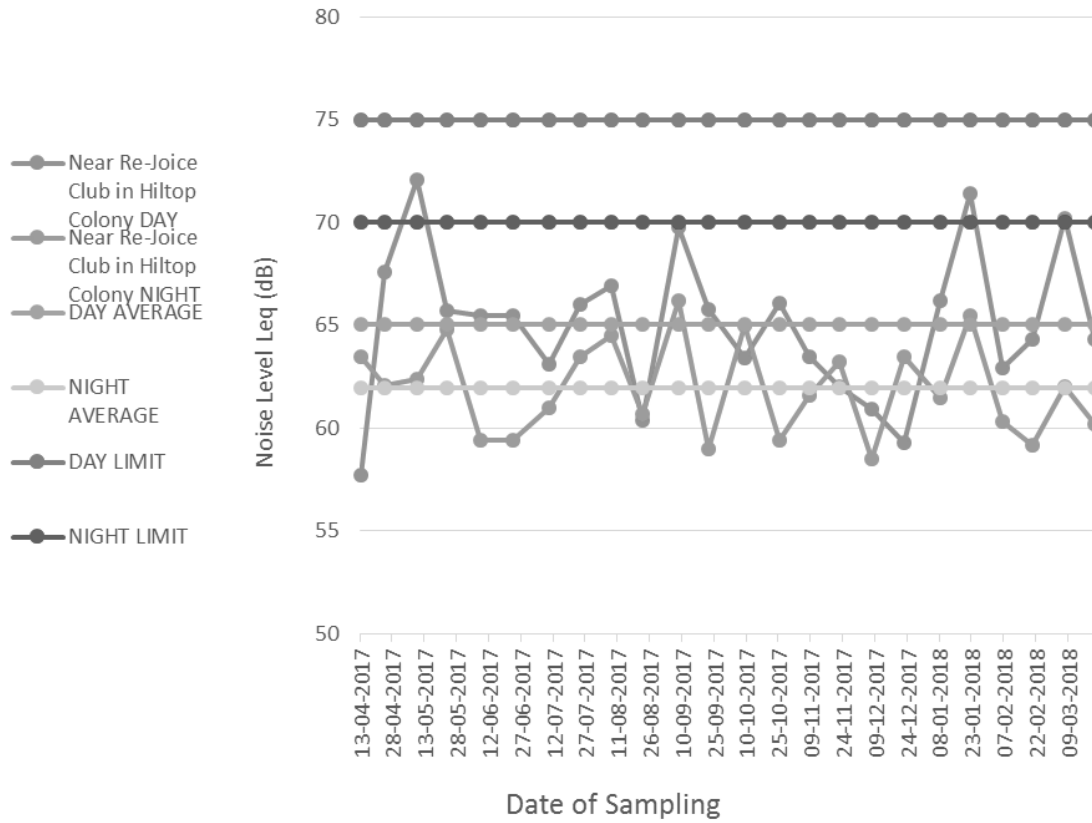


Table 63
Project: Samleswari OCP
Monitoring Station: Near Chingriguda Village

DATE OF SAMPLING	DAY	NIGHT
24-04-2017	65.8	64.5
09-05-2017	69.1	59.6
23-05-2017	59.7	63.2
08-06-2017	68.3	65.5
16-06-2017	65.1	60.4
10-07-2017	71.5	67.3
24-07-2017	70.4	68.3
08-08-2017	70.1	66
23-08-2017	61.4	56.2
11-09-2017	66.7	63.2
25-09-2017	58.7	60.1
10-10-2017	63.6	61.4
25-10-2017	59.6	65.4
09-11-2017	61.3	60.8
17-11-2017	61.2	66.3
01-12-2017	64.3	62.1
Brief Statistic (in dB)	Day	Night
Minimum	58.7	56.2
Maximum	71.5	68.3
Mean	64.8	63.1
Noise Standard	75	70

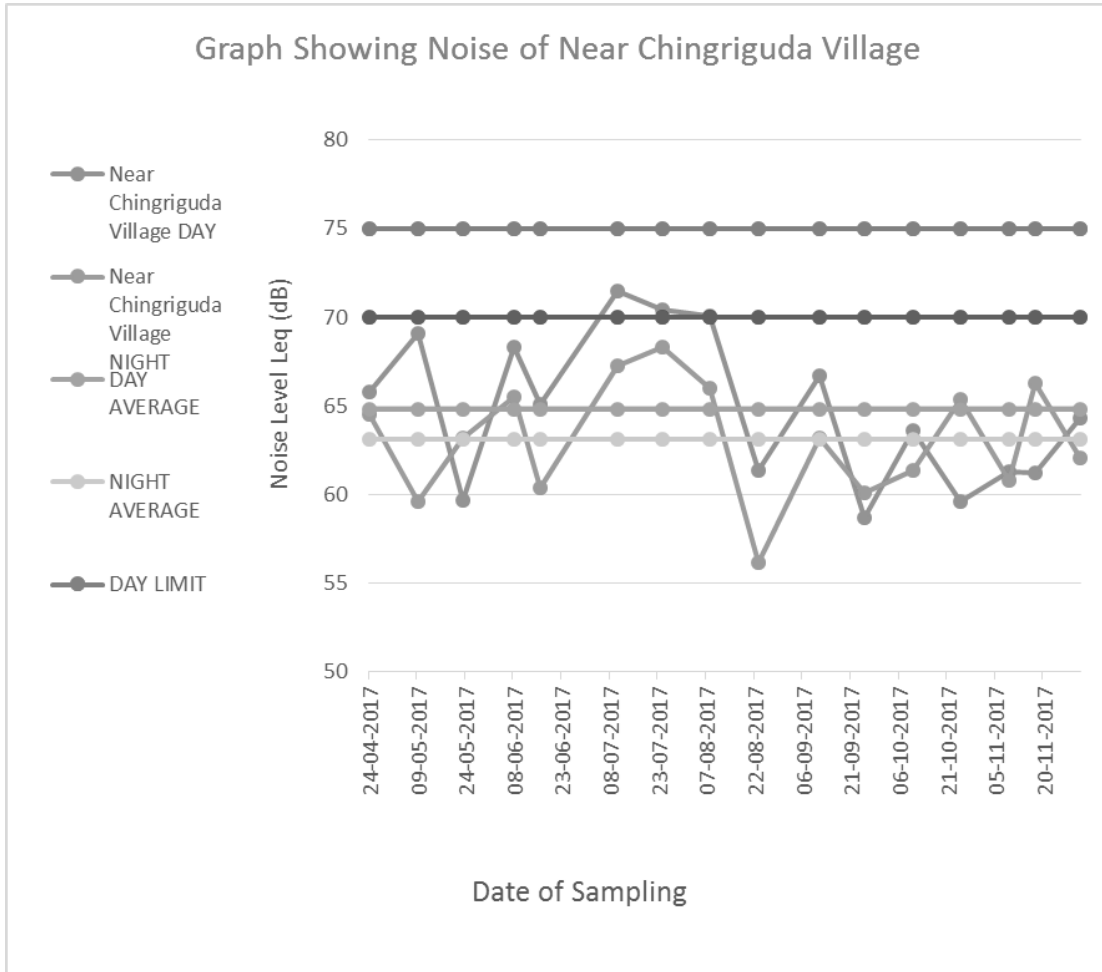


Table64
Project: Samleswari OCP
Monitoring Station: Lajkura Village

DATE OF SAMPLING	DAY	NIGHT
13-04-2017	62.8	67.5
25-04-2017	72	76.2
09-05-2017	69.9	59.5
23-05-2017	71	68.9
08-06-2017	67.6	63.8
23-06-2017	65.4	62.9
10-07-2017	67.3	62.8
24-07-2017	63.9	66.2
08-08-2017	64.2	59.4
22-08-2017	68	60.4
08-09-2017	68.4	64.8
22-09-2017	69.3	63.9
09-10-2017	58.7	56.3
26-10-2017	61.5	68.9
08-11-2017	57.2	62.3
22-11-2017	66.2	67.6
07-12-2017	69.5	63.3
22-12-2017	68.2	60.6
08-01-2018	68.7	60.7
22-01-2018	73.1	64.6
06-02-2018	66.7	64.8
20-02-2018	63	65
07-03-2018	66.6	65.2
21-03-2018	64.6	60.3
Brief Statistic (in dB)	Day	Night
Minimum	57.2	56.3
Maximum	73.1	76.2
Mean	66.4	64.0
Noise Standard	75	70

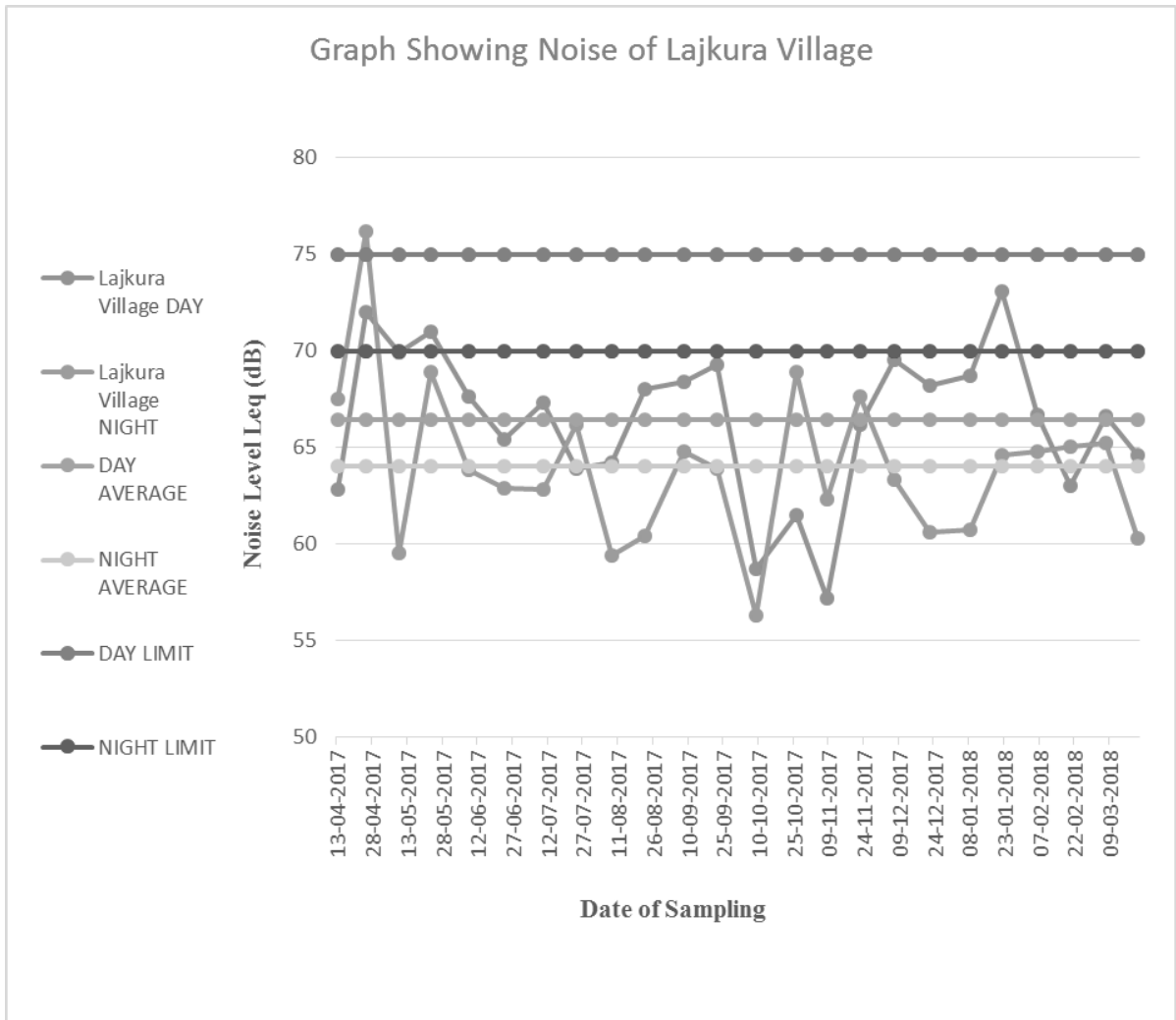


Table 65
Project: Samleswari OCP
Monitoring Station: Kudopali Village

DATE OF SAMPLING	DAY	NIGHT
13-04-2017	68.4	67.9
24-04-2017	64.5	65.1
10-05-2017	68.3	59.8
24-05-2017	65.3	61.9
09-06-2017	64.6	60.2
26-06-2017	65.3	61.9
11-07-2017	64.3	59.6
25-07-2017	63.7	61.2
09-08-2017	64.3	58.3
23-08-2017	62.2	58.3
08-09-2017	66.3	62.4
22-09-2017	58.7	54
09-10-2017	56.1	58.7
26-10-2017	65.4	63.1
09-11-2017	59.9	57.8
23-11-2017	53.7	58.2
08-12-2017	59.6	63
25-12-2017	69.1	53.2
09-01-2018	58.8	65.4
23-01-2018	63.1	56.8
06-02-2018	63.1	65.9
20-02-2018	68.7	54.1
07-03-2018	59.8	57
21-03-2018	63.8	57.9
Brief Statistic (in dB)	Day	Night
Minimum	53.7	53.2
Maximum	69.1	67.9
Mean	63.2	60.1
Noise Standard	75	70

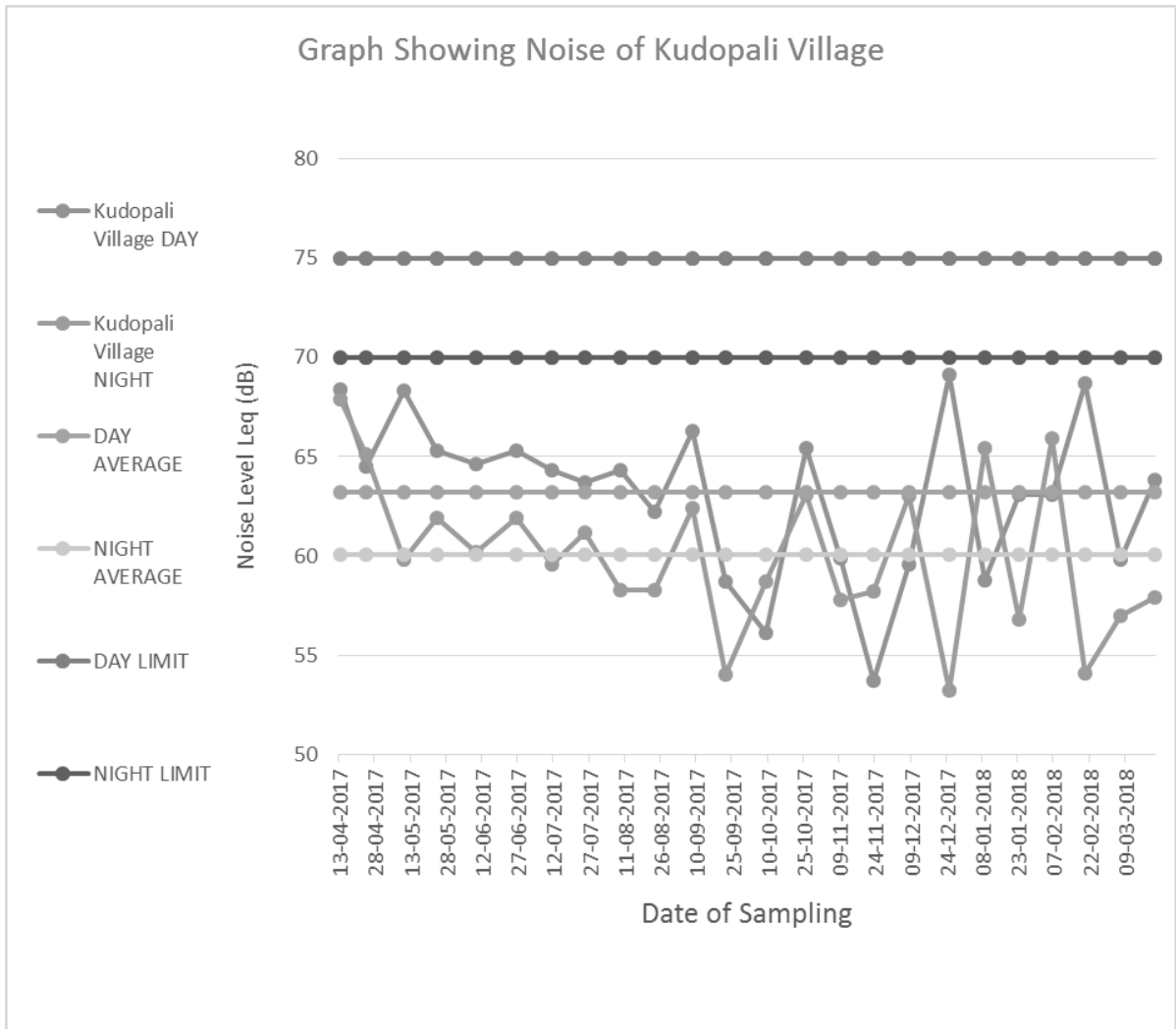


Table 66
Project: Lajkura OCP
Monitoring Station: Chhauliberna

DATE OF SAMPLING	DAY	NIGHT
20-Apr-17	67.7	62.8
08-May-17	79.1	70.9
22-May-17	64.8	63.7
06-Jun-17	65.0	60.2
21-Jun-17	60.7	58.2
08-Jul-17	64.5	59.9
21-Jul-17	60.1	58.3
07-Aug-17	62.3	59.1
21-Aug-17	64.1	58.4
07-Sep-17	60.5	57.7
21-Sep-17	66.7	63.5
07-Oct-17	60.1	62.5
24-Oct-17	61.8	58.5
07-Nov-17	59.8	58.3
21-Nov-17	63.3	56.8
06-Dec-17	62.0	60.1
21-Dec-17	61.0	56.5
05-Jan-18	63.4	64.0
19-Jan-18	54.8	63.1
06-Feb-18	60.5	58.8
20-Feb-18	58.2	59.8
07-Mar-18	68.2	62.0
21-Mar-18	63.6	61.8
Brief Statistic (in dB)	Day	Night
Minimum	54.8	56.5
Maximum	79.1	70.9
Mean	63.1	60.6
Noise Standard	75	70

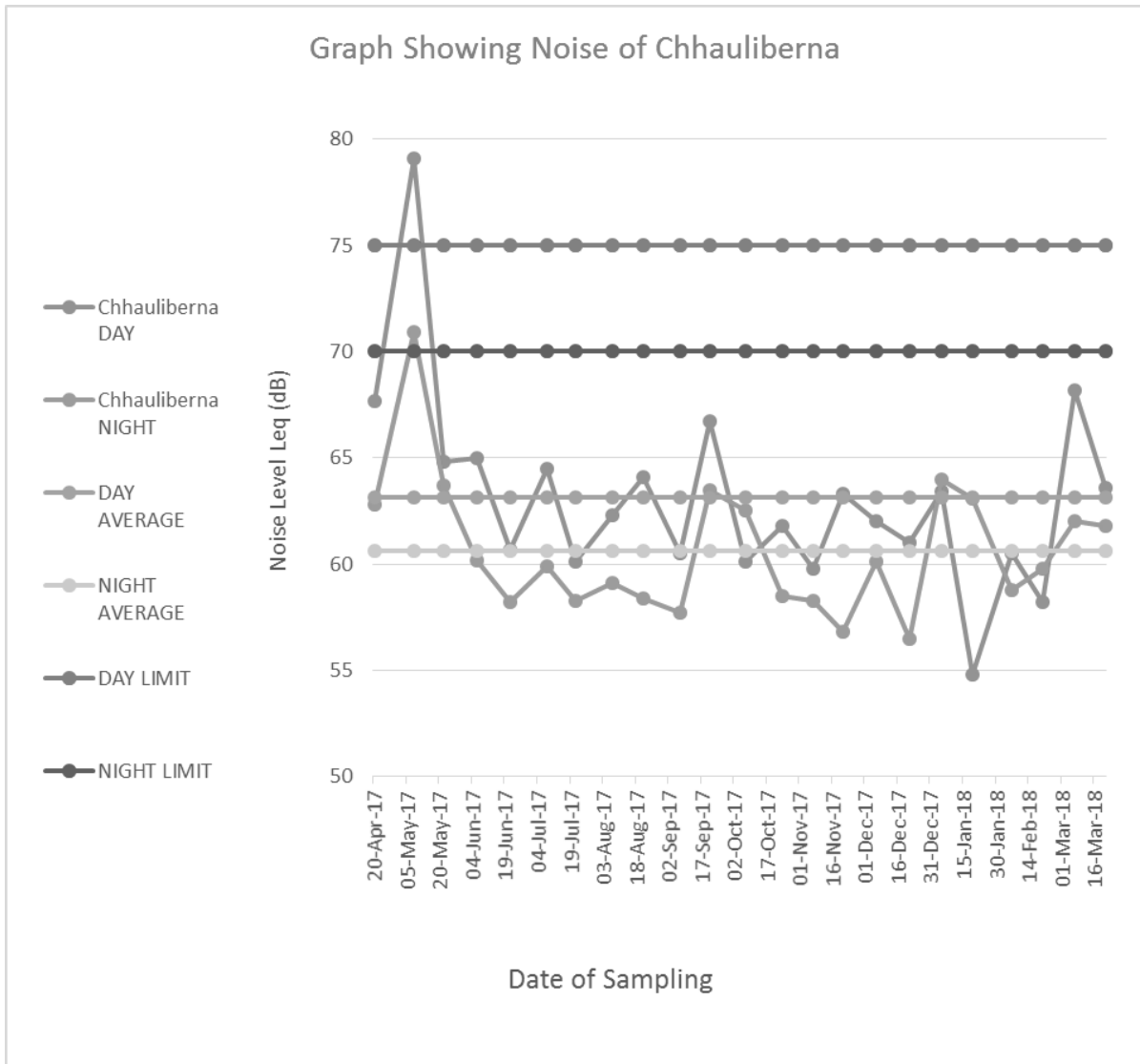


Table 67
Project: Lajkura OCP
Monitoring Station: Near Adarsh Nagar Colony

DATE OF SAMPLING	DAY	NIGHT
20-Apr-17	63.5	63.7
05-May-17	65.9	70.7
19-May-17	61.6	60.7
06-Jun-17	68.4	62
21-Jun-17	65.9	63.5
08-Jul-17	65.7	63.4
21-Jul-17	65.7	61.4
07-Aug-17	66.5	61.4
21-Aug-17	62.2	58.6
07-Sep-17	62.9	59.2
21-Sep-17	64.3	60.2
07-Oct-17	62.4	60.3
24-Oct-17	64.1	58.8
07-Nov-17	67	65.8
21-Nov-17	68.2	60.9
06-Dec-17	63.3	61
21-Dec-17	67.5	64.2
05-Jan-18	65.5	62.4
19-Jan-18	60.7	68.7
06-Feb-18	65.5	57.3
20-Feb-18	62.2	63.6
07-Mar-18	70.6	57.7
21-Mar-18	68.2	63.7
Brief Statistic (in dB)	Day	Night
Minimum	60.7	57.3
Maximum	70.6	70.7
Mean	65.1	62.1
Noise Standard	75	70

Graph Showing Noise of Near Adarsh Nagar Colony

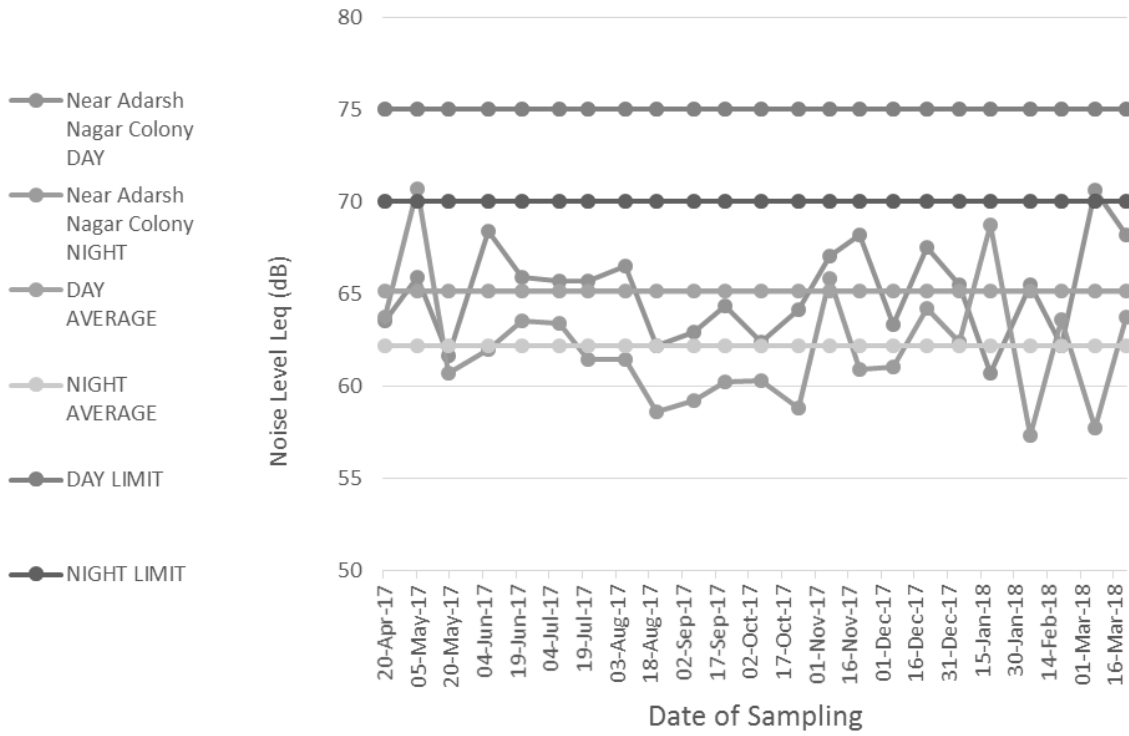


Table 68
Project: Lajkura OCP
Monitoring Station: Near Project Office

DATE OF SAMPLING	DAY	NIGHT
21-Apr-17	69	55.6
08-May-17	69.7	70.3
22-May-17	64	65.8
07-Jun-17	68.5	70.6
21-Jun-17	69.5	66.1
08-Jul-17	70.8	67.1
21-Jul-17	67.4	63.9
07-Aug-17	68.4	65.9
21-Aug-17	61.6	58.4
07-Sep-17	64.5	60.7
21-Sep-17	69.9	67
07-Oct-17	64.2	62.1
24-Oct-17	70	68.3
07-Nov-17	71.2	60.7
21-Nov-17	64.5	60.8
06-Dec-17	65.1	61.6
21-Dec-17	71.2	68.5
05-Jan-18	62.7	68.2
19-Jan-18	69.5	64.4
06-Feb-18	61.9	60.2
20-Feb-18	65.2	66.2
07-Mar-18	61.4	65.5
21-Mar-18	67.2	65.8
Brief Statistic (in dB)	Day	Night
Minimum	61.4	55.6
Maximum	71.2	70.6
Mean	66.8	64.5
Noise Standard	75	70

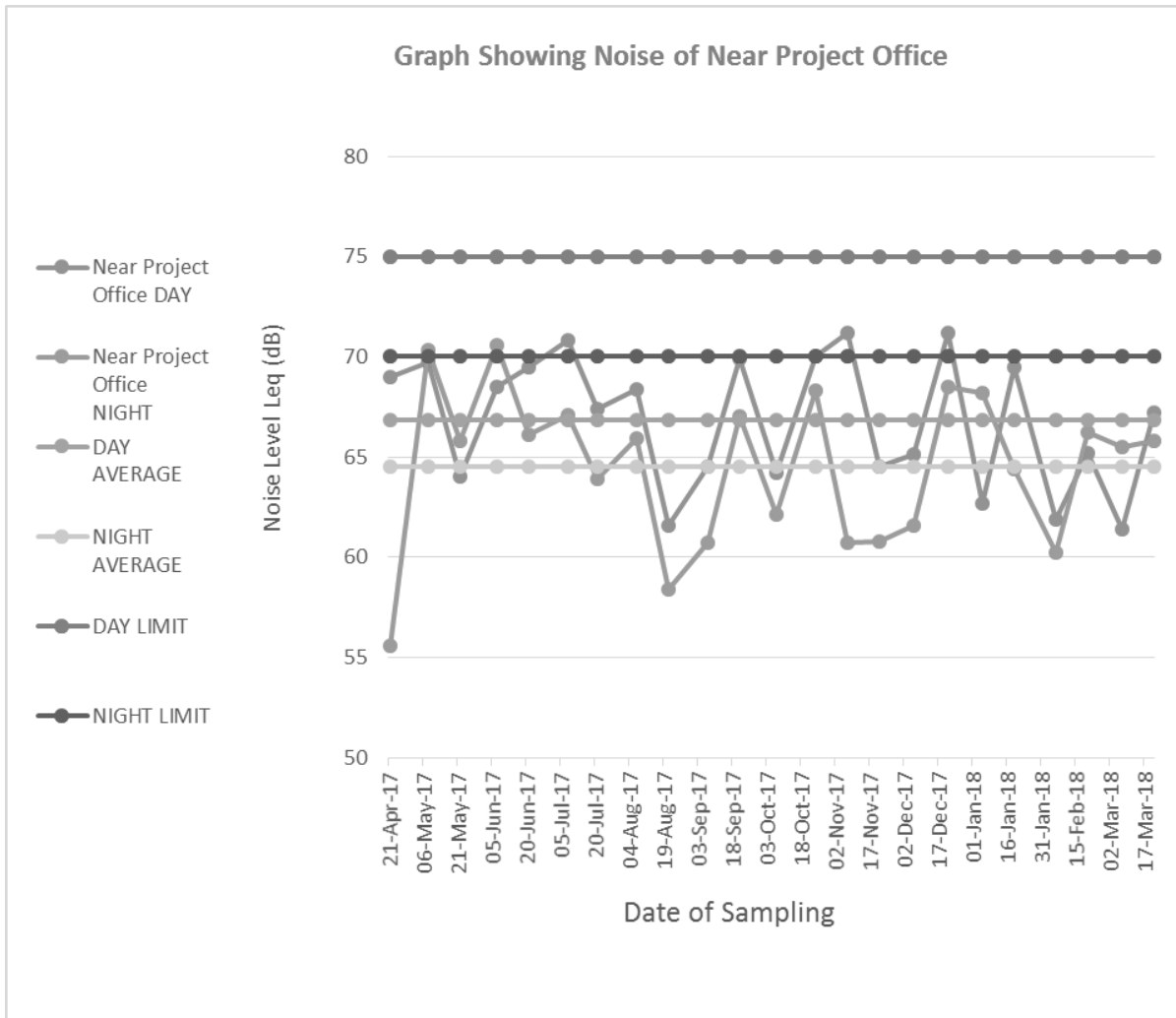


Table 69
Project: Lakhanpur OCP
Monitoring Station: East of coal stock no 10

DATE OF SAMPLING	DAY	NIGHT
15-04-2017	67.7	70
26-04-2017	66.1	64.9
11-05-2017	65.3	65
25-05-2017	71.6	63.7
12-06-2017	66.3	62.4
27-06-2017	70.6	68.9
13-07-2017	68.3	66.1
27-07-2017	70.2	67.4
10-08-2017	68.9	66.5
24-08-2017	62.4	63.1
12-09-2017	69.2	65.6
26-09-2017	66.1	63.7
11-10-2017	61.2	59.8
27-10-2017	68.7	66
10-11-2017	62.2	59.7
24-11-2017	65.1	59.3
11-12-2017	60.9	58.4
26-12-2017	68.7	63.2
10-01-2018	68.9	66.3
25-01-2018	66.8	63.1
09-02-2018	64.3	62.7
23-02-2018	59.2	59.4
12-03-2018	61.8	68
26-03-2018	65.7	61.4
Brief Statistic (in dB)	Day	Night
Minimum	59.2	58.4
Maximum	71.6	70
Mean	66.1	63.9
Noise Standard	75	70

Graph Showing Noise of East of coal stock no 10

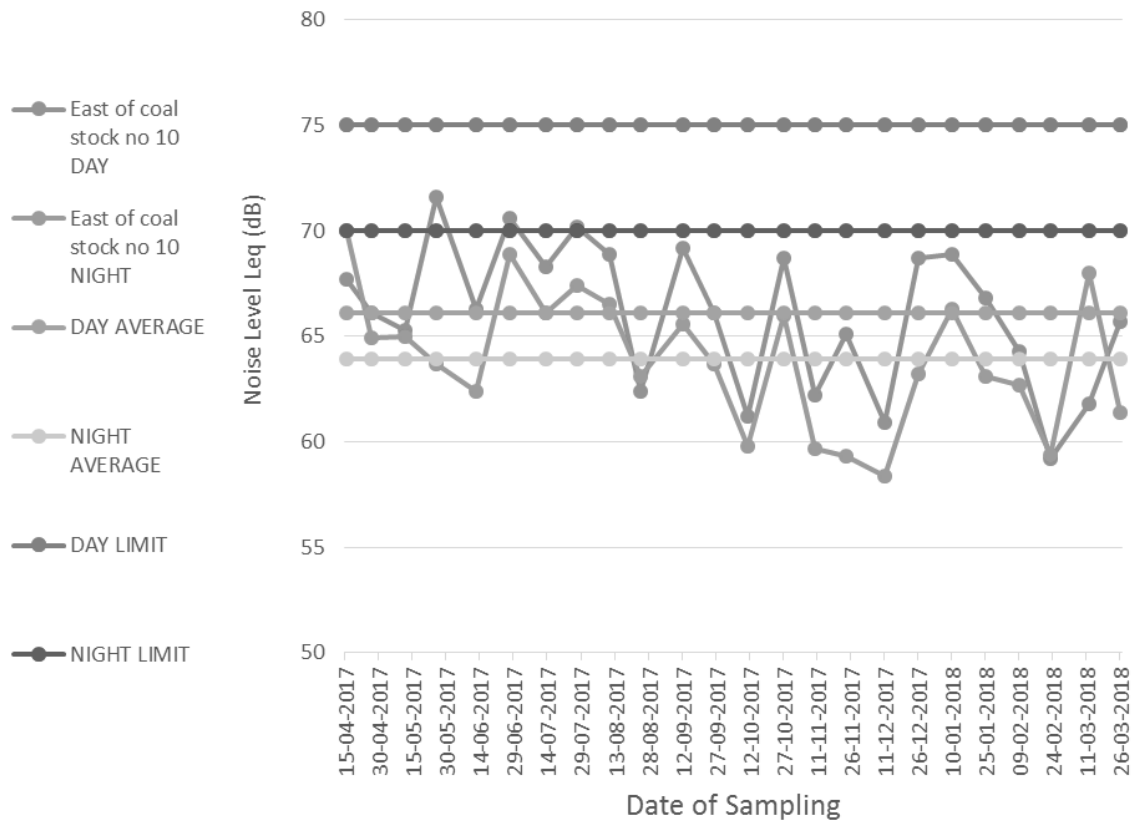


Table 70
Project: Lakhanpur OCP
Monitoring Station: Near MGR Siding

DATE OF SAMPLING	DAY	NIGHT
26-04-2017	76.8	66.4
11-05-2017	63.3	64
25-05-2017	69.1	64.6
12-06-2017	62.1	57.9
27-06-2017	69.1	65.6
13-07-2017	67.1	64.5
27-07-2017	69.4	67.9
10-08-2017	69.3	67.1
24-08-2017	63.2	63.6
12-09-2017	66.4	62.8
26-09-2017	69.5	63.4
11-10-2017	64.8	66.1
27-10-2017	68.3	65.8
13-11-2017	66.4	65.5
27-11-2017	68.4	66.8
12-12-2017	68.6	65.3
27-12-2017	62.6	60.3
11-01-2018	55.3	63.2
24-01-2018	69.2	61.1
09-02-2018	60.7	57.8
23-02-2018	71.1	65.4
12-03-2018	63.7	67
26-03-2018	68.4	63.2
Brief Statistic (in dB)	Day	Night
Minimum	55.3	57.8
Maximum	76.8	67.9
Mean	66.6	64.1
Noise Standard	75	70

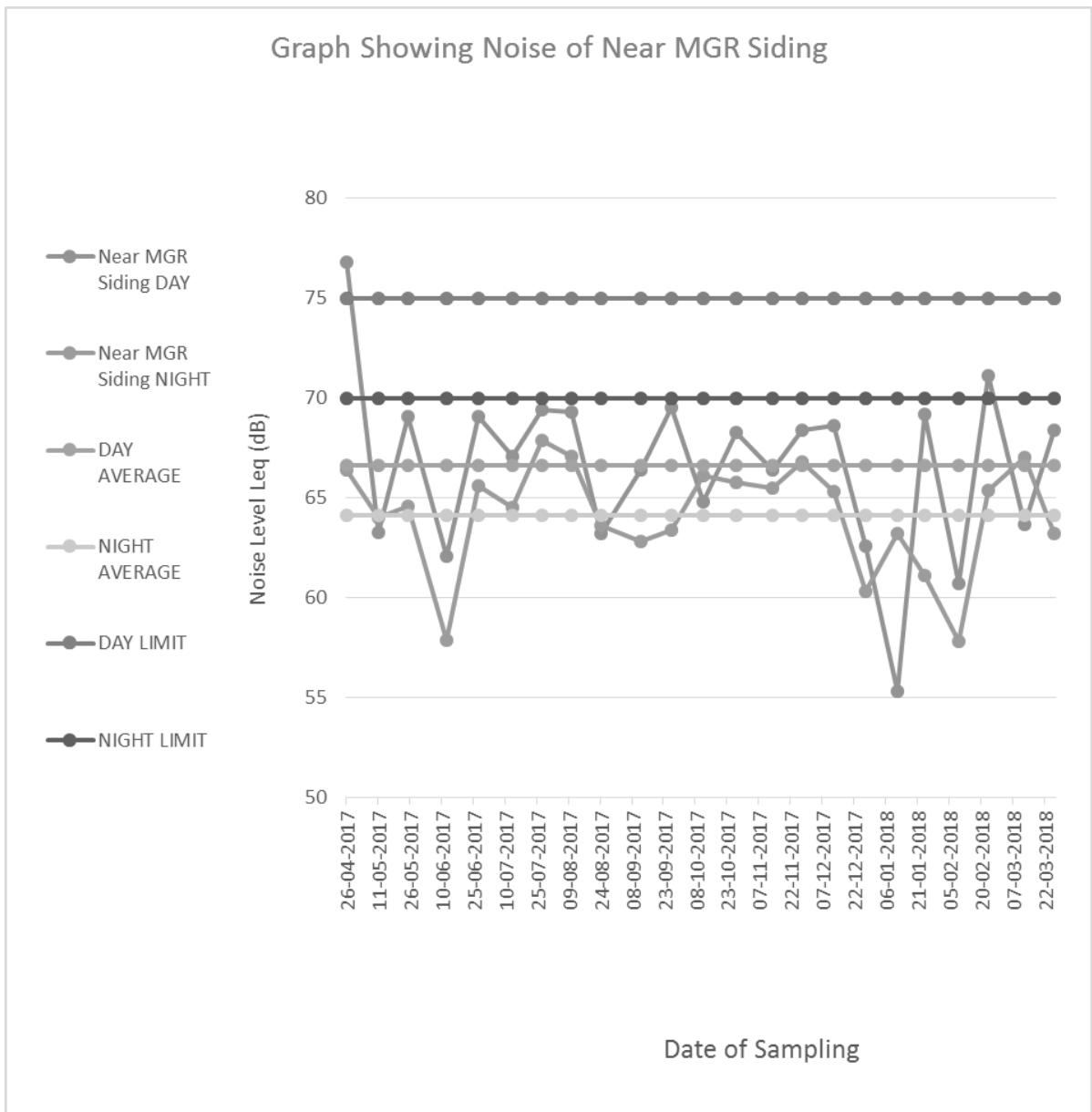


Table 71
Project: Lakhanpur OCP
Monitoring Station: Near OB dump No.1

DATE OF SAMPLING	DAY	NIGHT
14-04-2017	64.7	66.2
26-04-2017	69.9	66.7
11-05-2017	67.7	63.8
25-05-2017	64.1	65.2
12-06-2017	63.4	55.9
27-06-2017	64.4	66.7
12-07-2017	68.7	65.2
26-07-2017	63.5	65.6
09-08-2017	64.6	60.4
23-08-2017	68.7	68.8
12-09-2017	67.5	63.7
26-09-2017	65.7	61.2
11-10-2017	67.3	63
27-10-2017	64.8	71.8
10-11-2017	67.4	64.7
24-11-2017	67.7	64.8
11-12-2017	59.7	60.3
26-12-2017	61.2	60.3
10-01-2018	64.9	61.4
24-01-2018	67.3	69.3
09-02-2018	69.1	63.4
23-02-2018	62.2	67.1
12-03-2018	64.7	67.6
26-03-2018	63.2	61.8
Brief Statistic (in dB)	Day	Night
Minimum	59.7	55.9
Maximum	69.9	71.8
Mean	65.5	64.4
Noise Standard	75	70

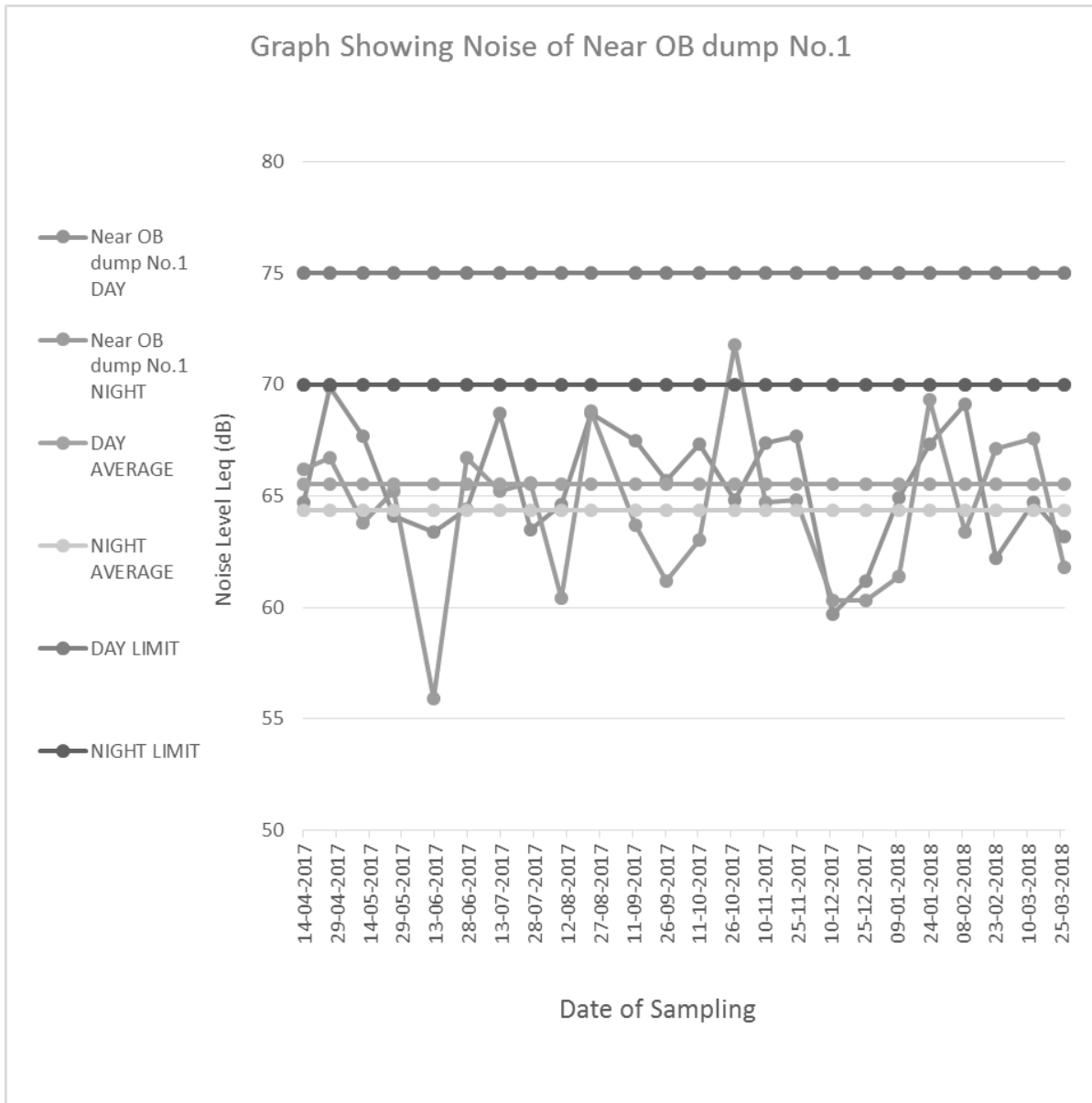


Table 72
Project: Lakhanpur OCP
Monitoring Station: West side of Quarry no.4

DATE OF SAMPLING	DAY	NIGHT
14-04-2017	67.7	61.8
26-04-2017	67.9	67.5
11-05-2017	76.3	67.8
25-05-2017	68	69
12-06-2017	69.2	65.3
27-06-2017	68	69
12-07-2017	71.4	70.9
26-07-2017	69.8	67.8
10-08-2017	71.4	69.7
24-08-2017	71.6	67.4
12-09-2017	70.9	68.1
26-09-2017	68.3	65.5
11-10-2017	65.7	67.9
27-10-2017	61.5	67
10-11-2017	64.8	65.2
24-11-2017	70.5	62.6
11-12-2017	67	63.8
26-12-2017	62.4	72.6
10-01-2018	69.8	62.8
24-01-2018	71.4	61.4
09-02-2018	62.2	67
23-02-2018	69.7	66.2
12-03-2018	65.7	59.1
26-03-2018	70.2	64.6
Brief Statistic (in dB)	Day	Night
Minimum	61.5	59.1
Maximum	76.3	72.6
Mean	68.4	66.3
Noise Standard	75	70

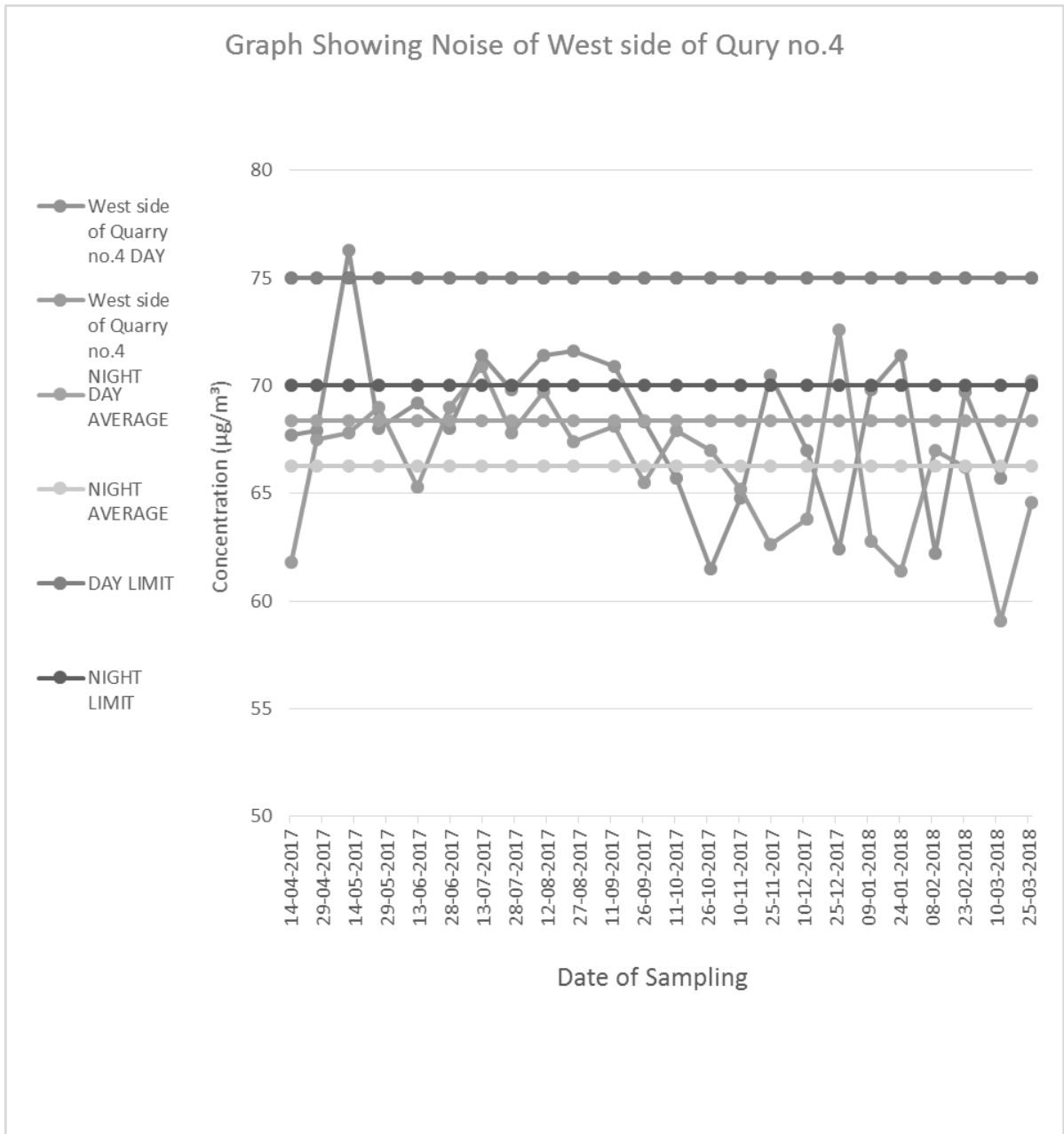


Table 73
Project: Lakhanpur OCP
Monitoring Station: North west of Quarry no.3

DATE OF SAMPLING	DAY	NIGHT
26-04-2017	62.3	66.7
11-05-2017	67.6	65.3
25-05-2017	67	64.5
13-06-2017	64.5	59.5
27-06-2017	67.3	64.5
13-07-2017	63.4	60.7
27-07-2017	67.2	63.5
10-08-2017	63.2	58.3
24-08-2017	67.1	59.7
13-09-2017	69.5	70.9
26-09-2017	63.9	60.1
12-10-2017	63.2	65.8
27-10-2017	67.3	64.3
14-11-2017	57	62.8
28-11-2017	60.1	61
12-12-2017	64.7	61.4
27-12-2017	61.2	58.7
11-01-2018	66.7	67.4
27-01-2018	64.9	56.4
09-02-2018	56.6	58.1
23-02-2018	67.8	59.3
12-03-2018	68.4	69.8
26-03-2018	64.3	60.4
Brief Statistic (in dB)	Day	Night
Minimum	56.6	56.4
Maximum	69.5	70.9
Mean	64.6	62.6
Noise Standard	75	70

Graph Showing Noise of North west of Quarry no.3

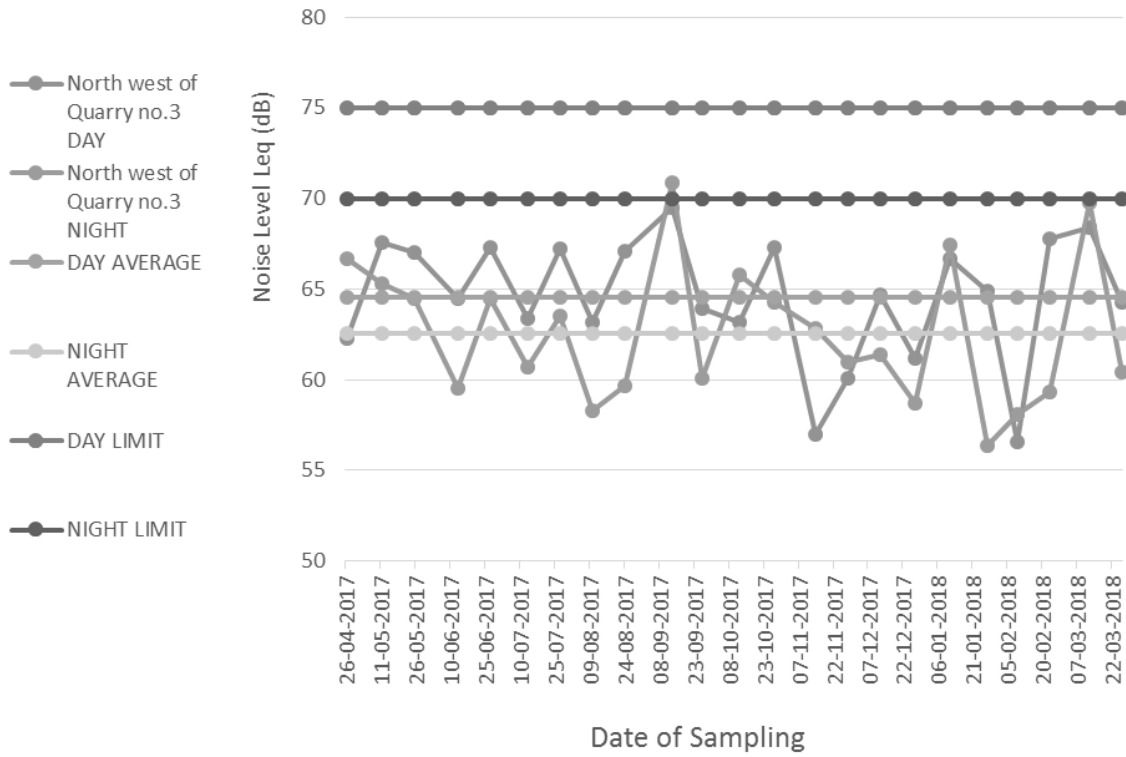


Table 74
Project: Lakhanpur OCP
Monitoring Station: North west of Quarry No.1

DATE OF SAMPLING	DAY	NIGHT
14-04-2017	68.4	70.7
26-04-2017	67.3	64.4
12-05-2017	70.3	69.0
26-05-2017	60.0	69.9
12-06-2017	70.1	69.4
28-06-2017	63	68.4
01-07-2017	70.8	69.4
27-07-2017	66.1	68.2
10-08-2017	70	68.8
24-08-2017	68.3	70.8
13-09-2017	66.8	63.8
27-09-2017	68.1	60.3
12-10-2017	66.5	63
27-10-2017	57.8	59.6
14-11-2017	65.8	68.1
28-11-2017	66.3	64.6
12-12-2017	69.4	66.7
27-12-2017	64.5	64.0
11-01-2018	70.3	64.2
27-01-2018	51.7	59.2
09-02-2018	67.3	65.4
23-02-2018	66.8	62.1
12-03-2018	66.4	65.3
26-03-2018	67.9	68.9
Brief Statistic (in dB)	Day	Night
Minimum	51.7	59.2
Maximum	70.8	70.8
Mean	66.2	66.0
Noise Standard	75	70

Graph Showing Noise of North west of Quarry No.1

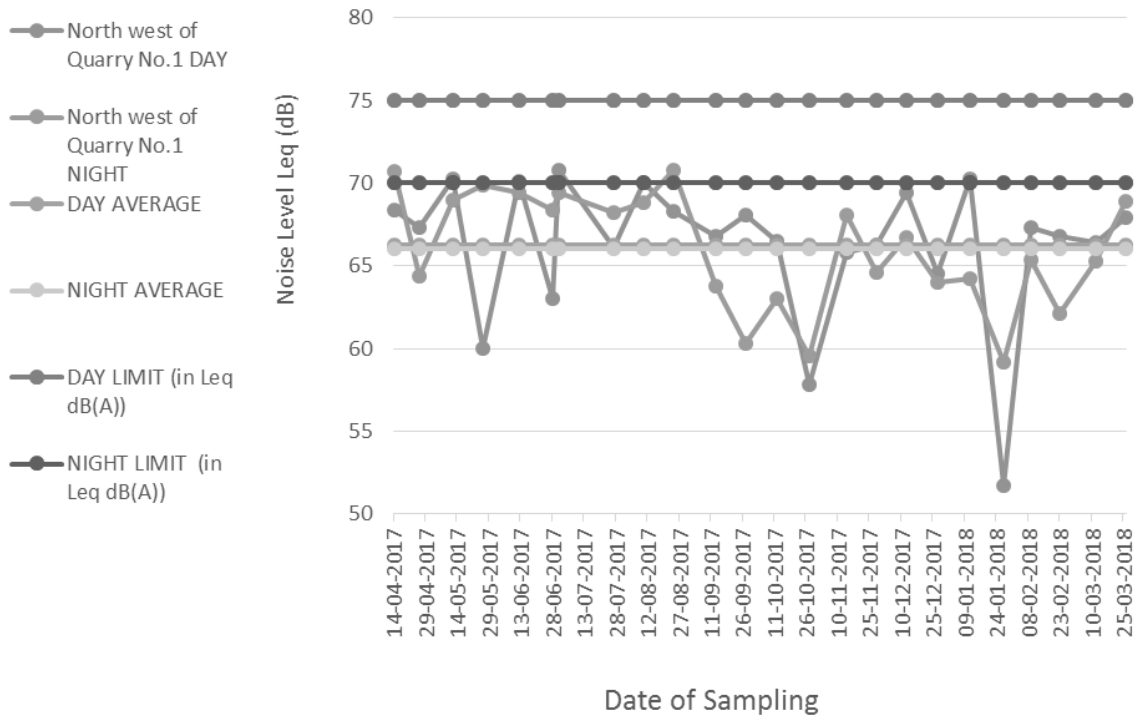


Table 75
Project: Lilari OCP
Monitoring Station: Near Magazine House

DATE OF SAMPLING	DAY	NIGHT
14-04-2017	68.4	70.4
25-04-2017	70.9	72
10-05-2017	79.3	64.9
24-05-2017	67.5	62.1
09-06-2017	63.2	58.1
26-06-2017	67.5	68.1
11-07-2017	64.3	59.6
25-07-2017	68.1	64.8
10-08-2017	63.5	59.9
23-08-2017	64.1	61.6
11-09-2017	62.9	60.3
25-09-2017	56.2	54.2
10-10-2017	61.3	59.2
26-10-2017	62.4	69.6
09-11-2017	58.4	61.9
23-11-2017	54.2	63.9
08-12-2017	60.3	65.3
25-12-2017	55.1	58.1
09-01-2018	60.9	64
23-01-2018	65.3	60.4
09-02-2018	62.8	64.6
23-02-2018	64.8	58.8
12-03-2018	63.2	60.4
26-03-2018	66.4	65.1
Brief Statistic (in dB)	Day	Night
Minimum	54.2	54.2
Maximum	79.3	72
Mean	63.8	62.8
Noise Standard	75	70

Graph Showing Noise of Near Magazine House

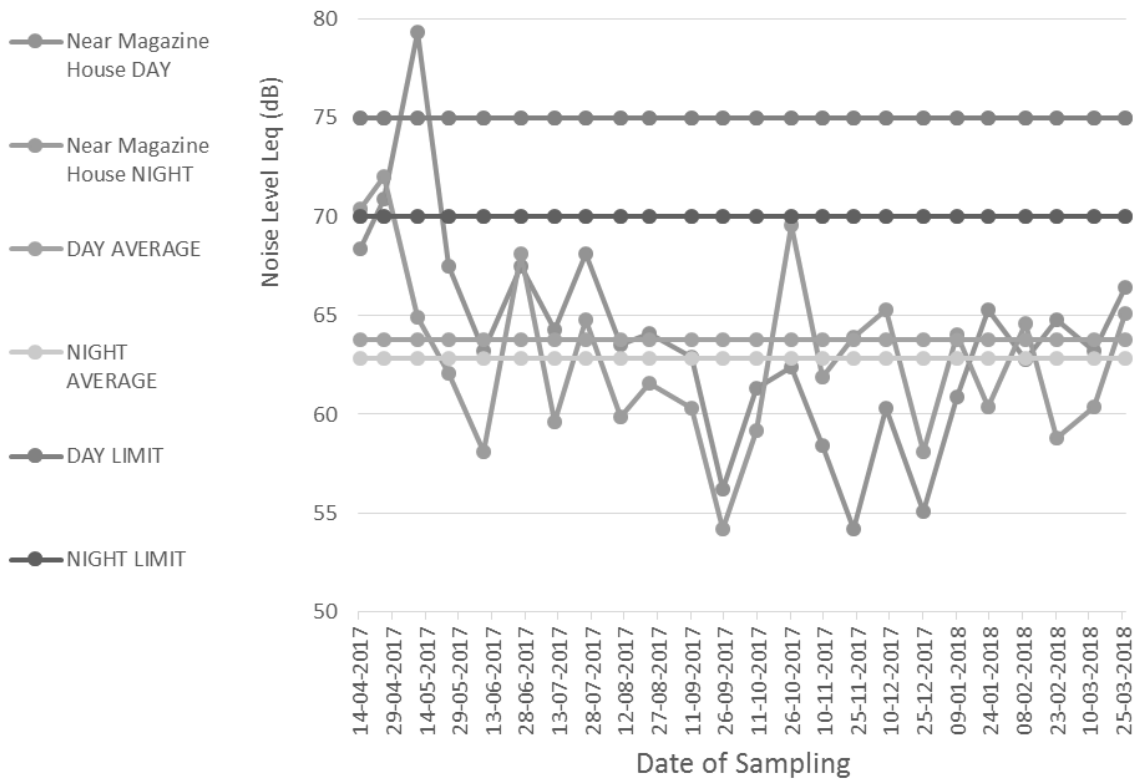
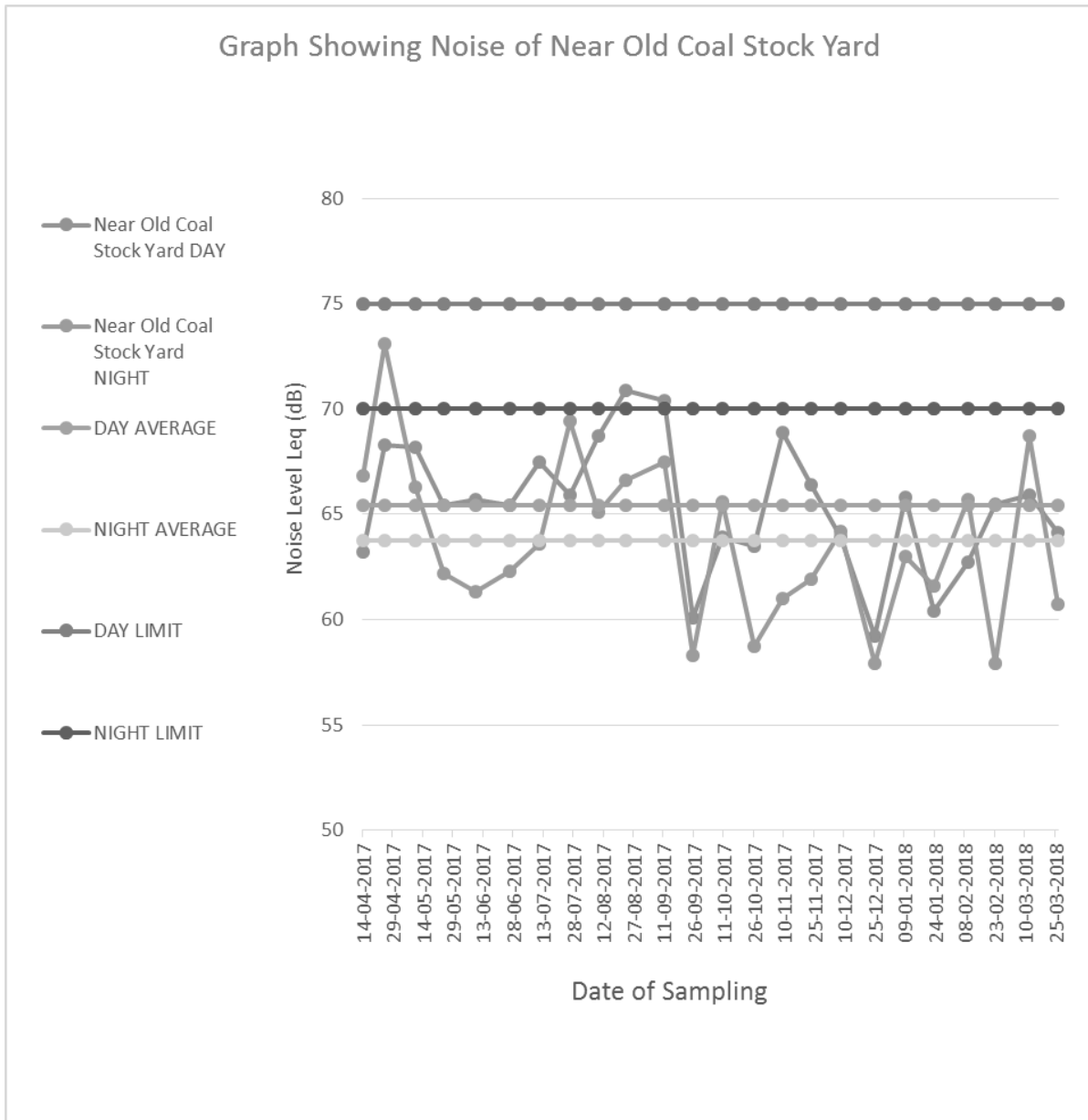


Table 76
Project: Lilari OCP
Monitoring Station: Near Old Coal Stock Yard

DATE OF SAMPLING	DAY	NIGHT
14-04-2017	63.2	66.8
25-04-2017	68.3	73.1
10-05-2017	68.2	66.3
24-05-2017	65.4	62.2
09-06-2017	65.7	61.3
26-06-2017	65.4	62.3
11-07-2017	67.5	63.6
26-07-2017	65.9	69.4
09-08-2017	68.7	65.1
23-08-2017	70.9	66.6
11-09-2017	70.4	67.5
25-09-2017	60.1	58.3
10-10-2017	63.9	65.6
26-10-2017	63.5	58.7
09-11-2017	68.9	61
23-11-2017	66.4	61.9
08-12-2017	63.9	64.2
25-12-2017	59.2	57.9
09-01-2018	65.8	63
23-01-2018	60.4	61.6
09-02-2018	62.7	65.7
23-02-2018	65.5	57.9
12-03-2018	65.9	68.7
26-03-2018	64.1	60.7
Brief Statistic (in dB)	Day	Night
Minimum	59.2	57.9
Maximum	70.9	73.1
Mean	65.4	63.7
Noise Standard	75	70



Noise: Table 77
Project: Belpahar OCP
Monitoring Station: North West of quarry 2

DATE OF SAMPLING	DAY	NIGHT
15-04-2017	66	71.7
27-04-2017	67.3	70.9
12-05-2017	67.5	71.7
26-05-2017	68	63
13-06-2017	63.8	57.9
28-06-2017	68.4	64.8
14-07-2017	66.5	61.7
28-07-2017	68.2	65.7
11-08-2017	67.5	63.7
25-08-2017	63.9	62.4
13-09-2017	63.7	61.4
27-09-2017	66.6	63.7
11-10-2017	65.9	63.2
14-10-2017	66	66.9
14-11-2017	66	66.9
28-11-2017	64.5	59.2
12-12-2017	67.6	65.2
27-12-2017	61.6	56.5
11-01-2018	60.9	67.7
27-01-2018	62.8	64.6
09-02-2018	70.1	62.7
23-02-2018	68.1	67.3
12-03-2018	68.5	65.5
26-03-2018	62.7	58.3
Brief Statistic (in dB)	Day	Night
Minimum	60.9	56.5
Maximum	70.1	71.7
Mean	65.9	64.3
Noise Standard	75	70

Graph Showing Noise of North east of Quarry 2

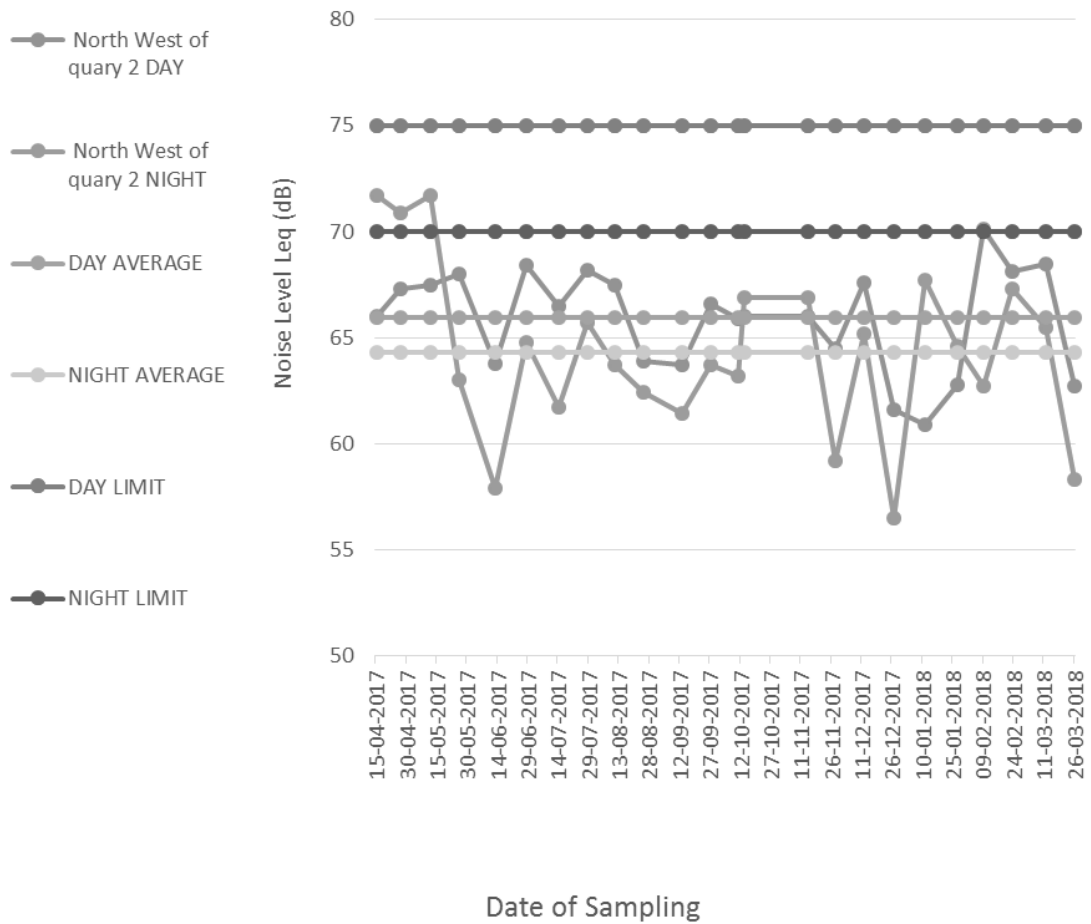


Table 78
Project: Belpahar OCP
Monitoring Station: Quarry no.2 old view point

DATE OF SAMPLING	DAY	NIGHT
15-04-2017	66.2	70.6
27-04-2017	67.9	73.1
12-05-2017	71.2	67.7
26-05-2017	76.6	63.7
13-06-2017	67.9	62.4
28-06-2017	71.6	63.7
14-07-2017	69.3	67.5
28-07-2017	70.4	68.3
11-08-2017	68.4	65.5
25-08-2017	59.9	68.9
13-09-2017	70.3	68.6
27-09-2017	70.2	68.5
12-10-2017	60.7	58.7
13-10-2017	69.8	66.8
13-11-2017	69.8	66.8
27-11-2017	67.8	65.7
13-12-2017	68.2	63.4
28-12-2017	65.3	61.7
12-01-2018	66.4	69.5
29-01-2018	71.1	70.8
09-02-2018	68.4	67.1
23-02-2018	66.6	64.4
12-03-2018	69.6	68.6
26-03-2018	68.1	65.6
Brief Statistic (in dB)	Day	Night
Minimum	59.9	58.7
Maximum	76.6	73.1
Mean	68.4	66.6
Noise Standard	75	70

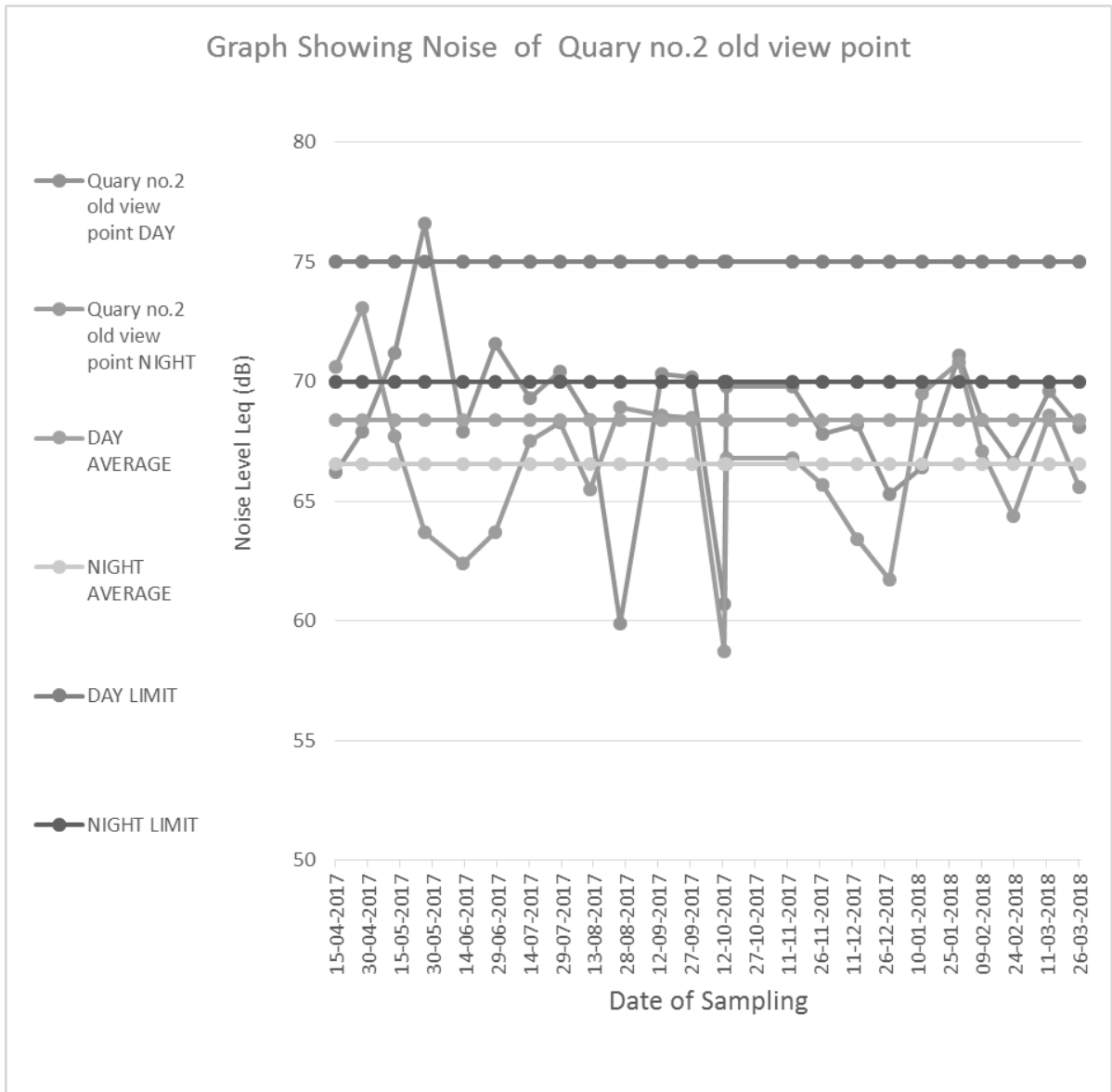


Table 79
Project: Belpahar OCP
Monitoring Station: Near MDTP

DATE OF SAMPLING	DAY	NIGHT
15-04-2017	63.7	72.3
27-04-2017	63.9	72.7
12-05-2017	66.3	67
26-05-2017	67	64.5
13-06-2017	65.4	60.8
28-06-2017	67.1	65
14-07-2017	72.6	70.8
28-07-2017	68.6	66.5
11-08-2017	71.3	67.4
25-08-2017	70.6	62.6
14-09-2017	68.6	65.4
27-09-2017	64.8	63
13-10-2017	66.3	64.5
30-10-2017	66.7	63.1
13-11-2017	68	59.8
27-11-2017	66.8	64.5
13-12-2017	66.3	62.2
28-12-2017	66.1	63.5
12-01-2018	69.2	67.3
29-01-2018	65.5	63.3
09-02-2018	66.2	58.2
23-02-2018	61.8	69.4
12-03-2018	68.4	64.5
26-03-2018	64.5	57.6
Brief Statistic (in dB)	Day	Night
Minimum	61.8	57.6
Maximum	72.6	72.7
Mean	66.9	64.8
Noise Standard	75	70

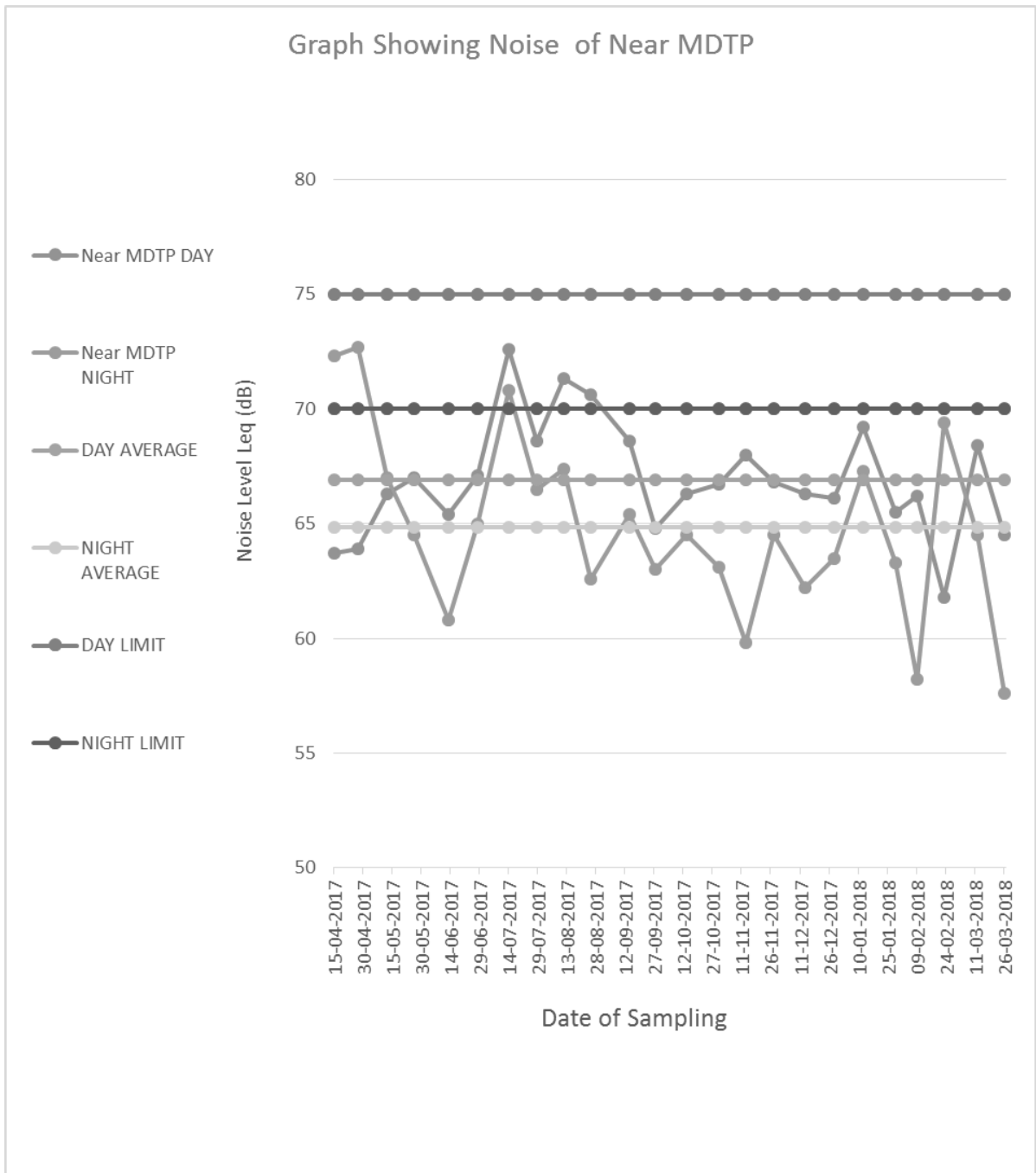


Table 80
Project: Belpahar OCP
Monitoring Station: Bandabahal Township/BIT

DATE OF SAMPLING	DAY	NIGHT
15-04-2017	68.2	66.7
27-04-2017	65	68
12-05-2017	70.2	69.5
26-05-2017	64.1	65.2
13-06-2017	62.3	59.6
28-06-2017	64.3	65.2
14-07-2017	63.4	61.2
28-07-2017	65.3	63.4
11-08-2017	64.1	61.2
25-08-2017	71	69.8
14-09-2017	65.2	58.7
27-09-2017	65	63.2
13-10-2017	68.7	66.1
13-10-2017	66.6	61.9
13-11-2017	66.6	61.9
27-11-2017	67.7	65.6
13-12-2017	63.5	62.1
28-12-2017	68.4	65.3
12-01-2018	70.6	62.2
29-01-2018	72.6	65.6
09-02-2018	65.6	62.3
23-02-2018	67.3	71.6
12-03-2018	70.1	60.6
26-03-2018	70.7	65.1
Brief Statistic (in dB)	Day	Night
Minimum	62.3	58.7
Maximum	72.6	71.6
Mean	66.9	64.3
Noise Standard	75	70

Graph Showing Noise of Bandabahal Township/BIT

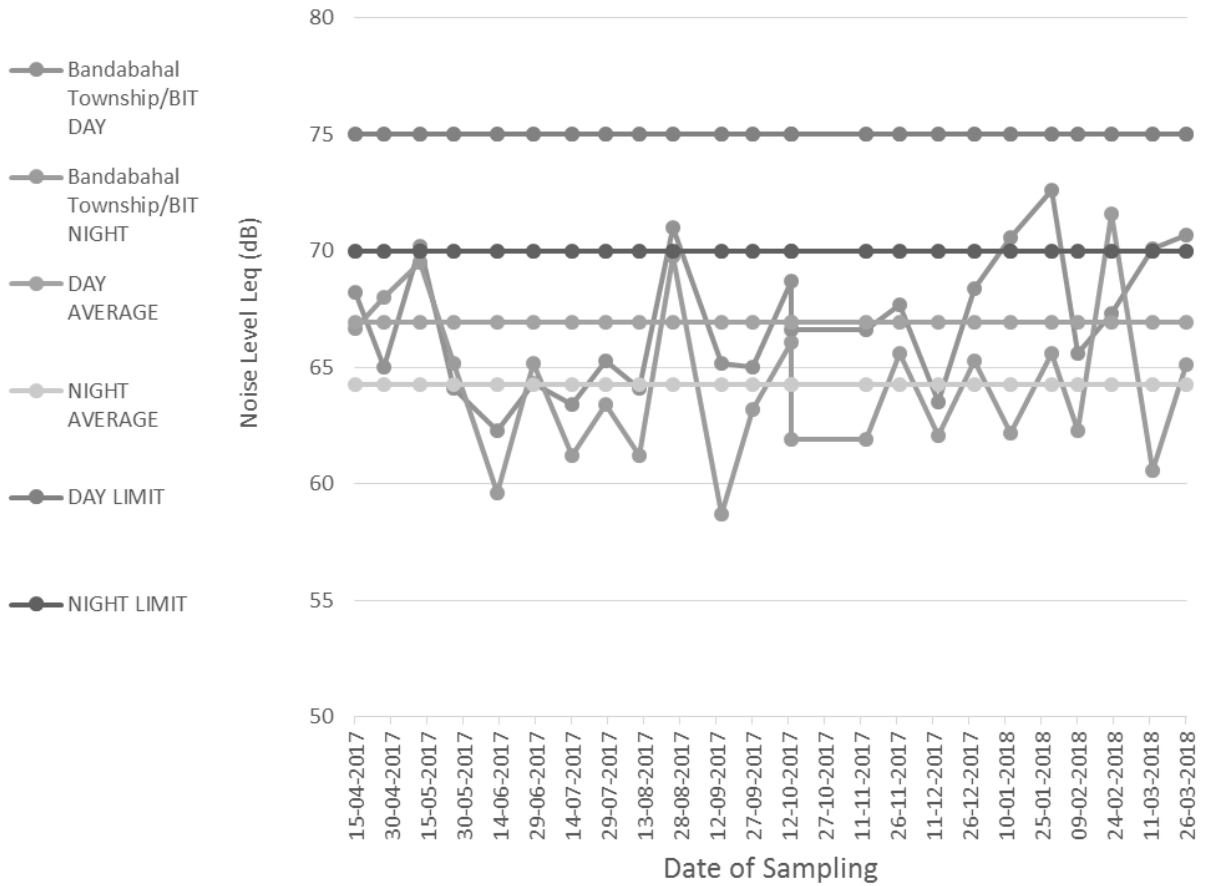


Table 81
Project: Kulda OCP
Monitoring Station: South of extranal OB dump

DATE OF SAMPLING	DAY	NIGHT
19-04-2017	68.1	63.7
03-05-2017	70.5	63.1
17-05-2017	68.9	68.1
02-06-2017	66.3	68.9
19-06-2017	61.9	58.1
05-07-2017	63.8	58.5
19-07-2017	65.6	61.3
03-08-2017	65.8	63.2
17-08-2017	60.7	58.2
05-09-2017	65.9	63.6
19-09-2017	68.2	65.6
05-10-2017	67.3	63.2
20-10-2017	63	65.4
03-11-2017	62.3	60.4
16-11-2017	64.7	62.3
01-12-2017	66.5	61.2
18-12-2017	66.8	67.7
03-01-2018	61.9	62.5
17-01-2018	63.2	56.6
03-02-2018	61.4	64.8
16-02-2018	57.5	65.2
03-03-2018	61.3	63.3
19-03-2018	64.5	60.5
Brief Statistic (in dB)	Day	Night
Minimum	57.5	56.6
Maximum	70.5	68.9
Mean	64.6	62.8
Noise Standard	75	70

Graph Showing Noise of South of extranal OB dump

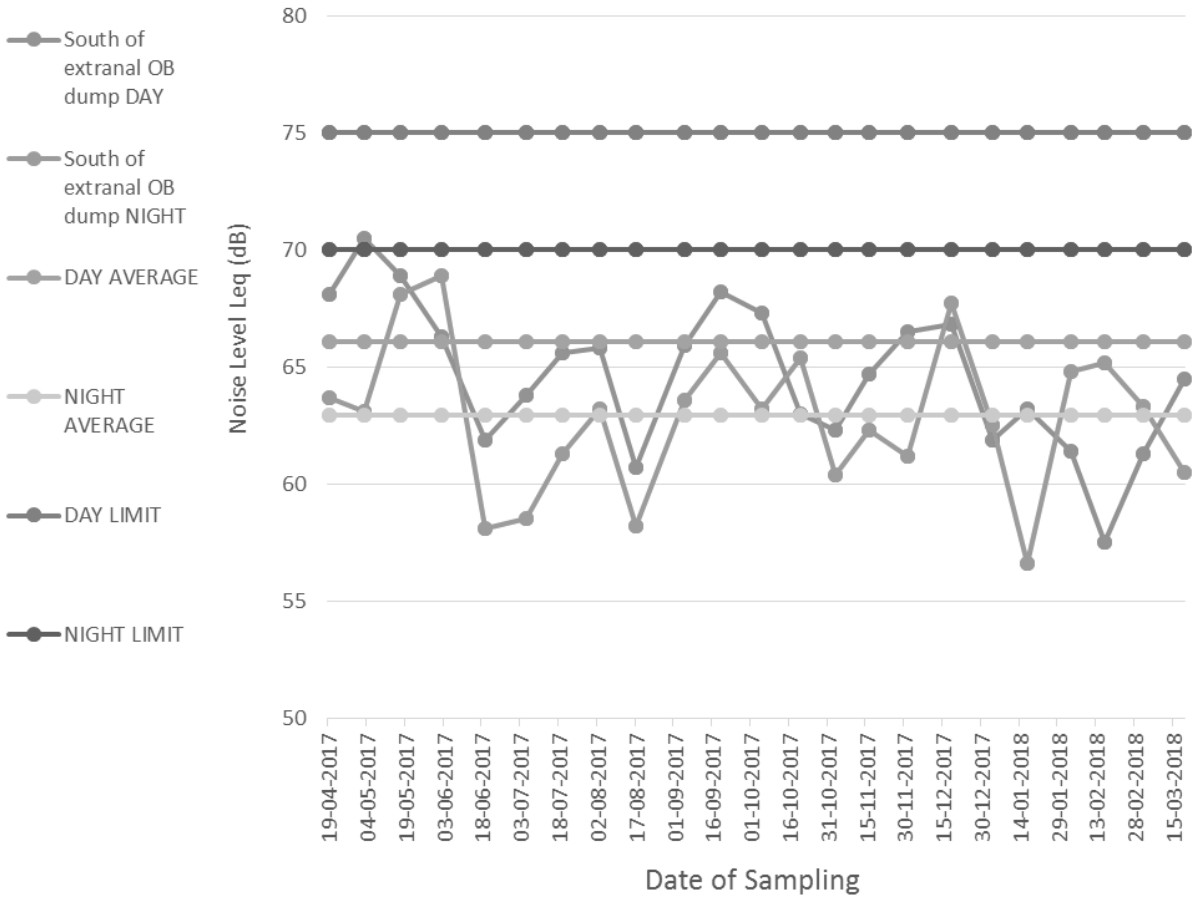


Table 82
Project: Kulda OCP
Monitoring Station: External CT Road

DATE OF SAMPLING	DAY	NIGHT
19-04-2017	68.8	67.2
03-05-2017	67.6	66.5
17-05-2017	69.5	67.7
02-06-2017	64.8	60.1
19-06-2017	68.2	63.8
05-07-2017	67.4	62.7
19-07-2017	68.7	64.9
03-08-2017	68.2	63.3
17-08-2017	65.4	63.7
05-09-2017	67.2	64.2
19-09-2017	69.7	64
05-10-2017	65.7	60.7
20-10-2017	67.3	60.5
04-11-2017	62.6	58
17-11-2017	60.5	54.7
04-12-2017	67.4	63.2
19-12-2017	65.2	60.2
03-01-2018	66.9	59.6
16-01-2018	68.1	52
03-02-2018	60.5	57.5
16-02-2018	62.0	57.1
03-03-2018	58.0	57.9
16-03-2018	66.0	65.6
Brief Statistic (in dB)	Day	Night
Minimum	58	52
Maximum	69.7	67.7
Mean	65.9	61.5
Noise Standard	75	70

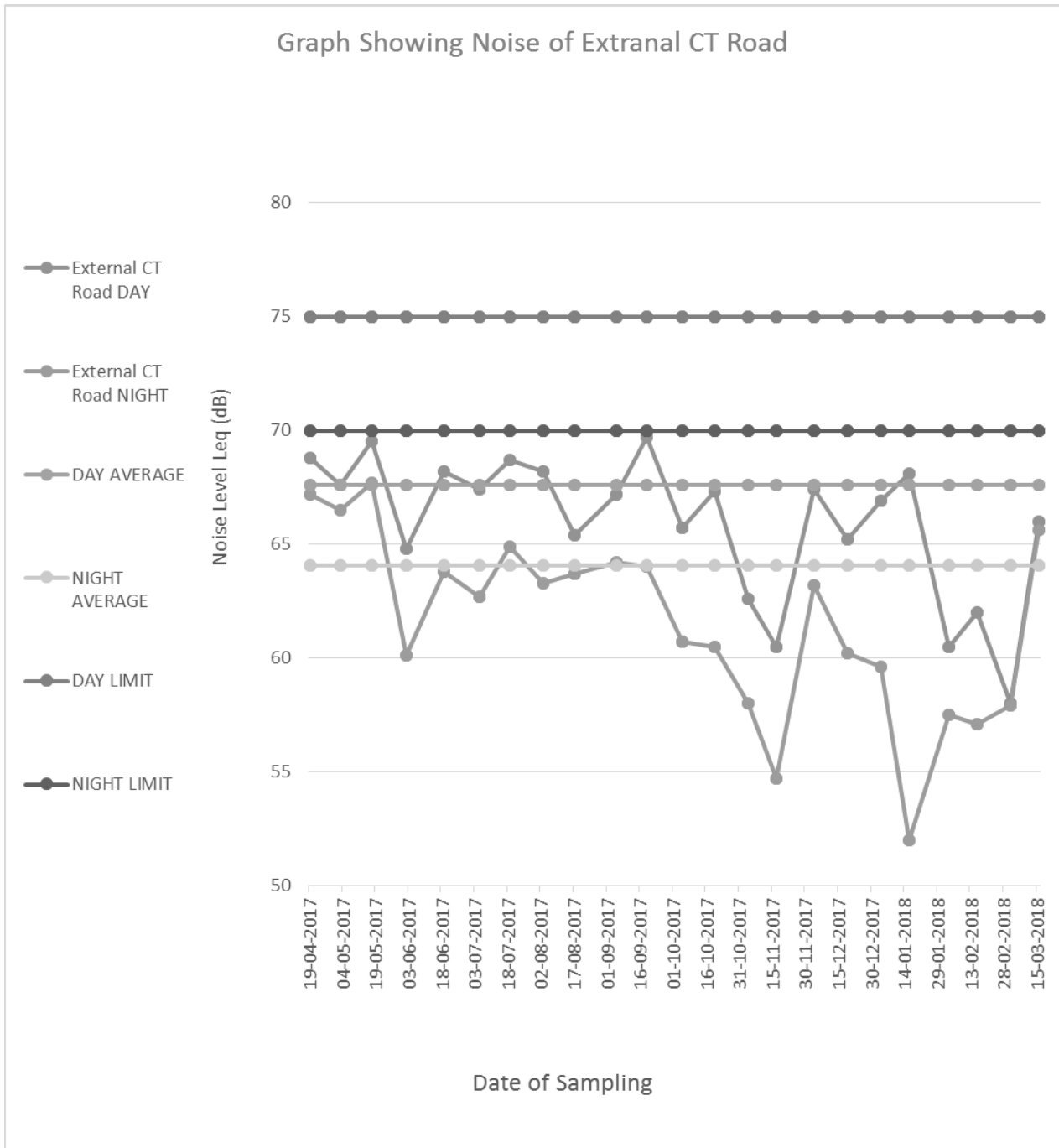


Table 83
Project: Basundhara (W) OCP
Monitoring Station: Khamarpara

DATE OF SAMPLING	DAY	NIGHT
17-Apr-17	68.4	69.9
02-May-17	70.1	67.4
16-May-17	72.4	64.9
01-Jun-17	64.8	60.7
20-Jun-17	66.5	57
03-Jul-17	66.4	63.1
18-Jul-17	67.8	64.5
03-Aug-17	63.2	61.3
16-Aug-17	57	55.1
04-Sep-17	60.5	57.2
18-Sep-17	58.4	56.7
03-Oct-17	65.3	63
16-Oct-17	65.3	63.1
04-Nov-17	51.4	54.7
17-Nov-17	64.2	60.8
04-Dec-17	65.8	65
19-Dec-17	57.8	55.4
03-Jan-18	67.7	65.8
16-Jan-18	66.3	50.9
03-Feb-18	67.8	65.6
16-Feb-18	65.2	67.3
03-Mar-18	66	60.3
16-Mar-18	61.7	60.9
Brief Statistic (in dB)	Day	Night
Minimum	51.4	50.9
Maximum	72.4	69.9
Mean	64.3	61.3
Noise Standard	75	70

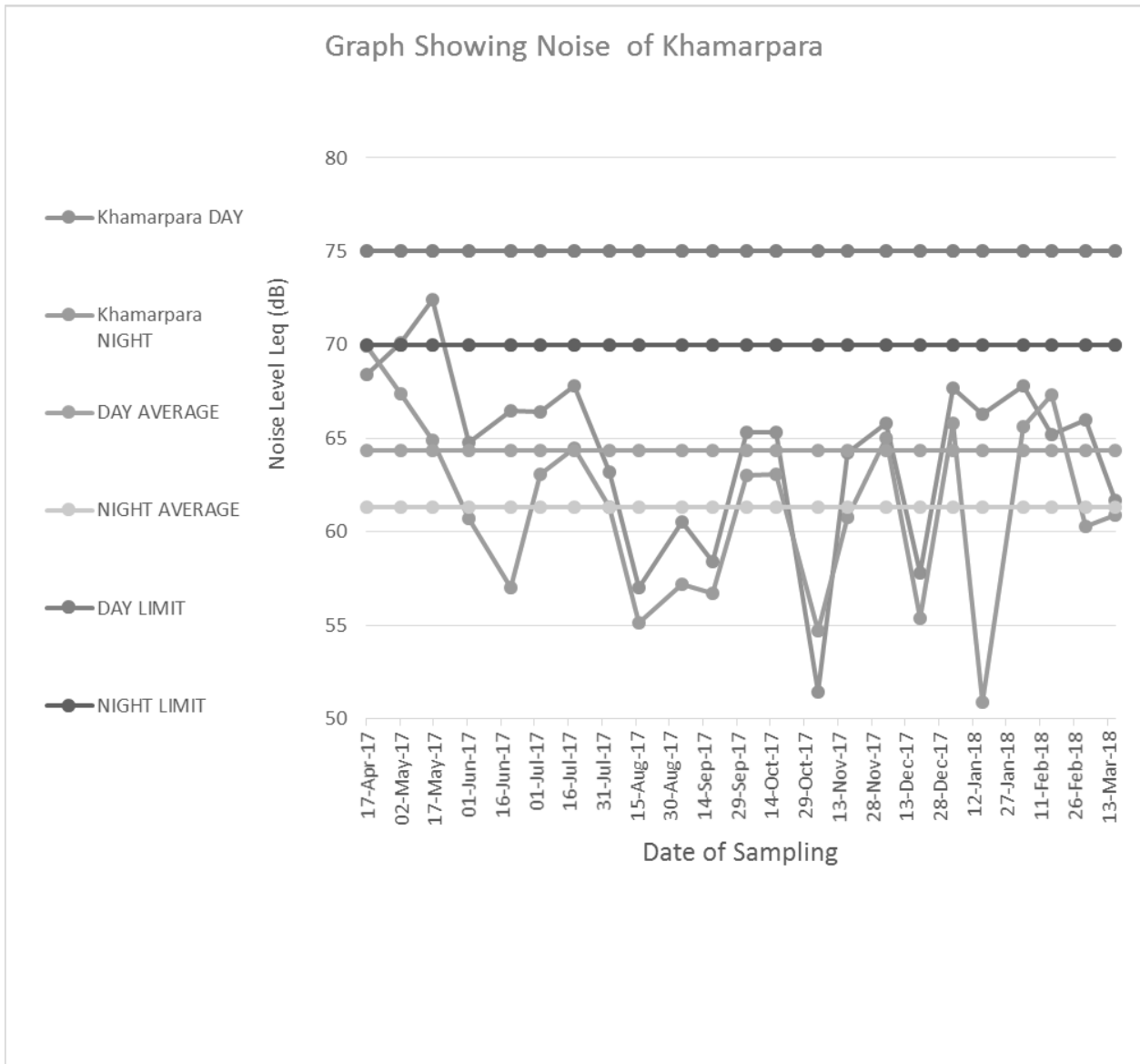


Table 84
Project: Basundhara (W) OCP
Monitoring Station: Tikilipara

DATE OF SAMPLING	DAY	NIGHT
17-Apr-17	67.7	67.1
02-May-17	68.8	65.6
16-May-17	66.6	67.5
01-Jun-17	67.7	62.9
20-Jun-17	68.3	64.9
03-Jul-17	69.5	66.3
19-Jul-17	68.7	65
03-Aug-17	61.6	59
17-Aug-17	68.1	66.9
04-Sep-17	62.4	60.7
18-Sep-17	60.7	58.4
04-Oct-17	64.2	60.1
17-Oct-17	66.2	63.1
03-Nov-17	58.6	55.5
16-Nov-17	63	58.3
01-Dec-17	62.1	60.4
18-Dec-17	60.5	65.8
03-Jan-18	59.8	68.4
17-Jan-18	61.8	63.9
03-Feb-18	66.5	64.5
16-Feb-18	57.1	52.8
03-Mar-18	67.5	58.8
19-Mar-18	66.2	62.1
Brief Statistic (in dB)	Day	Night
Minimum	57.1	52.8
Maximum	69.5	68.4
Mean	64.5	62.5
Noise Standard	75	70

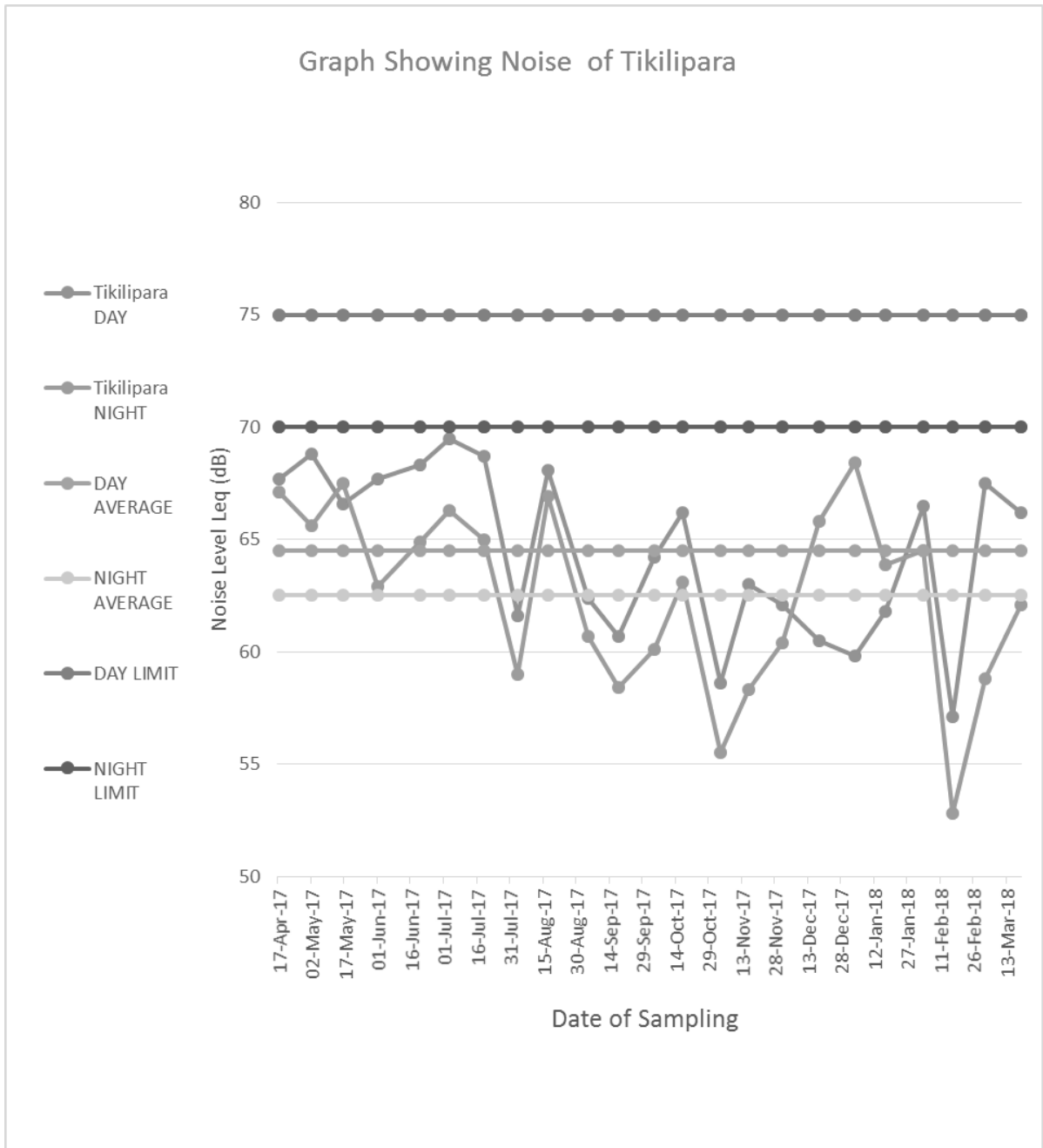


Table 85
Project: Basundhara (W) OCP
Monitoring Station: Near Embankment

DATE OF SAMPLING	DAY	NIGHT
17-Apr-17	58	72.4
02-May-17	68.8	67.2
16-May-17	75.3	72.4
01-Jun-17	69.2	66.2
20-Jun-17	67.8	62.2
03-Jul-17	67.2	61.7
19-Jul-17	66.5	62.4
03-Aug-17	66.5	64.2
16-Aug-17	66.9	68.2
04-Sep-17	66.7	63.4
18-Sep-17	68.4	65.3
03-Oct-17	66.7	63.3
16-Oct-17	62	58.3
04-Nov-17	61.9	60.6
17-Nov-17	60.1	67.9
04-Dec-17	68.5	64.5
19-Dec-17	57.6	53.2
03-Jan-18	67.1	59.9
16-Jan-18	70.1	68.8
03-Feb-18	69.4	69.8
16-Feb-18	68.9	58.4
03-Mar-18	71	66.7
16-Mar-18	68.6	67.8
Brief Statistic (in dB)	Day	Night
Minimum	57.6	53.2
Maximum	75.3	72.4
Mean	66.7	64.6
Noise Standard	75	70

Graph Showing Noise of Near Embankment

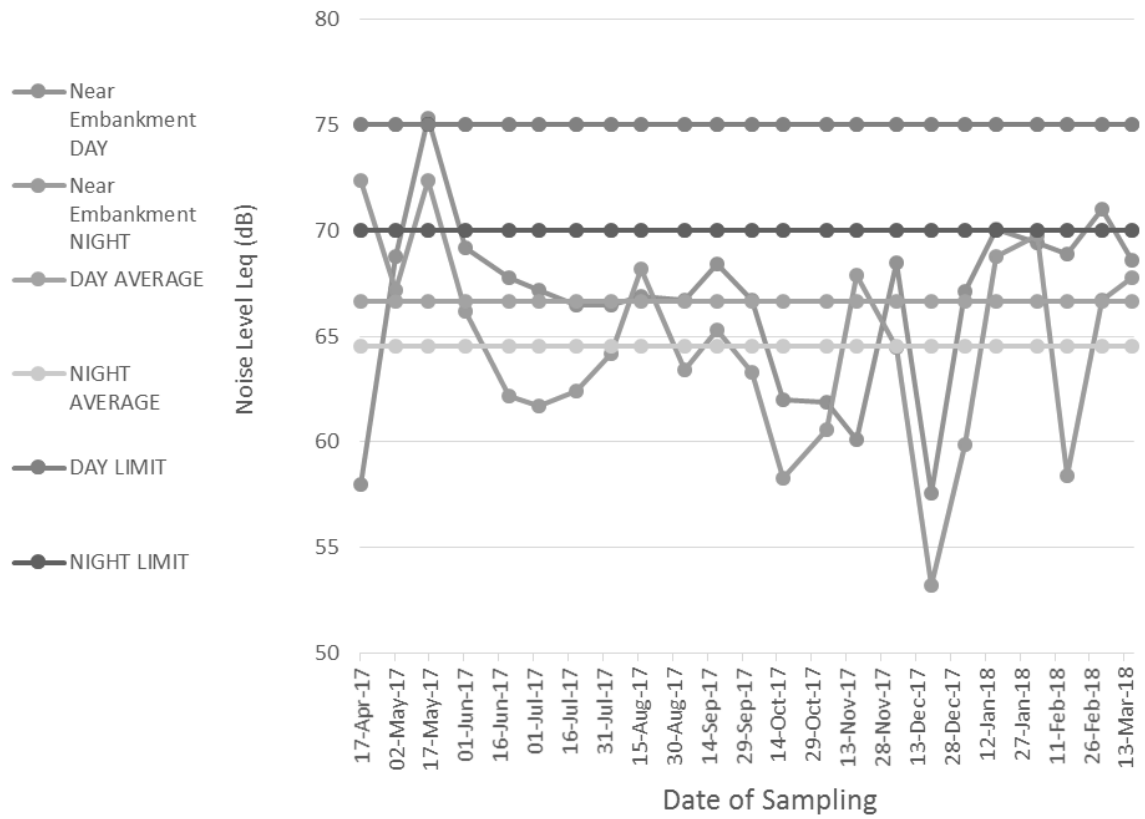


Table 86
Project: Basundhara (W) OCP
Monitoring Station: Near CHP

DATE OF SAMPLING	DAY	NIGHT
17-Apr-17	63.8	72.6
02-May-17	69.4	67.2
16-May-17	68.7	67.5
01-Jun-17	62.7	58.1
20-Jun-17	69.4	66.1
03-Jul-17	65.3	60.9
18-Jul-17	70.1	68.6
03-Aug-17	69.7	65.5
16-Aug-17	69.5	57
04-Sep-17	67.8	64.5
18-Sep-17	65.9	63.5
03-Oct-17	68.1	66.2
16-Oct-17	67.8	65.7
03-Nov-17	68.9	64.8
16-Nov-17	69.1	67.9
01-Dec-17	64.8	63
18-Dec-17	66.5	68.4
03-Jan-18	69.6	66.7
17-Jan-18	70.1	65.7
03-Feb-18	70.3	68.7
16-Feb-18	65.2	65.8
03-Mar-18	61.9	64.7
19-Mar-18	70.8	68.6
Brief Statistic (in dB)	Day	Night
Minimum	61.9	57
Maximum	70.8	72.6
Mean	67.6	65.6
Noise Standard	75	70

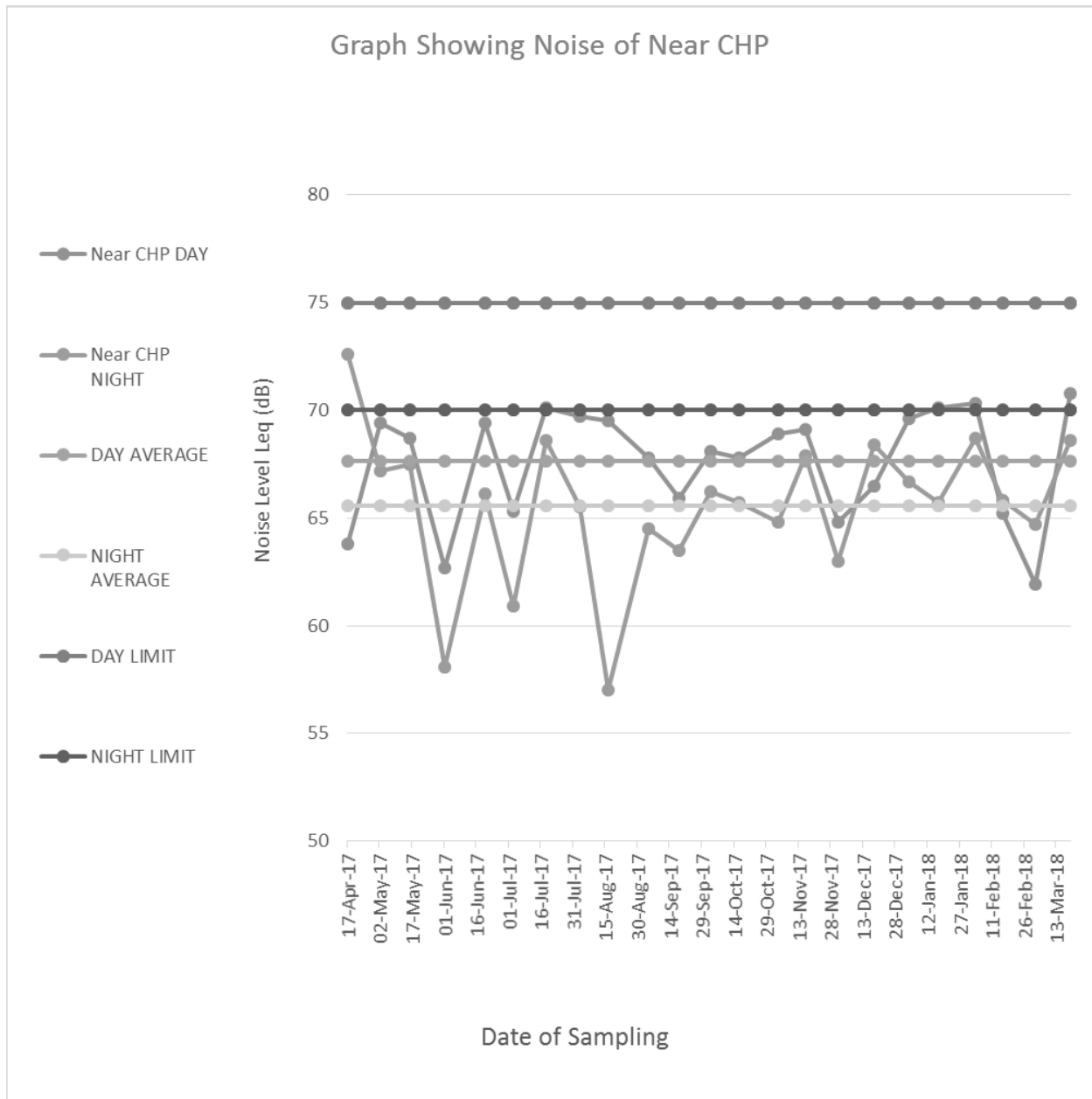


Table 87
Project: Orient Area
Monitoring Station: HRC Mine

DATE OF SAMPLING	DAY	NIGHT
21-04-2017	66.8	62.5
08-05-2017	71.5	71.8
22-05-2017	68.9	64.1
07-06-2017	63.8	65.5
22-06-2017	67.8	62.3
08-07-2017	66.3	62.5
21-07-2017	64.3	59.8
07-08-2017	63.7	60.8
21-08-2017	62.7	62.3
07-09-2017	66.4	62.8
21-09-2017	58.1	55.4
06-10-2017	61.3	58.7
23-10-2017	64.1	60.7
07-11-2017	67.2	64.7
21-11-2017	53.8	60.6
06-12-2017	70.9	61.3
21-12-2017	59.1	59
05-01-2018	68.4	63.6
19-01-2018	57	65.9
06-02-2018	61.6	60.5
20-02-2018	64.9	64.5
07-03-2018	66.7	61.9
21-03-2018	61.3	58.7
Brief Statistic (in dB)	Day	Night
Minimum	53.8	55.4
Maximum	71.5	71.8
Mean	64.2	62.2
Noise Standard	75	70

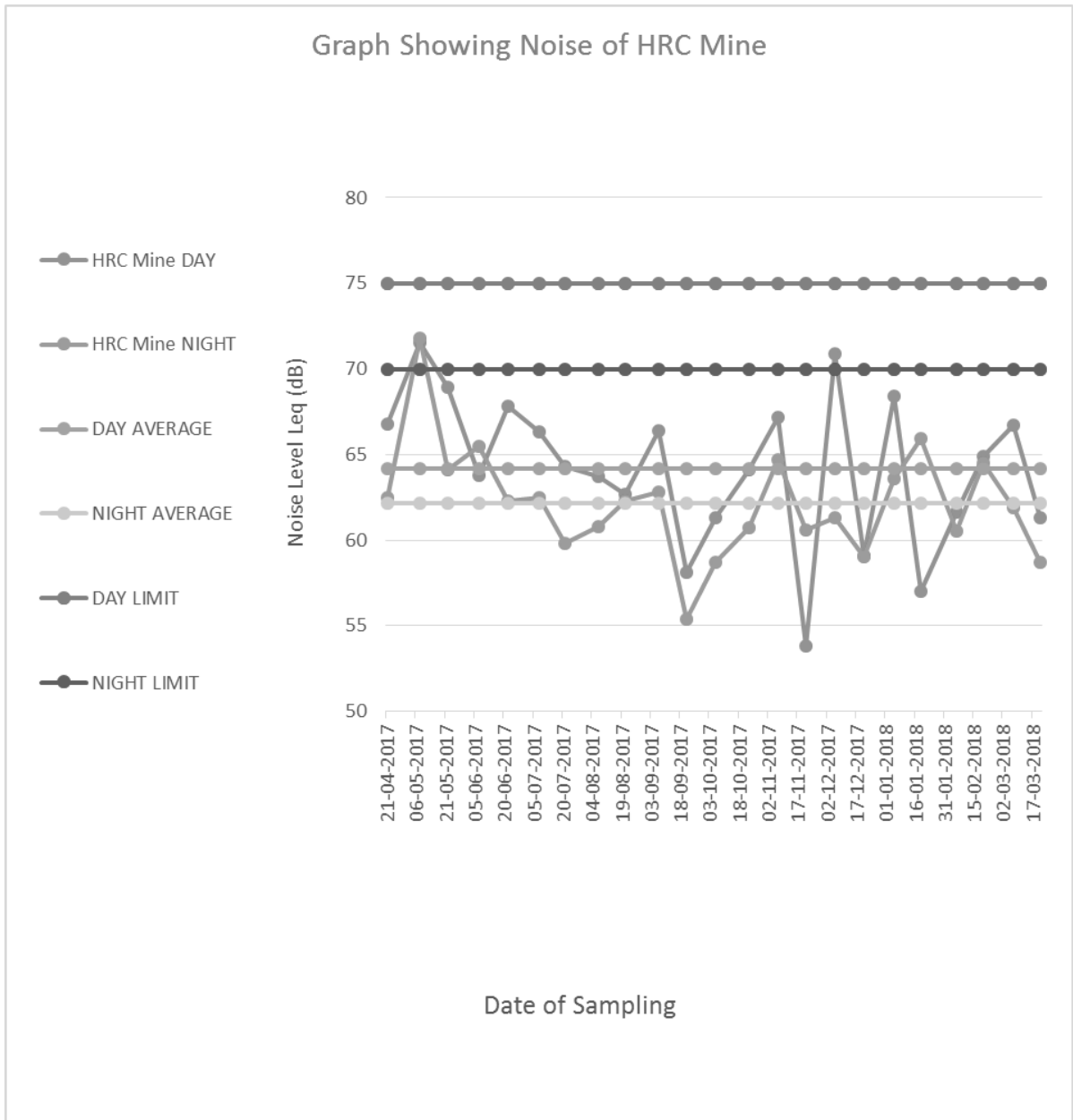


Table 88
Project: Orient Area
Monitoring Station: HBI Mine

DATE OF SAMPLING	DAY	NIGHT
21-04-2017	63	58.6
08-05-2017	68.6	69.7
22-05-2017	77.2	69.8
07-06-2017	67.9	70.8
26-06-2017	71.2	69.8
11-07-2017	69.6	66.8
25-07-2017	69.4	67.9
08-08-2017	68.2	66.5
22-08-2017	62.4	68
11-09-2017	68.5	65.8
25-09-2017	67.8	64.9
09-10-2017	68.5	66.2
25-10-2017	69.9	66.1
08-11-2017	67.3	58.9
22-11-2017	70.9	68.2
07-12-2017	70	62.2
22-12-2017	64.7	63.9
08-01-2018	70.1	68.7
22-01-2018	69.8	60.2
06-02-2018	72.1	68.5
20-02-2018	72.9	68.9
07-03-2018	72.7	67.2
21-03-2018	70.4	68.4
Brief Statistic (in dB)	Day	Night
Minimum	62.4	58.6
Maximum	77.2	70.8
Mean	69.3	66.3
Noise Standard	75	70

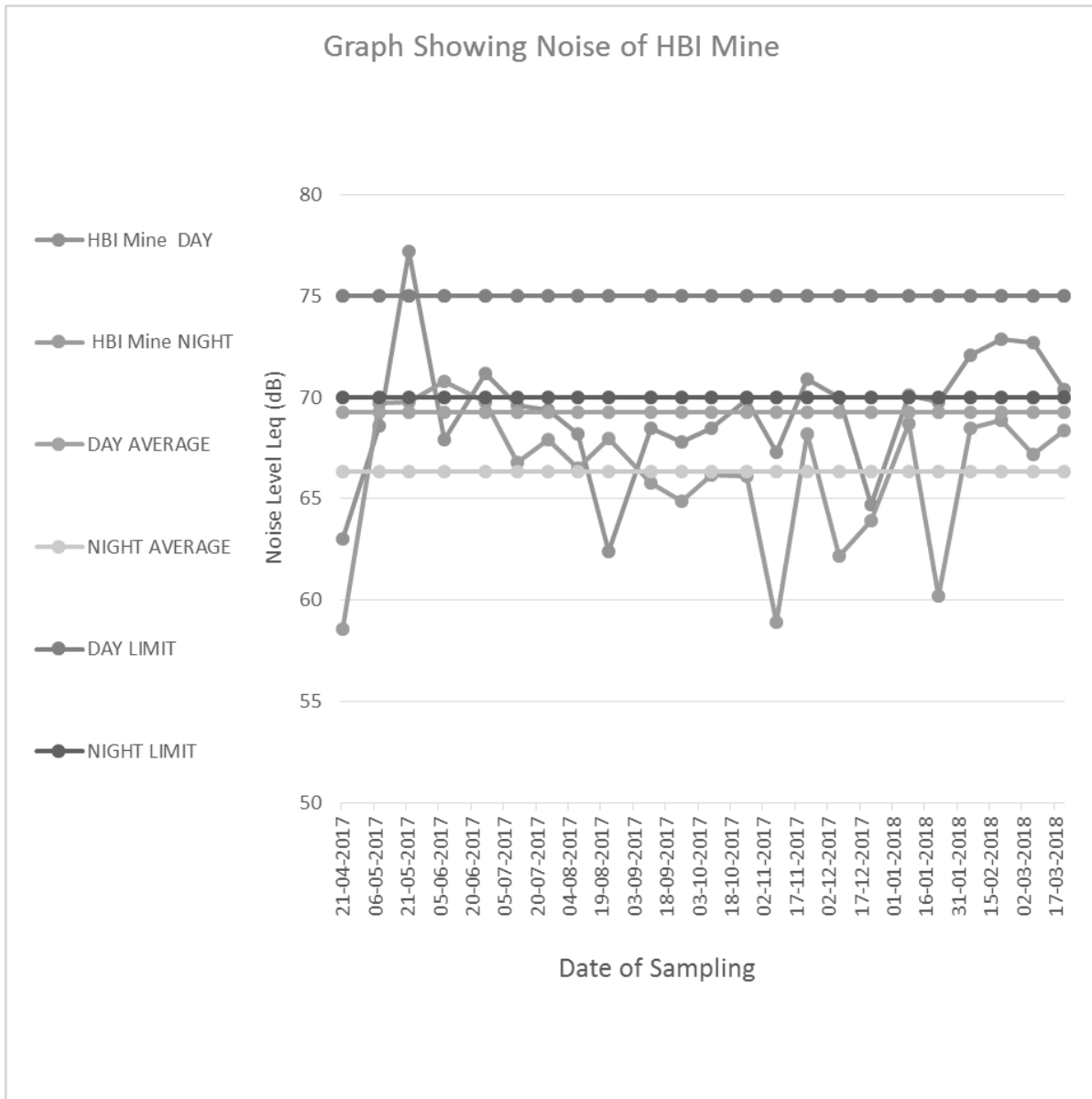


Table 89
Project: Orient Area
Monitoring Station: Rampur Colony

DATE OF SAMPLING	DAY	NIGHT
21-04-2017	58.6	57.8
08-05-2017	65.3	67.5
22-05-2017	59.2	62.7
07-06-2017	58.6	62.7
23-06-2017	68.7	66.3
10-07-2017	66.9	63.4
24-07-2017	65.3	62.6
08-08-2017	62.8	59.1
22-08-2017	68.7	58.1
08-09-2017	64.5	60.7
22-09-2017	61.3	63.7
06-10-2017	65	62.3
23-10-2017	66.2	64.3
08-11-2017	62.2	59.1
22-11-2017	63.4	64.2
07-12-2017	66	60.5
22-12-2017	66.9	56.6
08-01-2018	64.2	57.9
22-01-2018	58.8	56.6
06-02-2018	59.4	64.5
20-02-2018	68.8	62.4
07-03-2018	68.7	61.7
21-03-2018	62.4	58.2
Brief Statistic (in dB)	Day	Night
Minimum	58.6	56.6
Maximum	68.8	67.5
Mean	64.0	61.4
Noise Standard	75	70

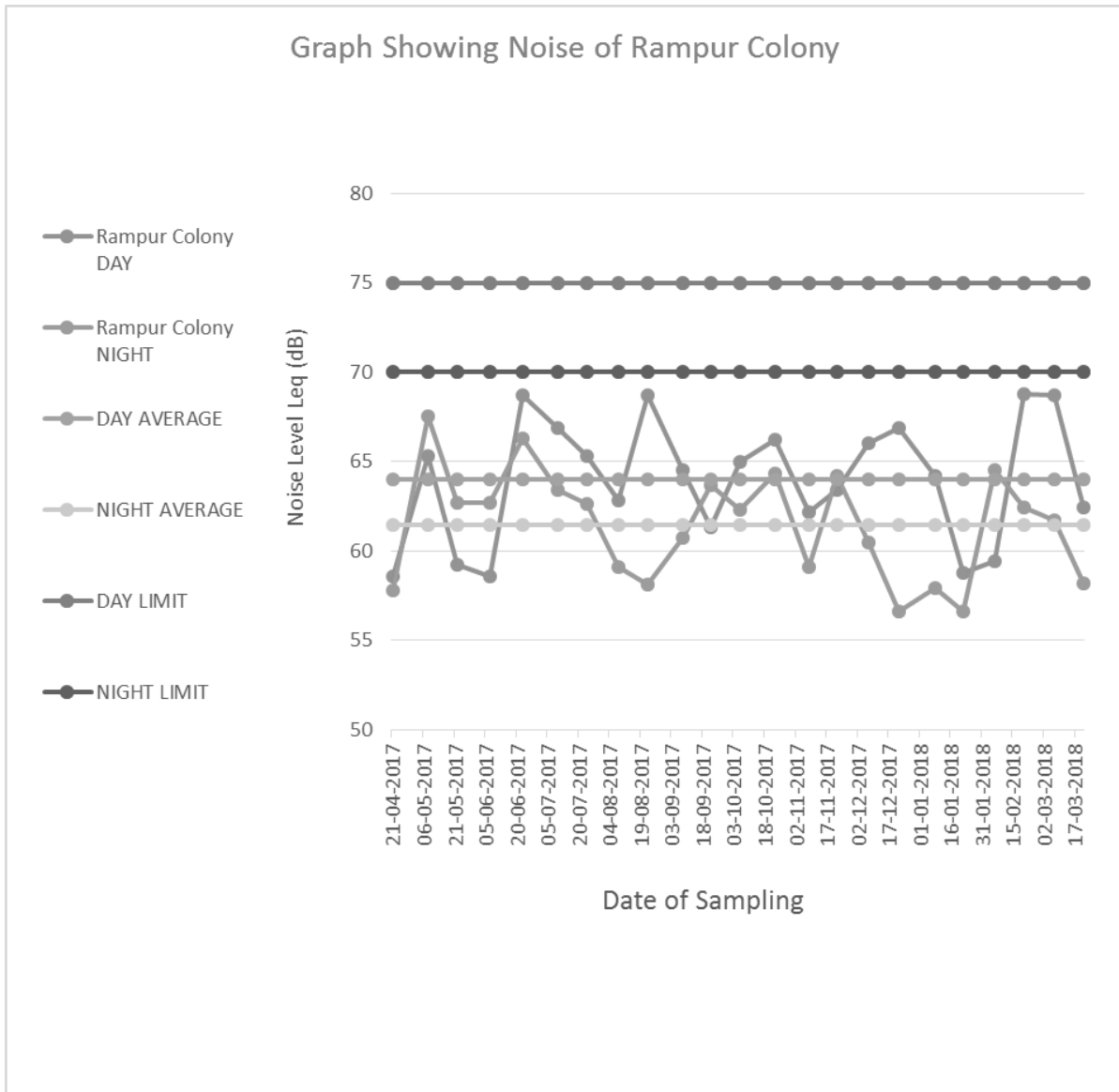


Table 90
Project: Orient Area
Monitoring Station: Orient Mine No.4

DATE OF SAMPLING	DAY	NIGHT
20-04-2017	71.3	69
04-05-2017	72.6	62
19-05-2017	72.6	68.6
06-06-2017	70	68.1
22-06-2017	65.9	63.7
07-07-2017	68.2	63
20-07-2017	71.3	69
04-08-2017	68.5	63.3
18-08-2017	66.1	67.5
06-09-2017	70.2	68.5
20-09-2017	68.2	65.7
05-10-2017	68.9	65.5
20-10-2017	67.8	64.3
06-11-2017	68.7	66.5
20-11-2017	68.3	66.6
05-12-2017	71.2	63.4
20-12-2017	70.7	68.6
04-01-2018	64	67.4
18-01-2018	69.1	65.4
06-02-2018	63.5	69.9
20-02-2018	62.9	63.3
07-03-2018	64.3	69.1
21-03-2018	69.3	67.1
Brief Statistic (in dB)	Day	Night
Minimum	62.9	62
Maximum	72.6	69.9
Mean	68.4	66.3
Noise Standard	75	70

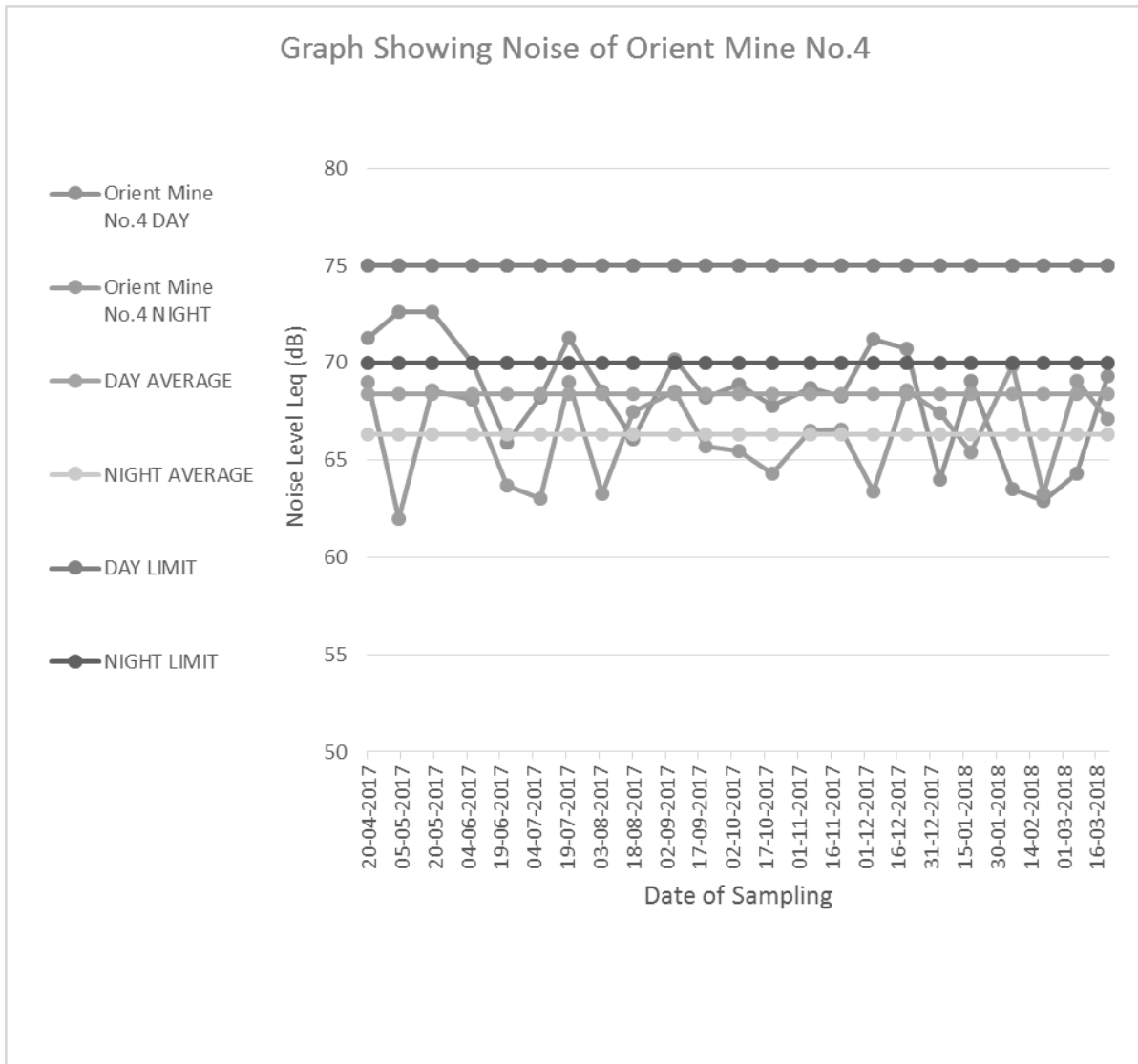


Table 91
Project: Orient Area
Monitoring Station: Orient Mine No.3

DATE OF SAMPLING	DAY	NIGHT
20-04-2017	70.3	71.8
05-05-2017	70.4	69.4
19-05-2017	64.6	68.5
06-06-2017	67.5	59.8
22-06-2017	70	67.4
07-07-2017	65.8	60.9
20-07-2017	68.7	65.9
04-08-2017	71.6	65.4
18-08-2017	68.9	63.5
06-09-2017	67.9	63.7
20-09-2017	65.7	63.4
06-10-2017	64.8	66.2
23-10-2017	69.7	71.6
06-11-2017	70.5	67.2
20-11-2017	67.7	61.8
05-12-2017	61.1	62.3
20-12-2017	68.3	67.2
04-01-2018	67.3	70.3
18-01-2018	74	67.4
06-02-2018	69.7	66.1
20-02-2018	73.2	69.4
07-03-2018	71.8	68.9
21-03-2018	70.8	66.5
Brief Statistic (in dB)	Day	Night
Minimum	61.1	59.8
Maximum	74	71.8
Mean	68.7	66.3
Noise Standard	75	70

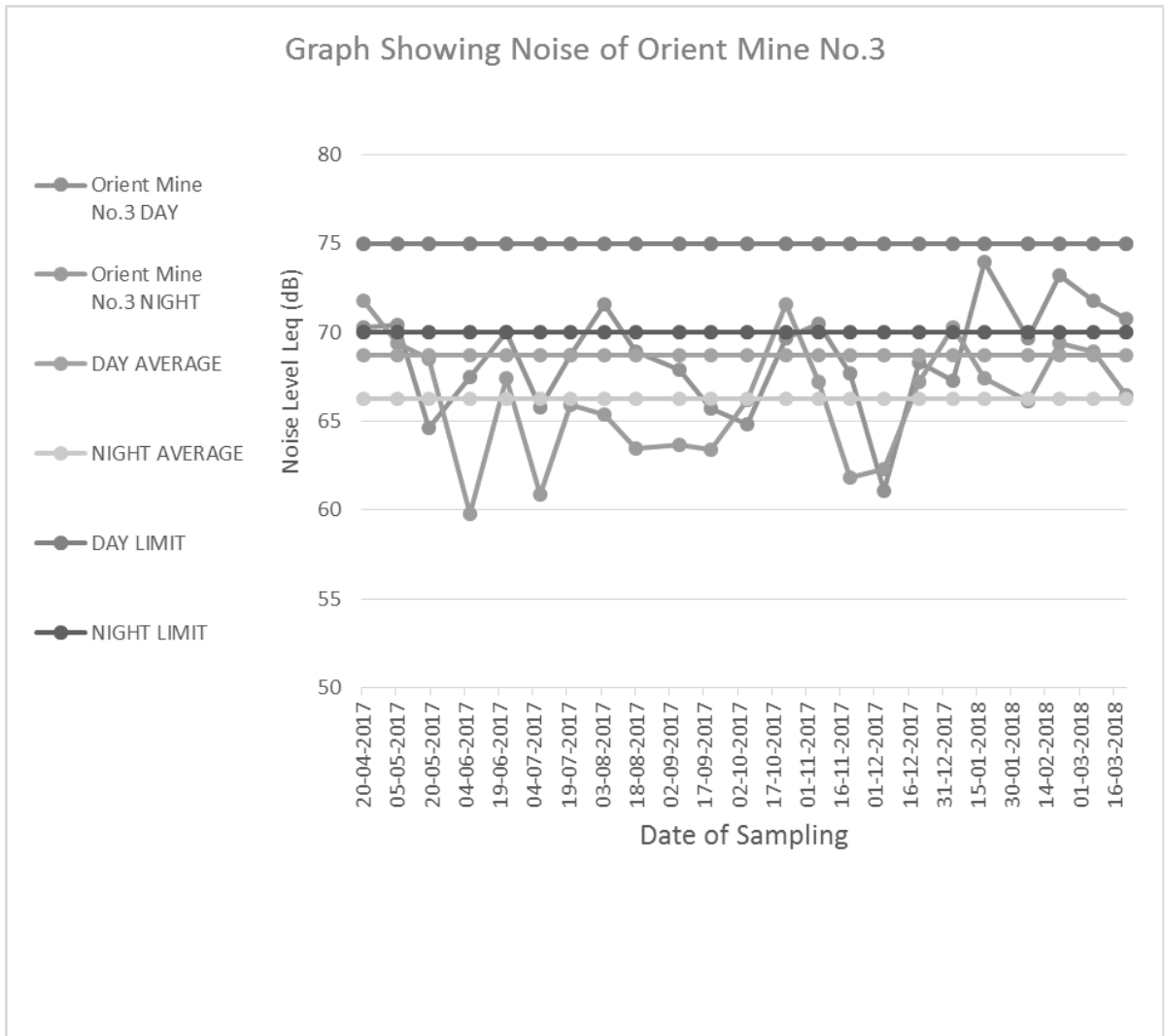


Table 92
Project: Orient Area
Monitoring Station: Orient Mine No.2

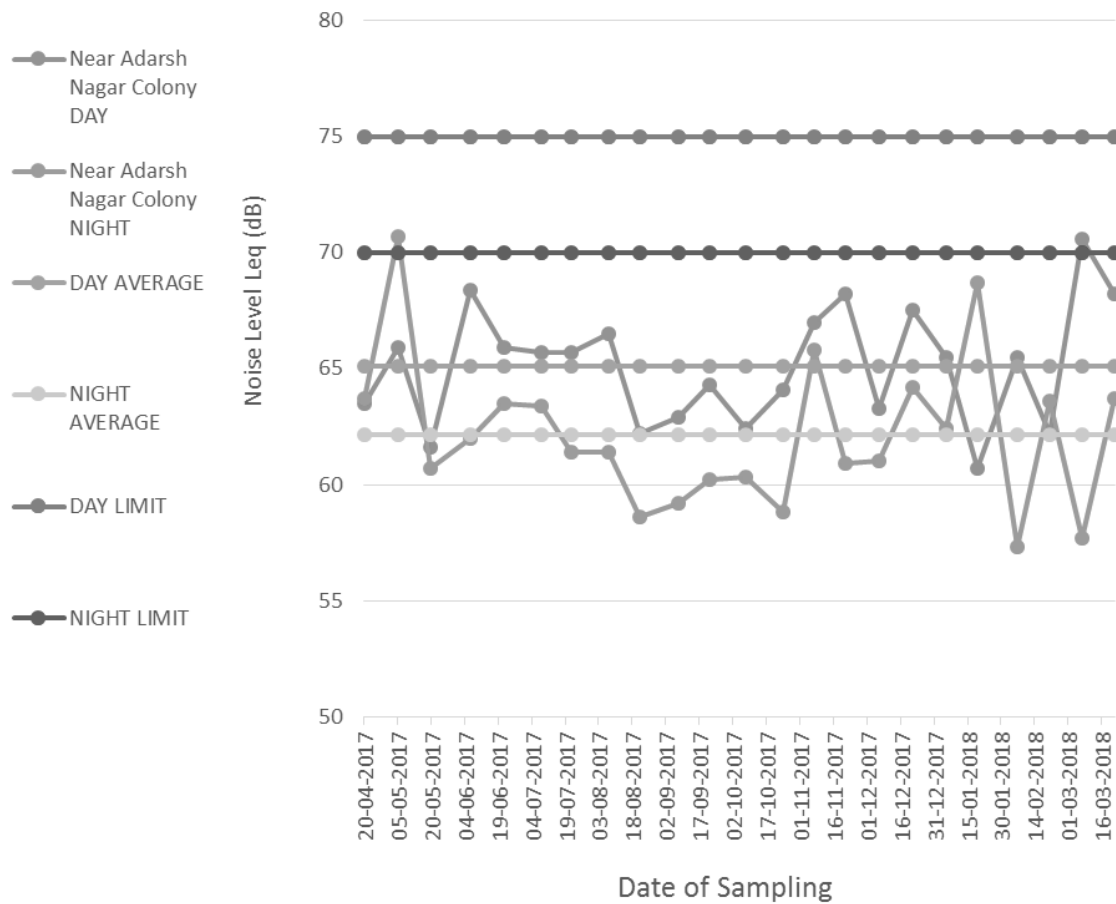
DATE OF SAMPLING	DAY	NIGHT
20-04-2017	64.1	67.6
05-05-2017	60.8	64.8
19-05-2017	62.6	69.6
06-06-2017	69.5	69.9
22-06-2017	68.5	65.9
07-07-2017	64.6	59.8
20-07-2017	66.5	64.9
04-08-2017	70.8	68.5
18-08-2017	70.2	68.5
06-09-2017	69.7	66.4
20-09-2017	66.8	67.2
06-10-2017	67.2	64
23-10-2017	68.9	65.4
06-11-2017	64.3	61.7
20-11-2017	71.4	67.3
05-12-2017	66.8	65.7
20-12-2017	67.9	70
04-01-2018	69.6	68.5
18-01-2018	73.3	70.1
06-02-2018	70	68
20-02-2018	68.7	73.9
07-03-2018	69.7	69.9
21-03-2018	71.9	67.9
Brief Statistic (in dB)	Day	Night
Minimum	60.8	59.8
Maximum	73.3	73.9
Mean	68.0	67.2
Noise Standard	75	70



Table 93
Project: Orient Area
Monitoring Station: Near Adarsh Nagar Colony

DATE OF SAMPLING	DAY	NIGHT
20-04-2017	63.5	63.7
05-05-2017	65.9	70.7
19-05-2017	61.6	60.7
06-06-2017	68.4	62
21-06-2017	65.9	63.5
08-07-2017	65.7	63.4
21-07-2017	65.7	61.4
07-08-2017	66.5	61.4
21-08-2017	62.2	58.6
07-09-2017	62.9	59.2
21-09-2017	64.3	60.2
07-10-2017	62.4	60.3
24-10-2017	64.1	58.8
07-11-2017	67	65.8
21-11-2017	68.2	60.9
06-12-2017	63.3	61
21-12-2017	67.5	64.2
05-01-2018	65.5	62.4
19-01-2018	60.7	68.7
06-02-2018	65.5	57.3
20-02-2018	62.2	63.6
07-03-2018	70.6	57.7
21-03-2018	68.2	63.7
Brief Statistic (in dB)	Day	Night
Minimum	60.7	57.3
Maximum	70.6	70.7
Mean	65.1	62.1
Noise Standard	75	70

Graph Showing Noise of Near Adarsh Nagar Colony



TABLES FOR EFFLUENT WATER QUALITY DATA

Table 94
Project: Samaleswari OCP
Monitoring Station: DETP / STP Outlet

Date of Sampling	pH	Oil & Grease	TSS	COD	BOD
15/04/2017	DRY		DRY		DRY
11/05/2017	6.63	<4.0	54	36	
25/05/2017	DRY	DRY	DRY	DRY	
12/06/2017	No Discharge		No Discharge		No Discharge
27/06/2017	Dry		Dry		Dry

All values are in mg/L except pH

Table 95
Project: Samaleswari OCP
Monitoring Station: Mine Sump Water

Date of Sampling	pH
12/06/2017	6.42
13/09/2017	3.46
14/12/2017	4.25
29/03/2018	6.34

All values are in mg/L except pH

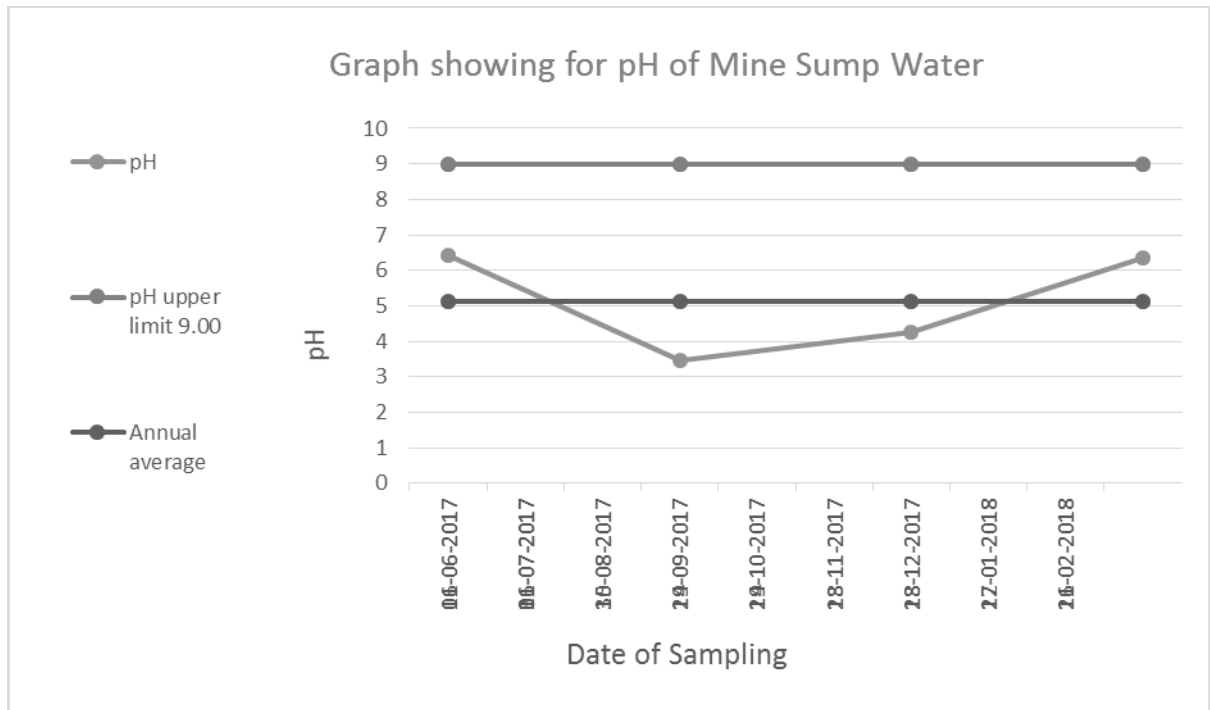


Table 96
Project: Samaleswari OCP
Monitoring Station: Oil & Grease trap Outlet

Date of Sampling	pH	Oil & Grease	TSS	COD
15/04/2017	7.02	<4.0	38	20
26/04/2017	6.9	<4.0	56	44
11/05/2017	6.3	<4.0	22	12
25/05/2017	7.08	<4.0	68	52
12/06/2017	6.08	<4.0	56	44
27/06/2017	5.95	<4.0	70	64
14/07/2017	5.56	<4.0	28	16
28/07/2017	5.62	<4.0	22	12
12/08/2017	6.55	<4.0	42	20
25/08/2017	5.42	<4.0	44	24
13/09/2017	5.56	<4.0	82	104
25/09/2017	6.2	<4.0	34	28
07/10/2017	4.2	<4.0	50	44
30/10/2017	6.54	<4.0	56	48
09/11/2017	7.38	<4.0	24	20
09/11/2017	7.38	<4.0	24	20
29/11/2017	6.48	<4.0	24	20
14/12/2017	4.67	<4.0	16	8
28/12/2017	6.4	<4.0	48	40
13/01/2018	6.3	18.6	8	24
30/01/2018	6.02	22.8	24	52
15/02/2018	6.89	9.8	18	68
28/02/2018	6.62	5.4	14	20
14/03/2018	6.05	10.6	24	400
29/03/2018	4.54	12.6	56	16

All values are in mg/L except pH

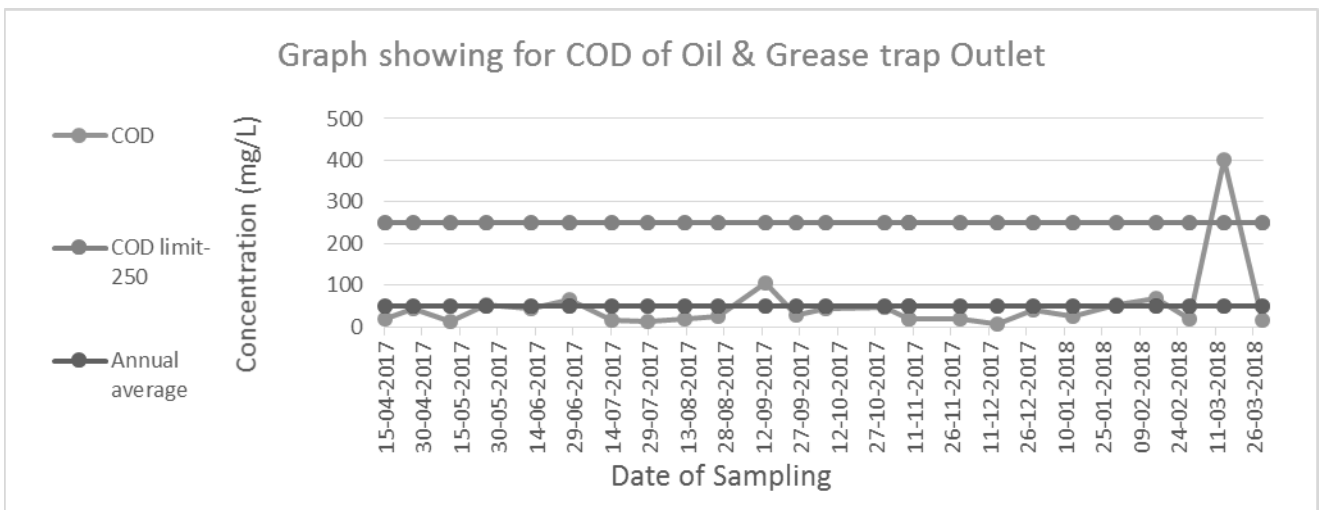
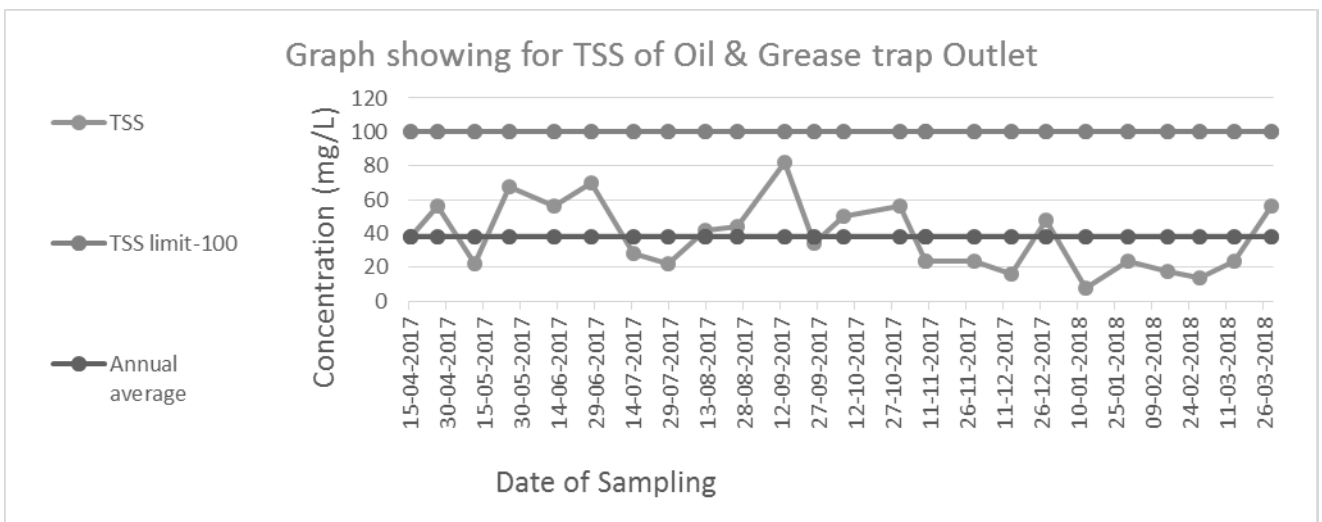
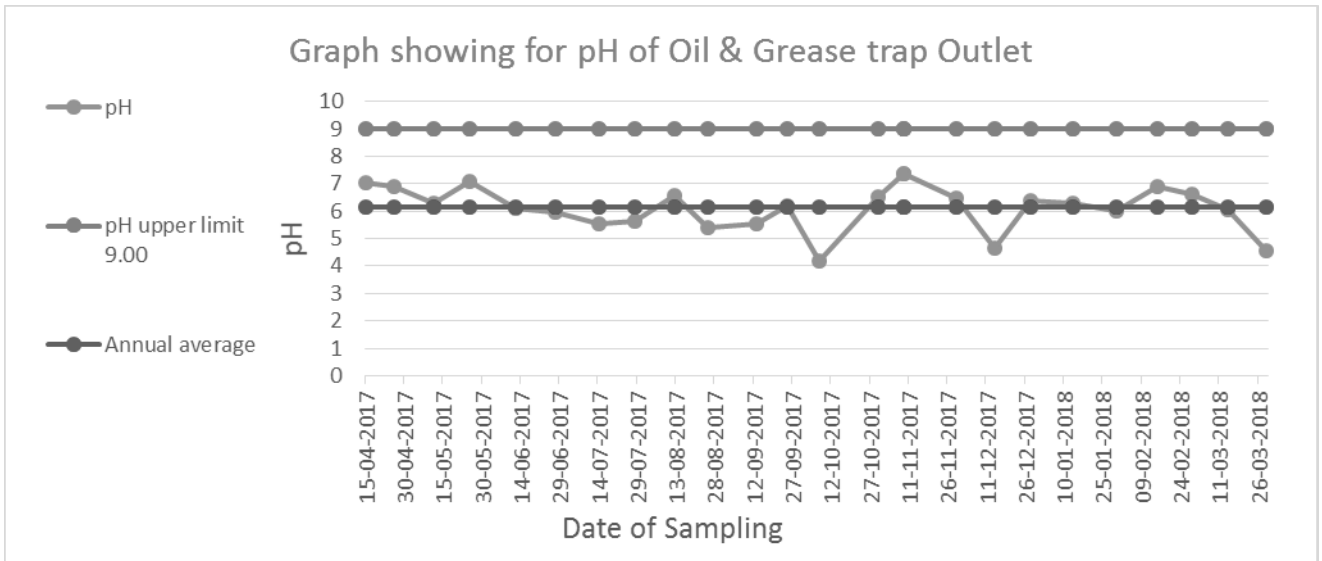


Table 97
Project: Samaleswari OCP
Monitoring Station: Outlet from sedimentation tank (MDTP)

Date of Sampling	pH	Oil & Grease	TSS	COD
15/04/2017	7.28	<4.0	94	180
26/04/2017	6.71	<4.0	68	52
11/05/2017	4.46	<4.0	78	64
25/05/2017	6.54	<4.0	38	24
12/06/2017	6.49	<4.0	52	40
27/06/2017	6.6	<4.0	38	24
14/07/2017	5.65	<4.0	32	24
28/07/2017	5.3	<4.0	44	36
12/08/2017	6.27	<4.0	24	20
25/08/2017	4.75	<4.0	18	16
13/09/2017	3.58	<4.0	48	32
25/09/2017	4.34	<4.0	22	16
07/10/2017	7.42	<4.0	76	64
30/10/2017	4.18	<4.0	26	20
09/11/2017	8.33	<4.0	16	12
09/11/2017	8.33	<4.0	16	12
29/11/2017	3.79	<4.0	14	8
14/12/2017	4.36	<4.0	34	24
28/12/2017	6.56	<4.0	104	280
15/01/2018	6.78	10.4	16	52
30/01/2018	6.97	19.6	18	48
15/02/2018	6.45	8.4	22	128
28/02/2018	6.6	3.6	46	72
14/03/2018	6.2	9.8	32	8
29/03/2018	6.64	7.2	42	16

All values are in mg/L except pH

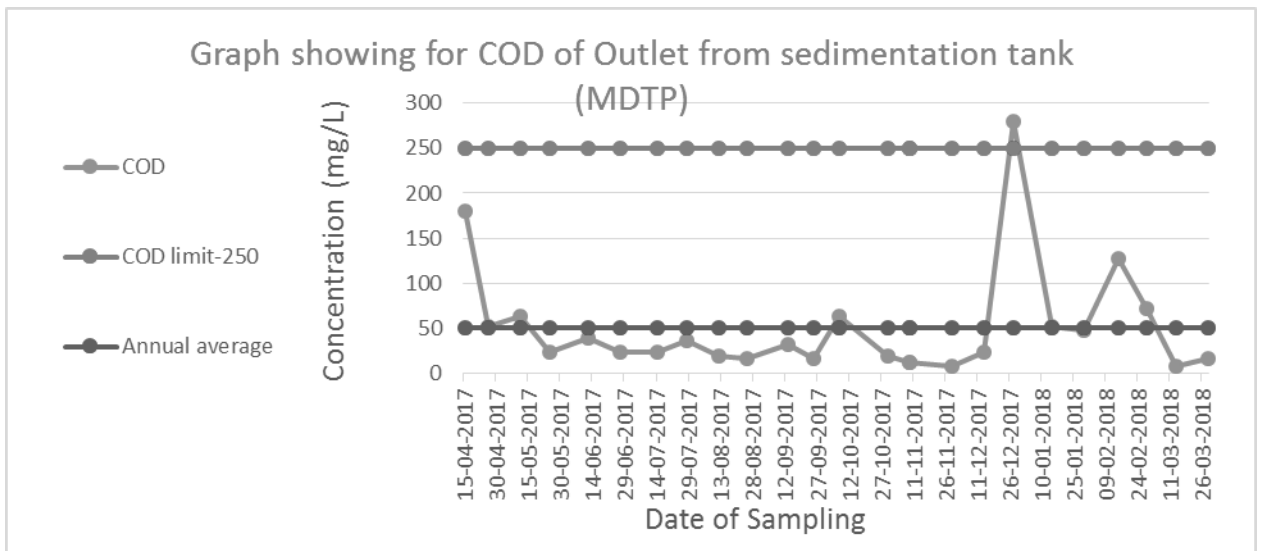
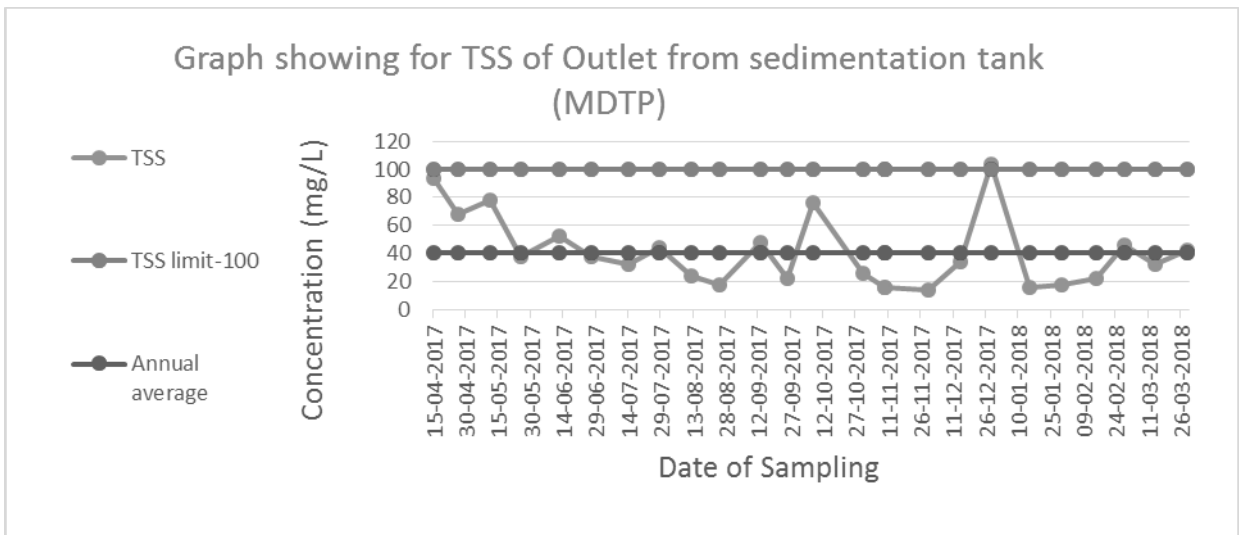
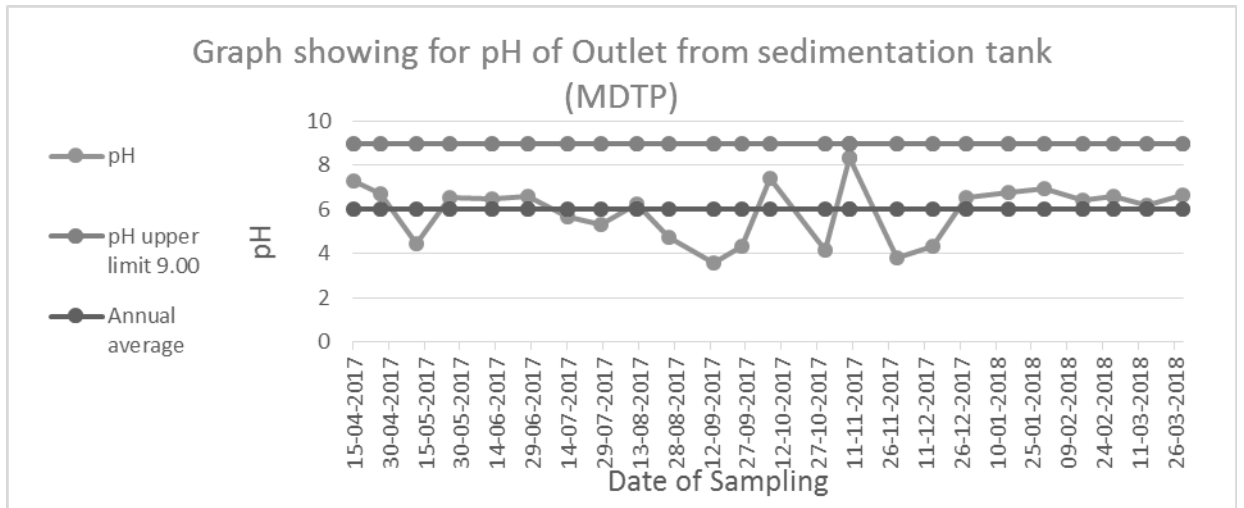


Table 98
Project: Samaleswari OCP
Monitoring Station: STP outlet

Date of Sampling	pH	TSS	BOD
14/07/2017	5.85	32	4.2
28/07/2017	6.05	36	3.3
12/08/2017	6.56	34	4.4
25/08/2017	5.87	52	3.6
13/09/2017	6.04	24	2.5
25/09/2017	6.7	24	2.4
07/10/2017	6.29	22	4
30/10/2017	7.22	24	3.4
09/11/2017	7.2	16	2.5
09/11/2017	7.2	16	2.5
29/11/2017	7.34	18	3.5
14/12/2017	5.85	18	3.4
28/12/2017	DRY	DRY	DRY
13/01/2018	7.02	8	3.1
30/01/2018	6.9	12	3.1
15/02/2018	7.62	12	3.4
28/02/2018	6.8	16	3.2
14/03/2018	6.94	48	3.2
29/03/2018	6.72	46	2.3

All values are in mg/L except pH

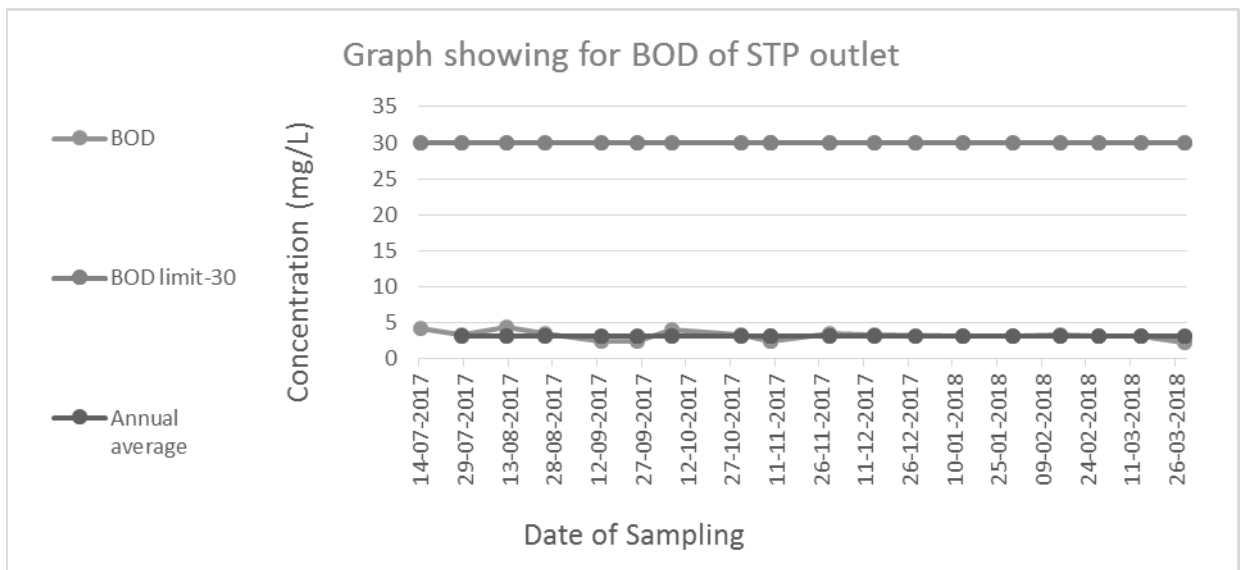
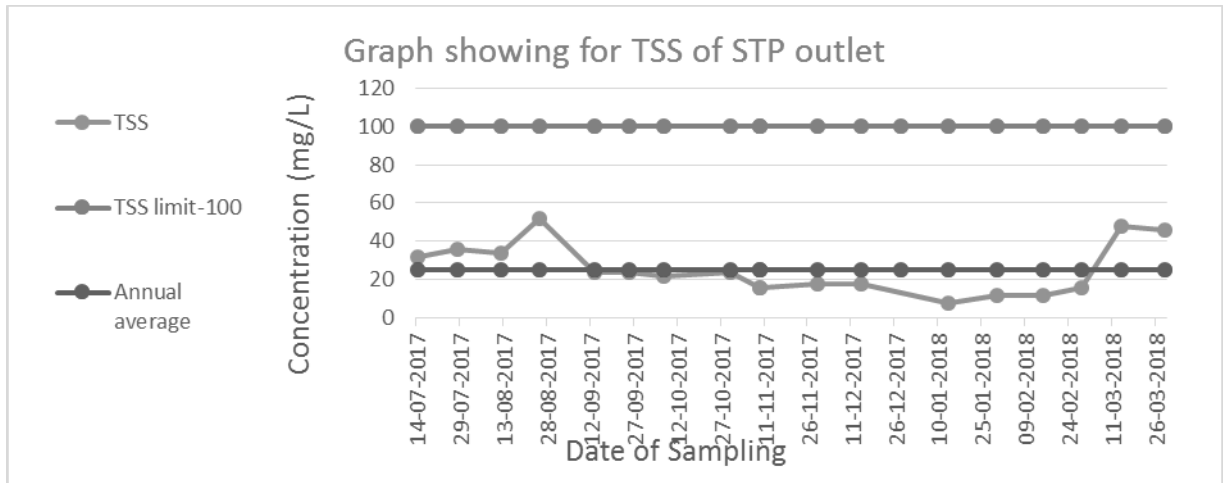
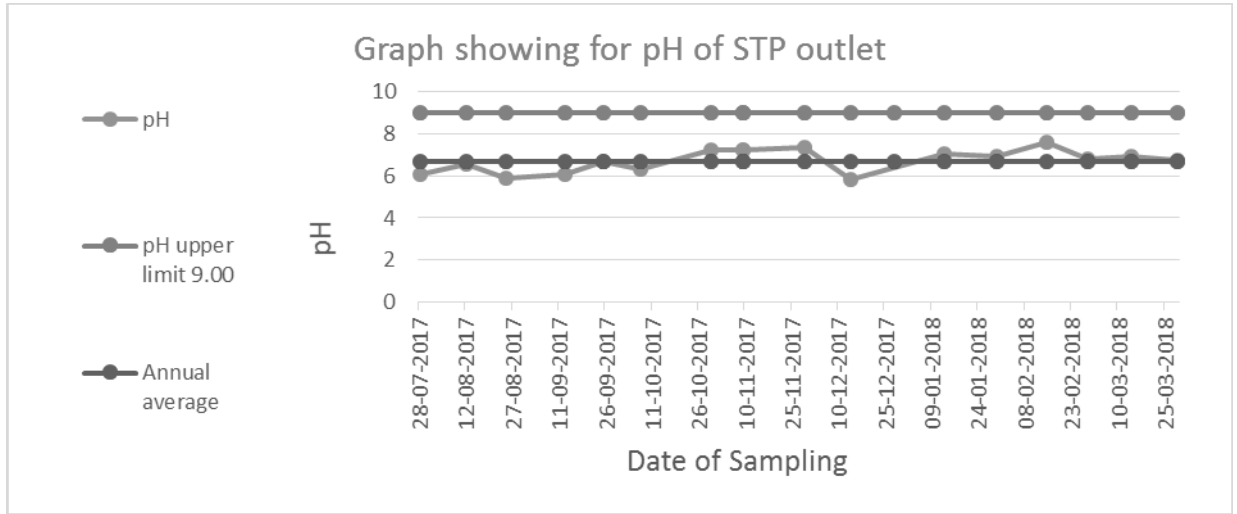


Table 99
Project: Lajkura OCP
Monitoring Station: d/s of Baghmara Nala at discharge point

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	7.53	<4.0	28	16
26-04-2017	7.11	<4.0	36	24
11-05-2017	6.55	<4.0	42	20
25-05-2017	6.61	<4.0	74	68
12-06-2017	7.01	<4.0	32	28
27-06-2017	6.38	<4.0	54	48
14-07-2017	5.9	<4.0	28	16
28-07-2017	6.35	<4.0	34	28
12-08-2017	6.79	<4.0	32	12
25-08-2017	6.02	<4.0	36	28
13-09-2017	5.68	<4.0	54	48
25-09-2017	6.82	<4.0	32	20
07-10-2017	7.36	<4.0	72	60
30-10-2017	5.76	<4.0	44	32
09-11-2017	7.5	<4.0	78	72
09-11-2017	7.5	<4.0	78	72
29-11-2017	7.3	<4.0	18	16
14-12-2017	6.67	<4.0	28	16
28-12-2017	6.55	<4.0	20	12
13-01-2018	6.12	<4.0	8	32
30-01-2018	6.75	11	14	52
15-02-2018	7.23	7.6	26	72
28-02-2018	6.95	2.6	32	28
14-03-2018	6.93	8.4	36	28
28-03-2018	7.09	12.2	62	12

All values are in mg/L except pH

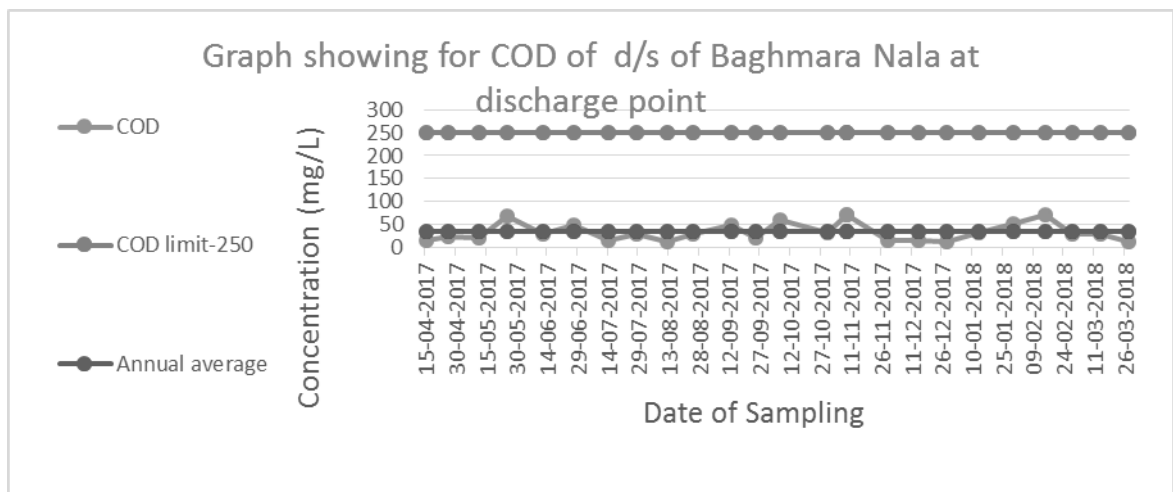
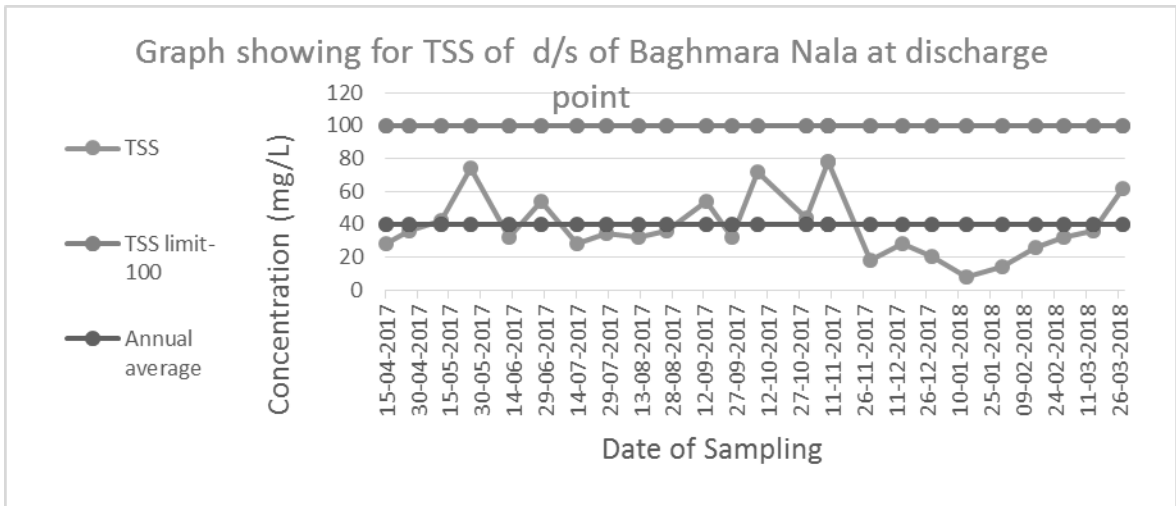
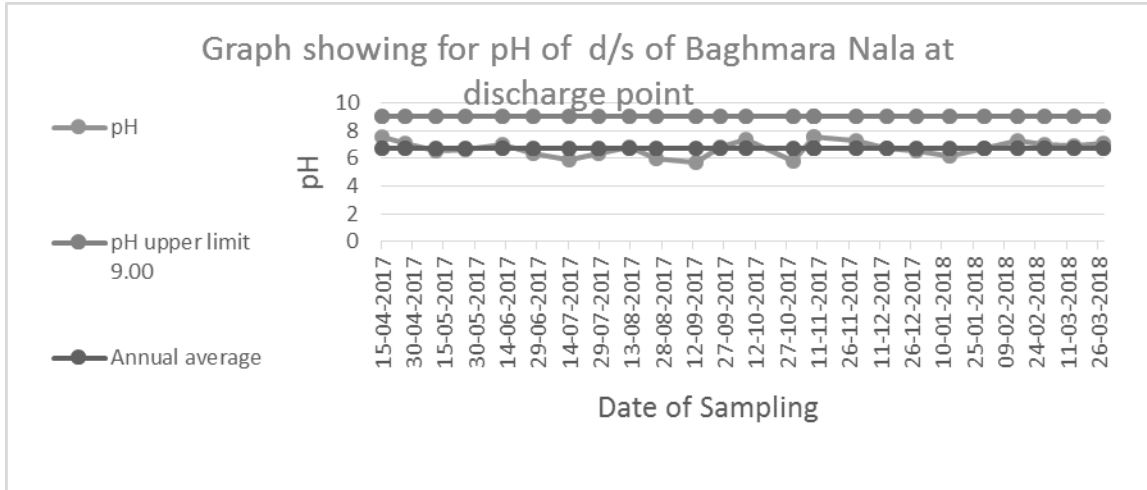
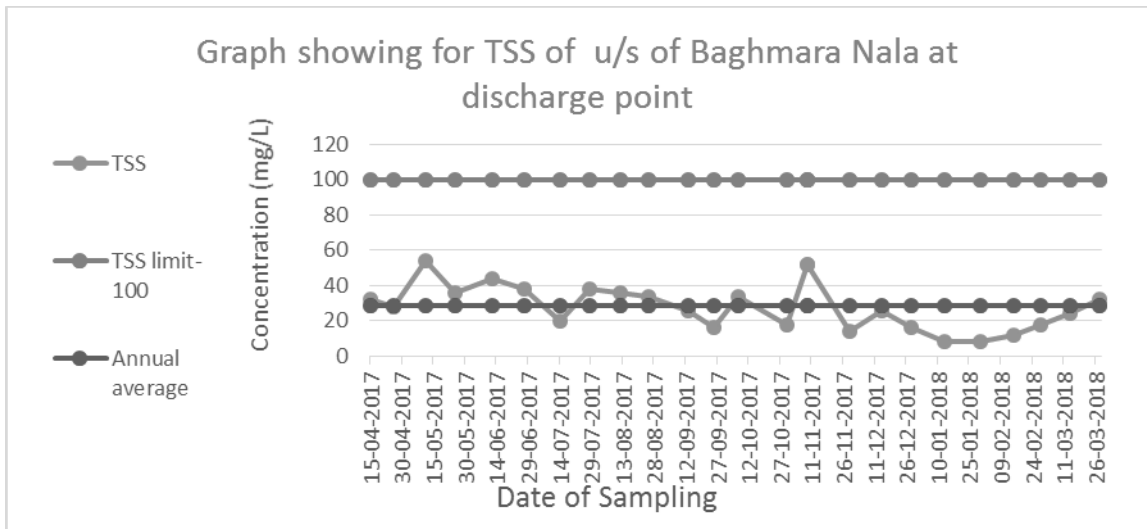
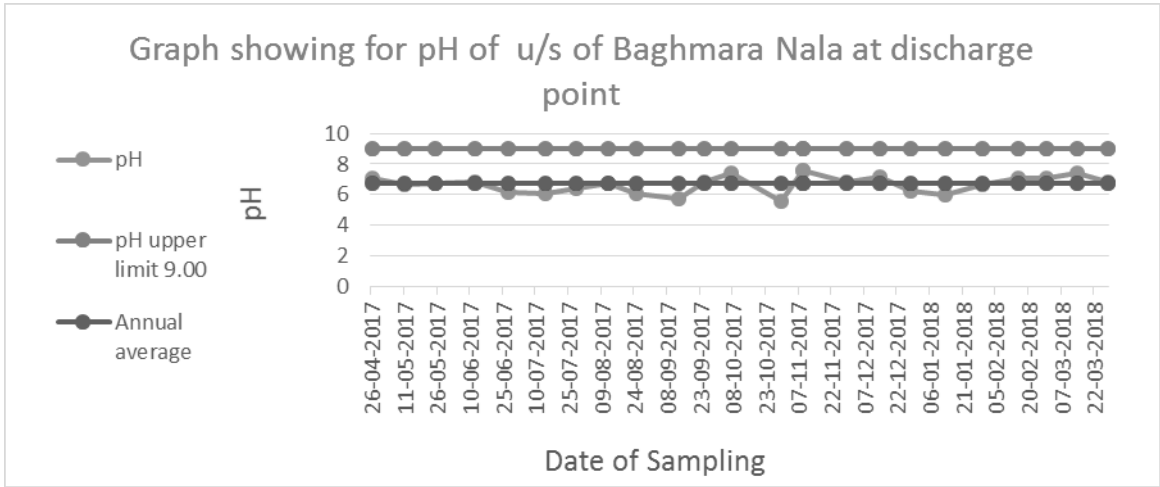


Table 100
Project: Lajkura OCP
Monitoring Station: u/s of Baghmara Nala at discharge point

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	7.5	<4.0	32	28
26-04-2017	7.09	<4.0	28	12
11-05-2017	6.63	<4.0	54	36
25-05-2017	6.74	<4.0	36	20
12-06-2017	6.83	<4.0	44	32
27-06-2017	6.13	<4.0	38	24
14-07-2017	6.1	<4.0	20	12
28-07-2017	6.42	<4.0	38	24
12-08-2017	6.76	<4.0	36	12
25-08-2017	6.04	<4.0	34	16
13-09-2017	5.74	<4.0	26	16
25-09-2017	6.79	<4.0	16	8
07-10-2017	7.42	<4.0	34	28
30-10-2017	5.55	<4.0	18	12
09-11-2017	7.58	<4.0	52	44
09-11-2017	7.58	<4.0	52	44
29-11-2017	6.8	<4.0	14	8
14-12-2017	7.19	<4.0	26	8
28-12-2017	6.24	<4.0	16	8
13-01-2018	5.96	16	8	12
30-01-2018	6.68	18.6	8	20
15-02-2018	7.08	8.6	12	8
28-02-2018	7.04	9.6	18	36
14-03-2018	7.39	9.8	24	12
28-03-2018	6.8	9.6	32	24

All values are in mg/L except pH



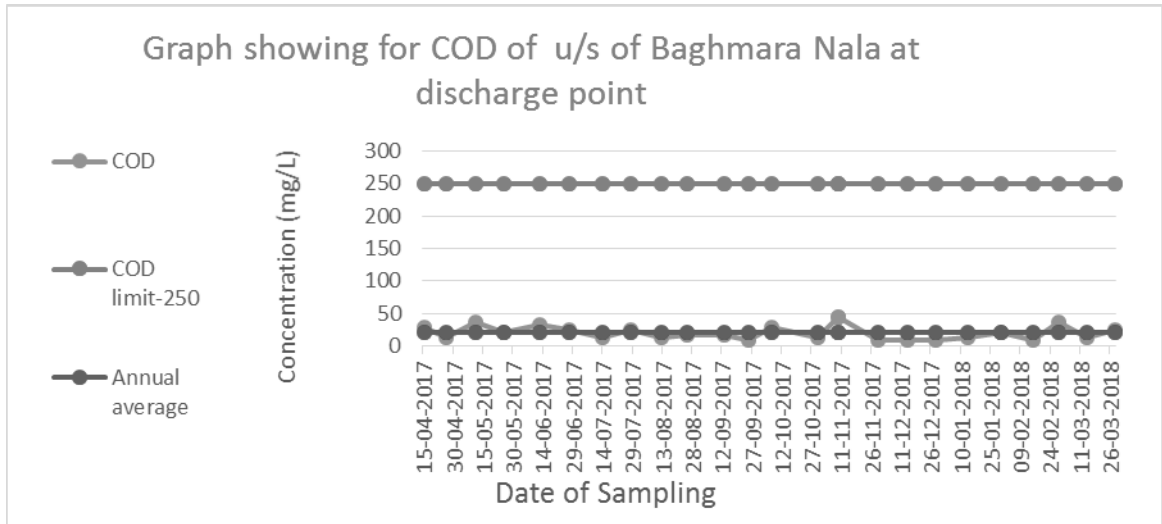


Table 101
Project: Lajkura OCP
Monitoring Station: Outlet of Oil & Grease trap

Date of Sampling	pH	Oil & Grease	TSS	COD
11-05-2017	6.43	<4.0	36	24
25-05-2017	7.03	<4.0	18	8
12-06-2017	6.87	<4.0	16	4
27-06-2017	6.35	<4.0	66	52
14-07-2017	5.8	<4.0	92	80
28-07-2017	6.25	<4.0	28	20
12-08-2017	6.7	<4.0	28	16
25-08-2017	5.95	<4.0	102	324
13-09-2017	5.57	<4.0	110	440
07-10-2017	7.17	<4.0	88	168
09-11-2017	7.28	<4.0	40	32
09-11-2017	7.28	<4.0	40	32
29-11-2017	7.85	<4.0	26	24
12-01-2018	6.95	<4.0	102	240
14-03-2018	7.44	4	26	8

All values are in mg/L except pH

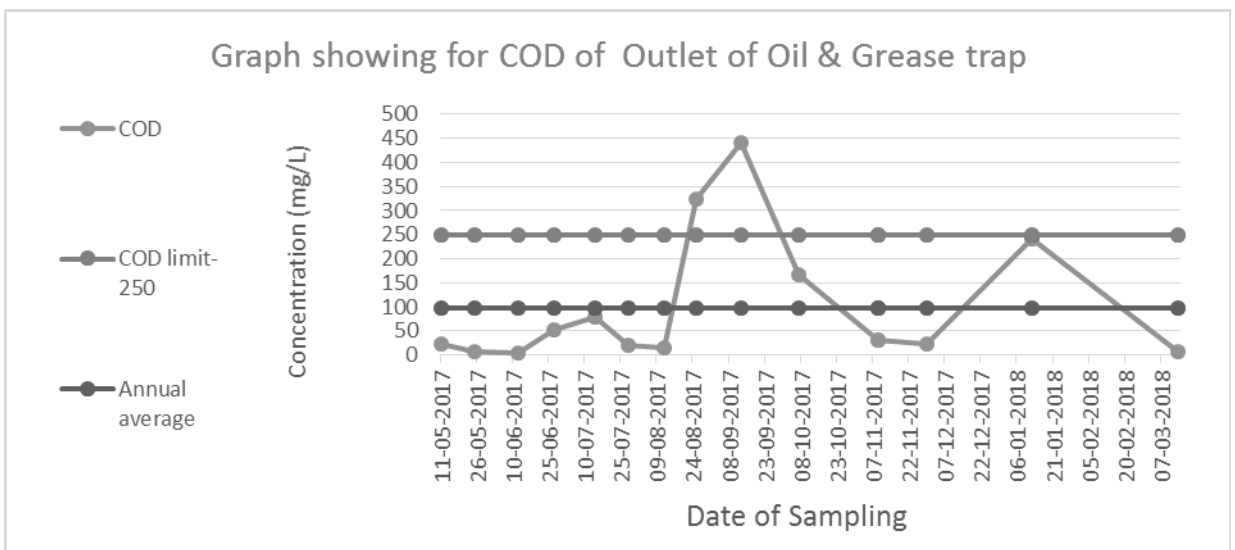
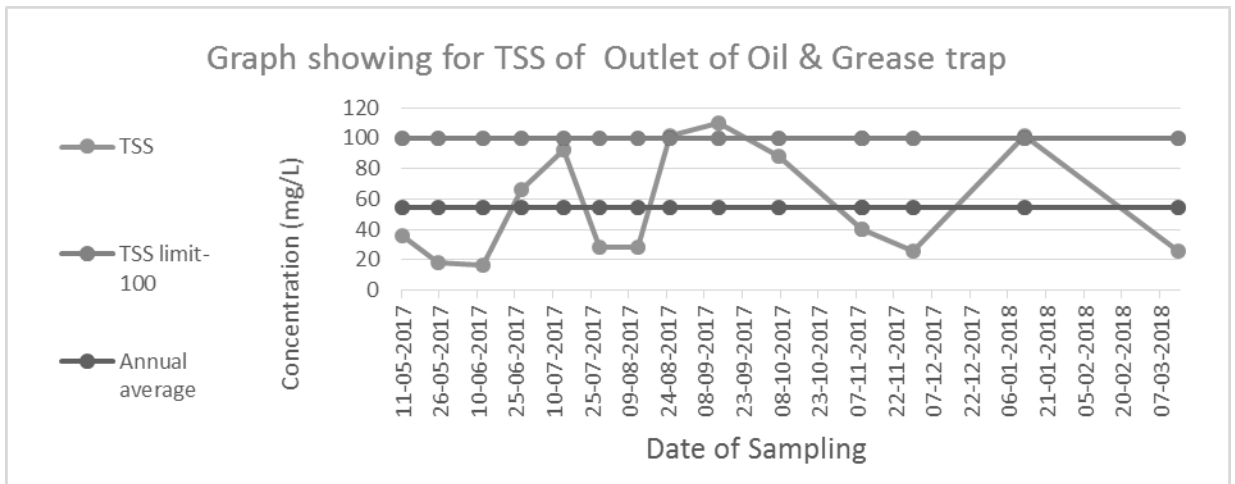
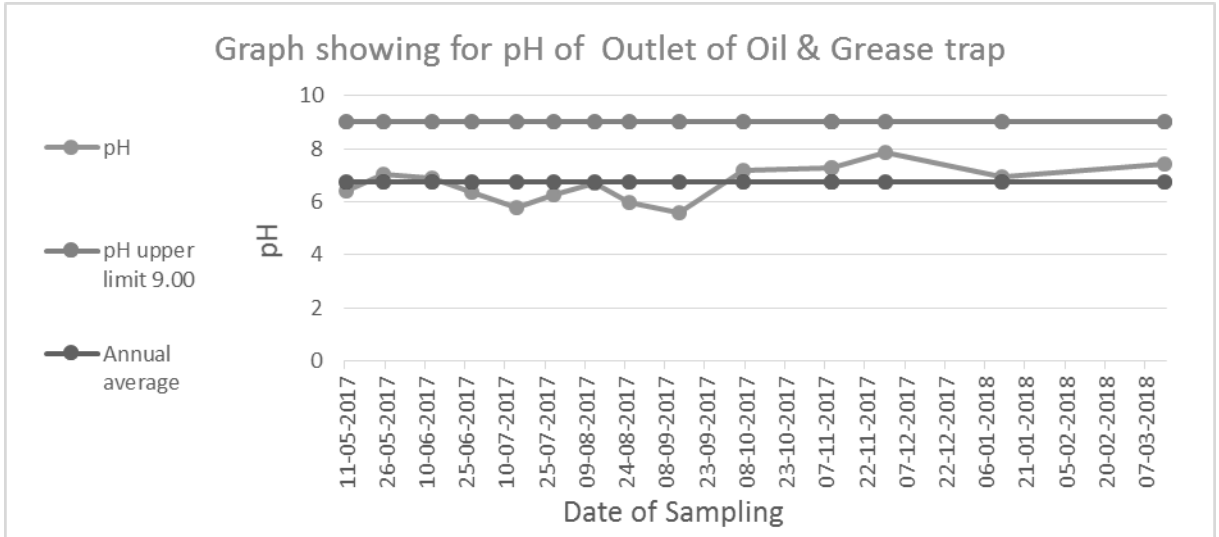


Table 102
Project: Lajkura OCP
Monitoring Station: Mine Sump Water

Date of Sampling	pH
12-06-2017	6.53
13-09-2017	3.3
14-12-2017	3.3
28-03-2018	5.4

All values are in mg/L except pH

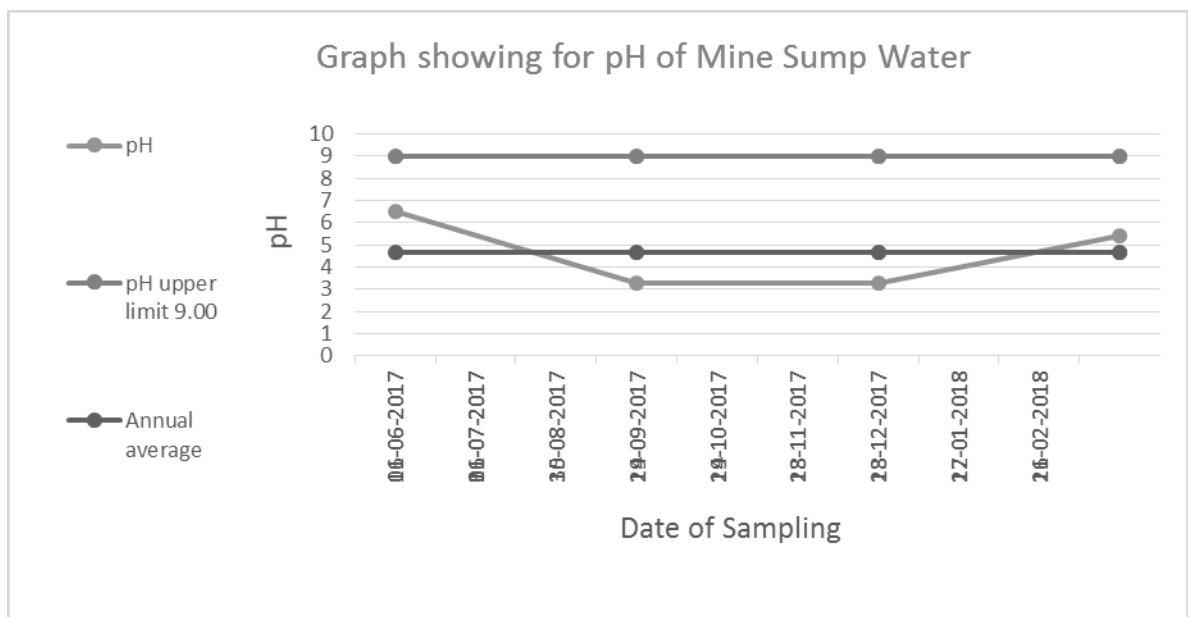


Table 103
Project: Lajkura OCP
Monitoring Station: Inlet of Oil & Grease trap

Date of Sampling	pH	Oil & Grease	TSS	COD
25-09-2017	6.84	<4.0	52	44
30-10-2017	6.88	<4.0	38	24
14-12-2017	7.16	<4.0	22	12
28-12-2017	7.12	<4.0	18	12
30-01-2018	7.35	20	26	104
15-02-2018	7.74	7.8	20	44
27-02-2018	7.35	9.8	24	48
28-03-2018	7.35	11.8	34	8

All values are in mg/L except pH

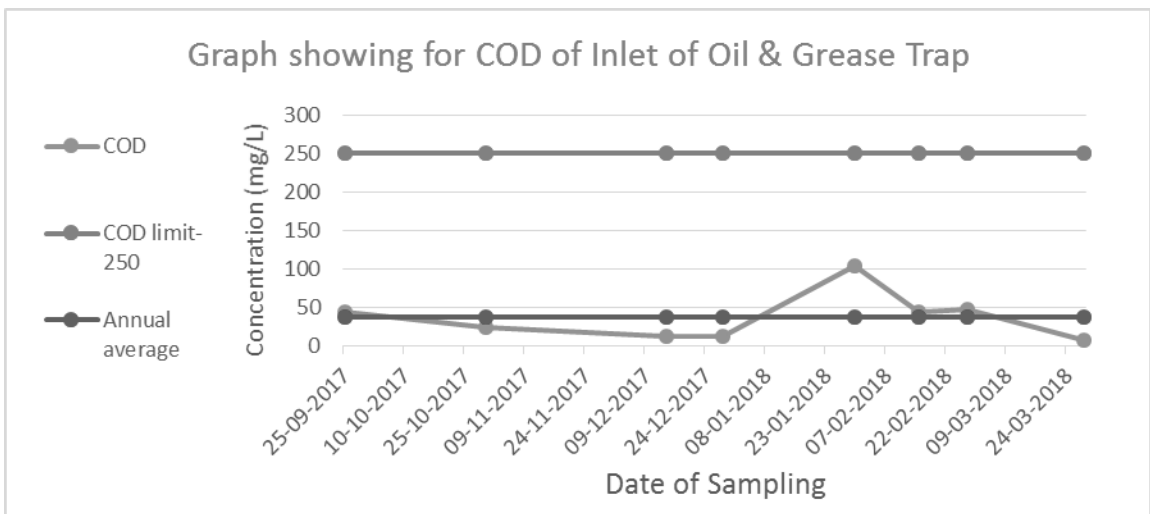
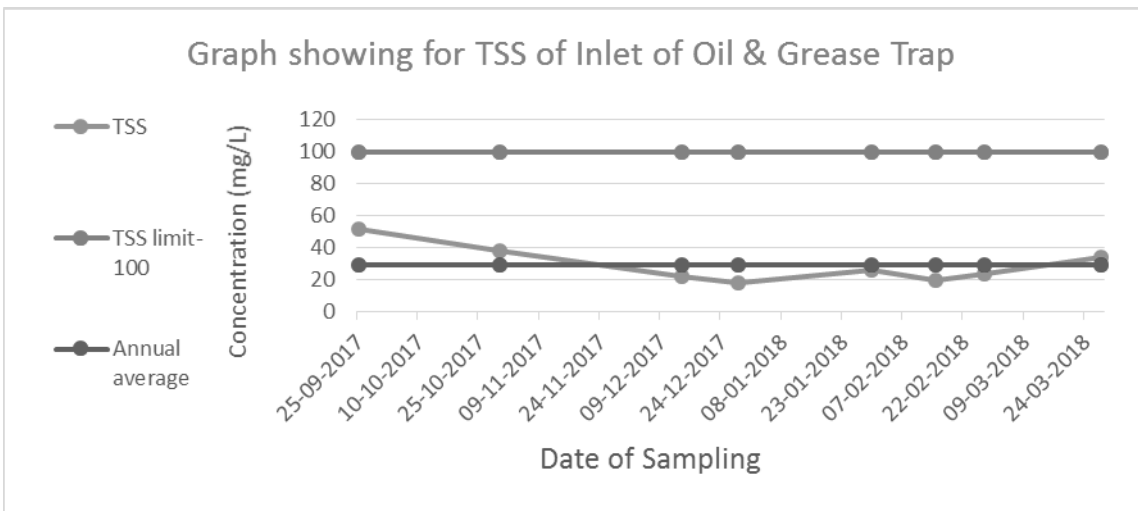
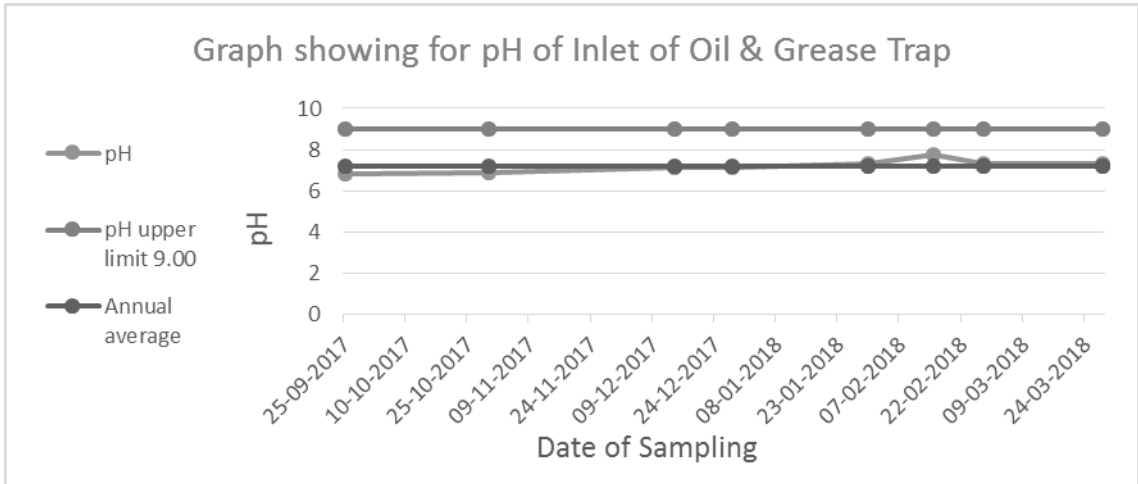
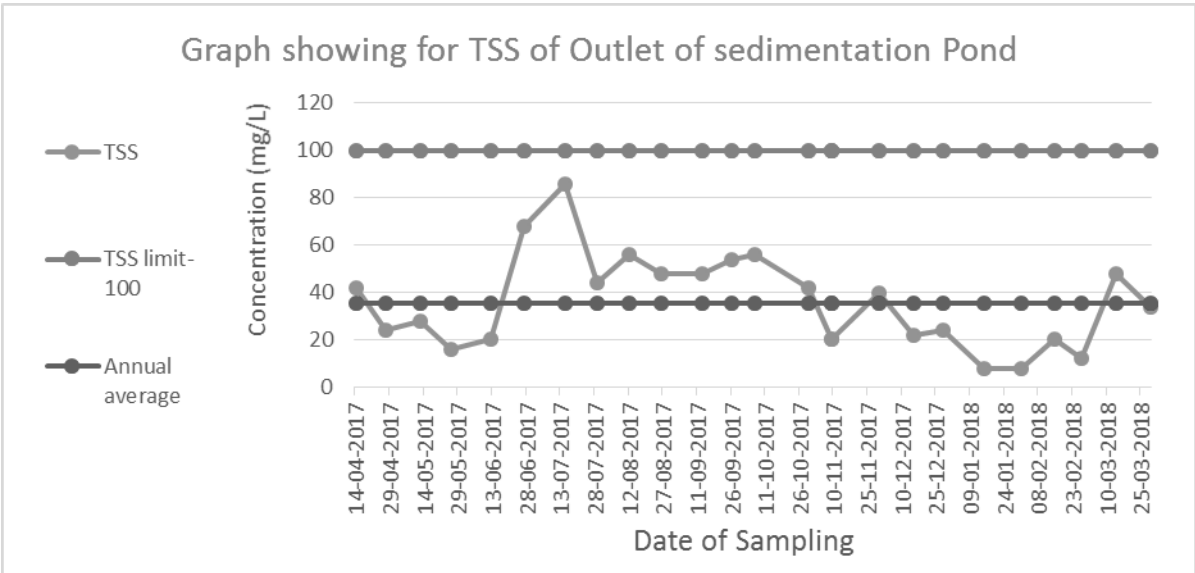
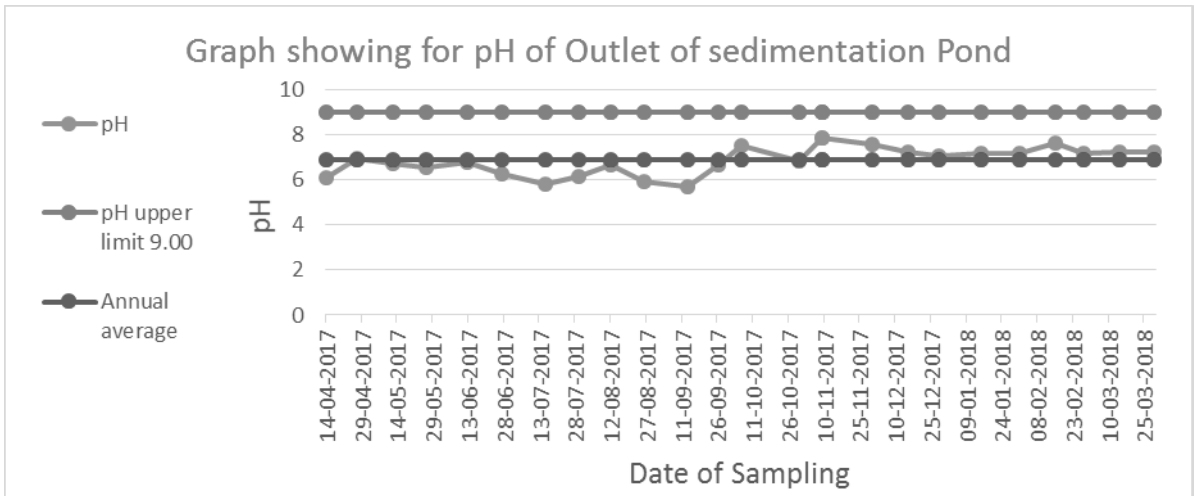


Table 104
Project: Lakhanpur OCP
Monitoring Station: Outlet of sedimentation Pond

Date of Sampling	pH	Oil & Grease	TSS	COD
14-04-2017	6.1	<4.0	42	28
27-04-2017	6.96	<4.0	24	16
12-05-2017	6.72	<4.0	28	20
26-05-2017	6.56	<4.0	16	8
12-06-2017	6.8	<4.0	20	16
27-06-2017	6.25	<4.0	68	52
15-07-2017	5.84	<4.0	86	72
29-07-2017	6.18	<4.0	44	36
12-08-2017	6.65	<4.0	56	52
26-08-2017	5.94	<4.0	48	12
13-09-2017	5.72	<4.0	48	36
26-09-2017	6.68	<4.0	54	40
06-10-2017	7.52	<4.0	56	52
30-10-2017	6.86	<4.0	42	32
09-11-2017	7.9	<4.0	20	16
09-11-2017	7.9	<4.0	20	16
30-11-2017	7.6	<4.0	40	36
15-12-2017	7.25	<4.0	22	8
28-12-2017	7.06	<4.0	24	8
15-01-2018	7.18	8.6	8	8
31-01-2018	7.2	12.6	8	52
15-02-2018	7.62	9.4	20	68
27-02-2018	7.21	6.6	12	24
14-03-2018	7.22	10	48	8
29-03-2018	7.25	6.8	34	8

All values are in mg/L except pH



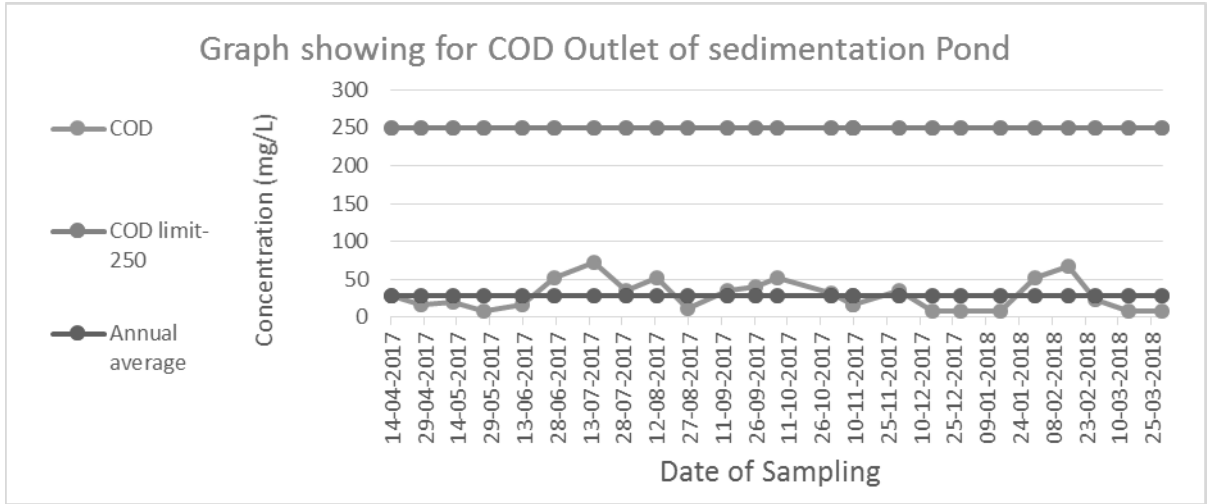
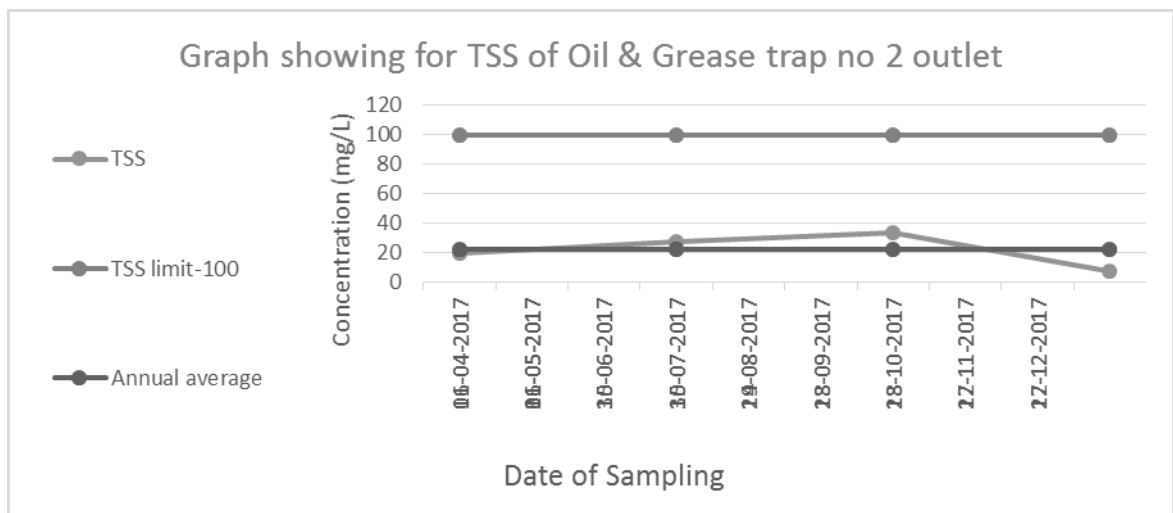
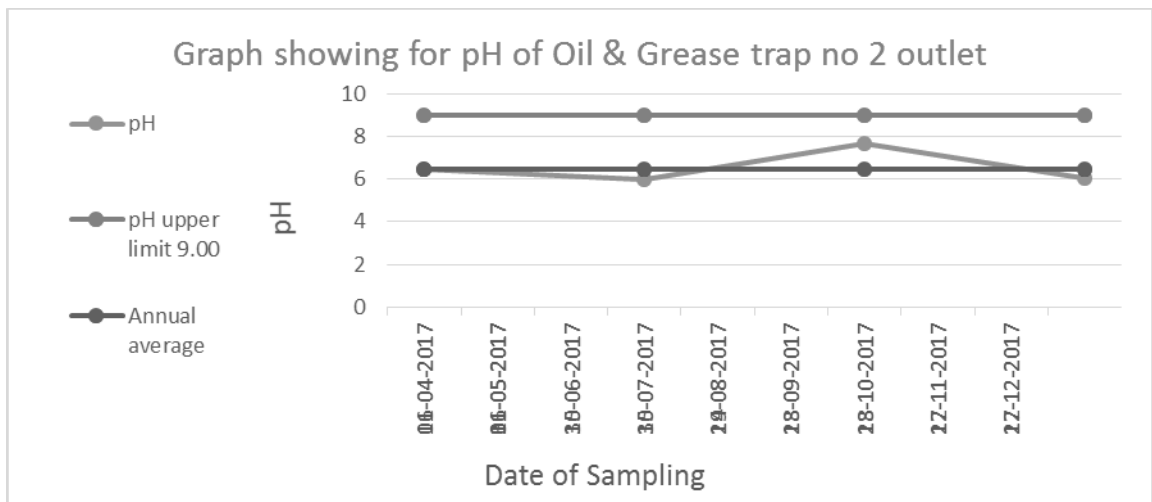


Table 105
Project: Lakhanpur OCP
Monitoring Station: Oil & Grease trap no 2 outlet

Date of Sampling	pH	Oil & Grease	TSS	COD
14-04-2017	6.45	<4.0	20	8
15-07-2017	5.96	<4.0	28	20
06-10-2017	7.68	<4.0	34	20
15-01-2018	6.02	6.2	8	28

All values are in mg/L except pH



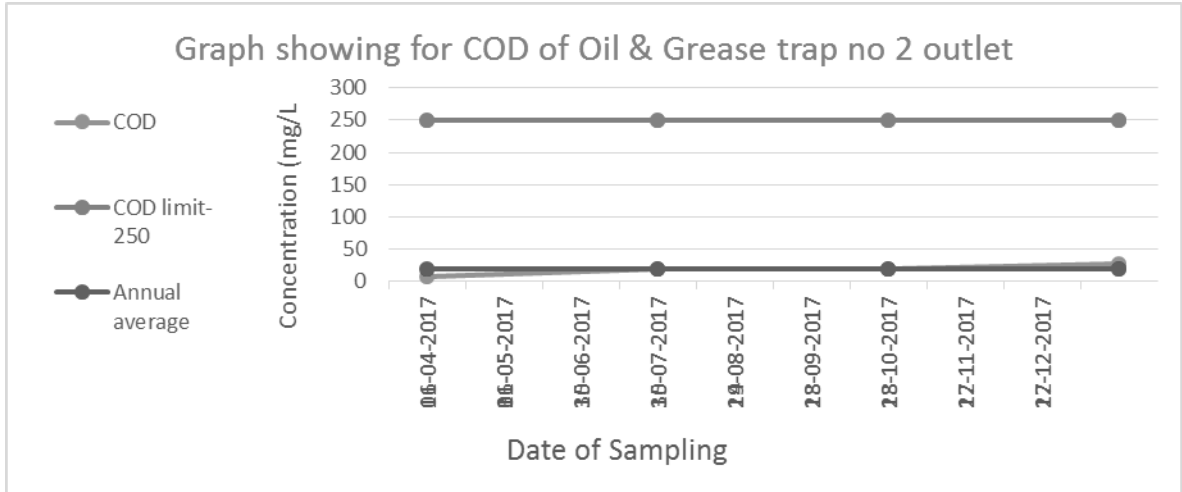
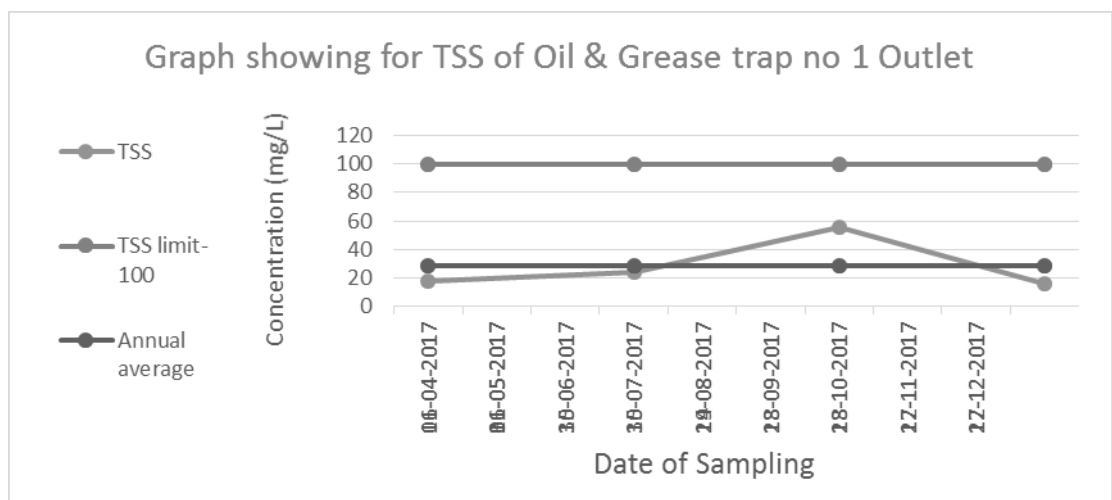
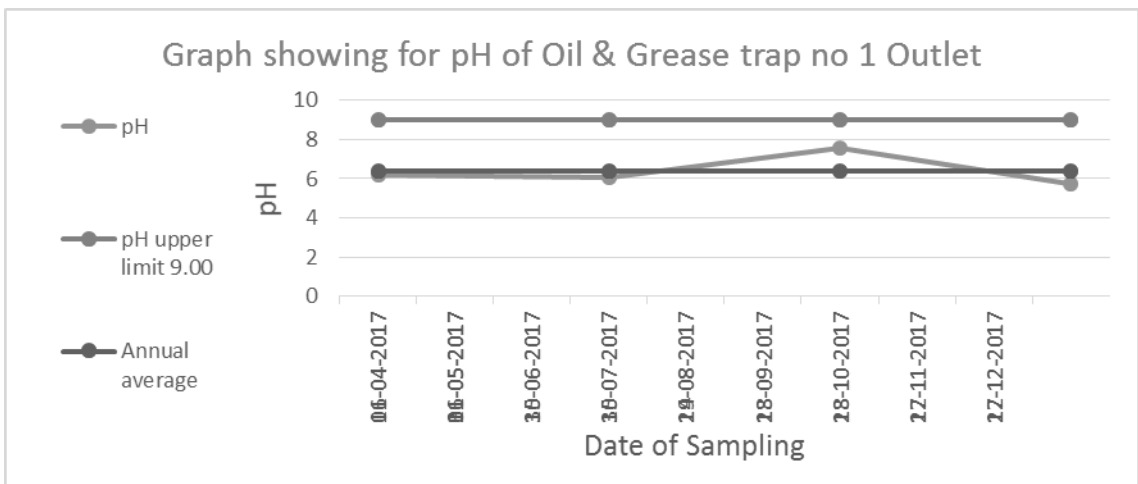


Table 106
Project: Lakhanpur OCP
Monitoring Station:

Date of Sampling	pH	Oil & Grease	TSS	COD
14-04-2017	6.21	<4.0	18	12
15-07-2017	6.05	<4.0	24	16
06-10-2017	7.57	<4.0	56	48
15-01-2018	5.74	9.2	16	100

All values are in mg/L except pH



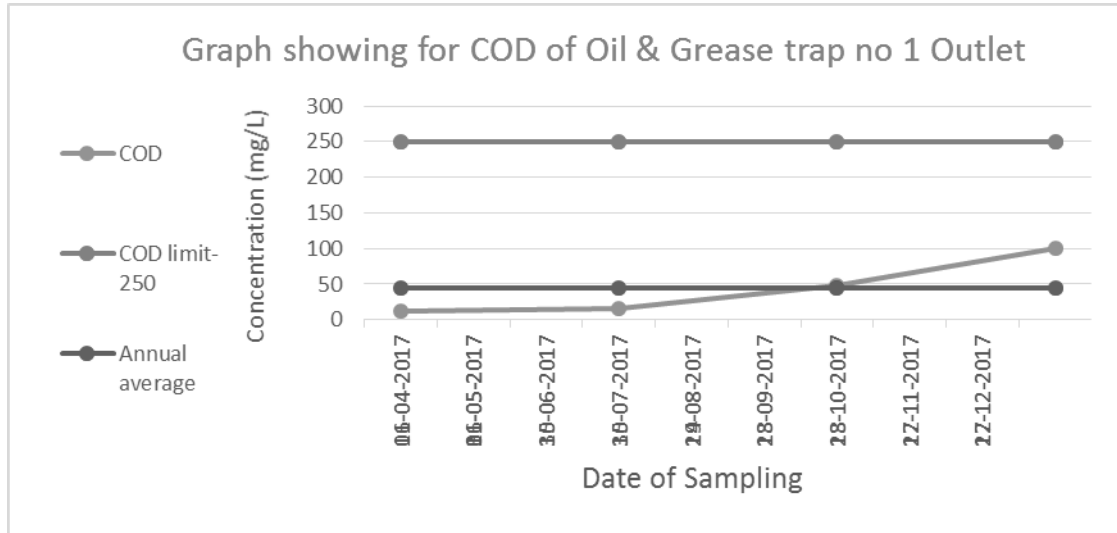


Table 107
Project: Lilari OCP
Monitoring Station: Mine Sump Water

Date of Sampling	pH
12-06-2017	6.81
13-09-2017	5.52
15-12-2017	6.1
29-03-2018	5.07

All values are in mg/L except pH

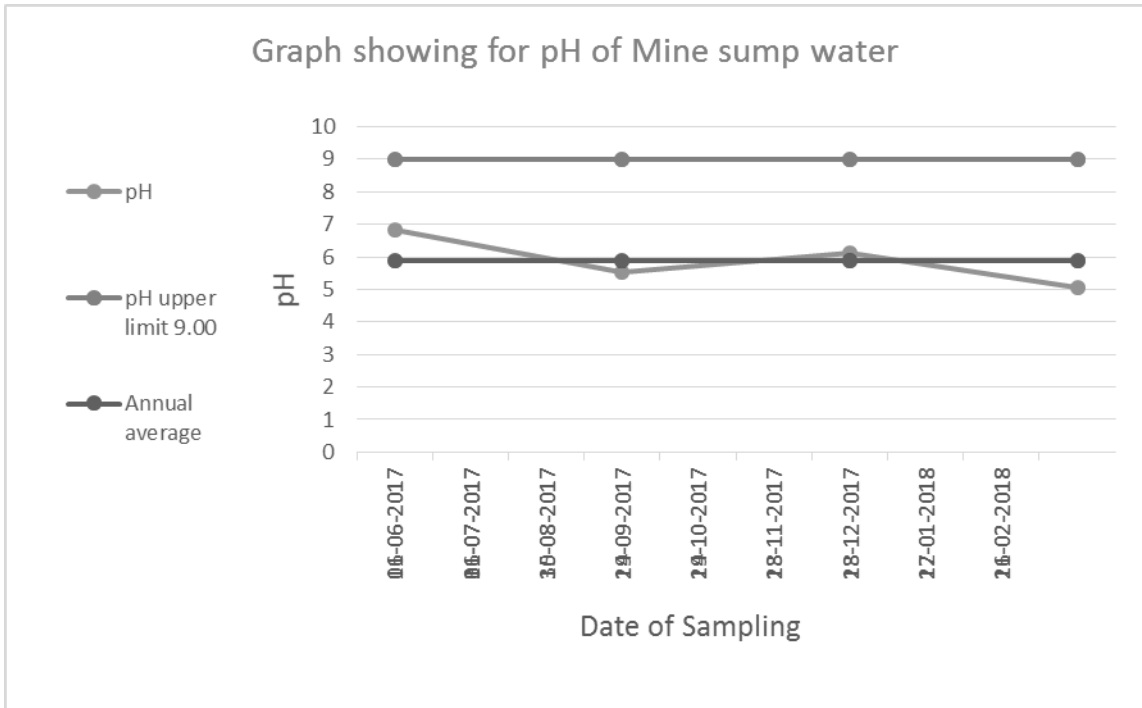


Table 108
Project: Lakhanpur OCP
Monitoring Station:

Date of Sampling	pH	Oil & Grease	TSS	COD
06-10-2017	7.35	<4.0	22	20
15-04-2017	DRY	DRY	DRY	DRY
15-07-2017	5.98	<4.0	92	84
15-01-2018	DRY	DRY	DRY	DRY

All values are in mg/L except pH

Table 109
Project: Belpahar OCP
Monitoring Station: Mine Sump Water

Date of Sampling	pH
12-06-2017	6.82
12-06-2017	6.82
13-09-2017	5.55
13-09-2017	5.55
15-12-2017	6.79
15-12-2017	6.79
28-03-2018	7.37

28-03-2018

7.37

All values are in mg/L except pH

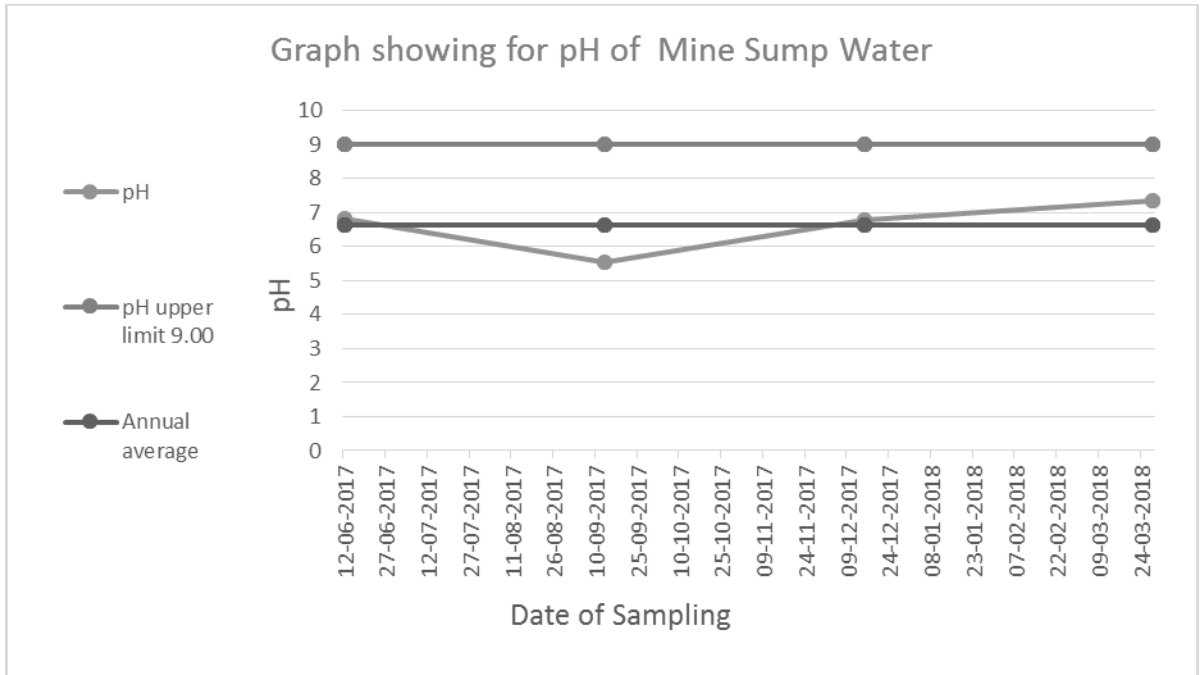
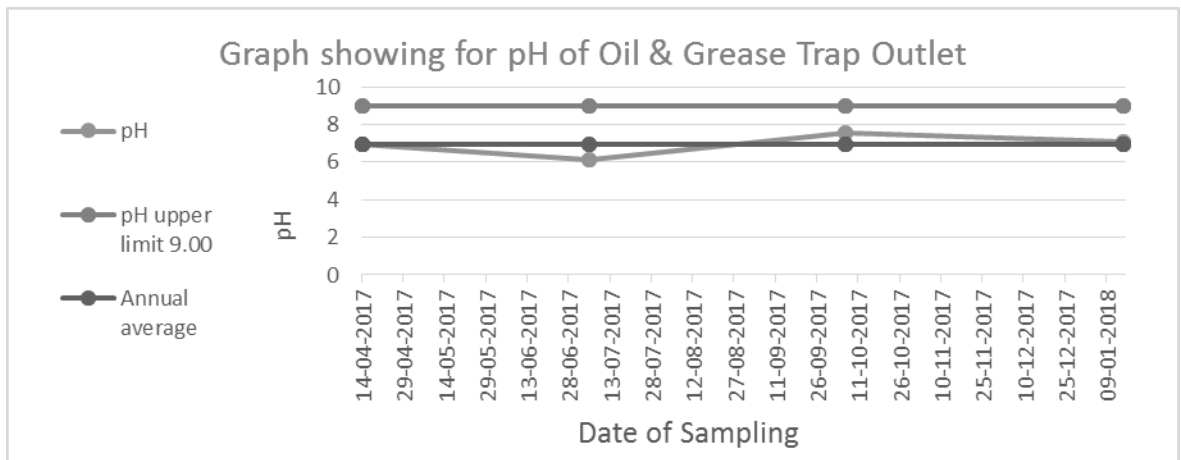


Table 110
Project: Belpahar OCP
Monitoring Station: Oil & Grease Trap Outlet

Date of Sampling	pH	Oil & Grease	TSS	COD
14-04-2017	6.94	<4.0	54	36

14-04-2017	6.94	<4.0	54	36
05-07-2017	6.15	<4.0	44	32
05-07-2017	6.15	<4.0	44	32
06-10-2017	7.54	<4.0	68	56
06-10-2017	7.54	<4.0	68	56
15-01-2018	7.05	10.8	36	28
15-01-2018	7.05	10.8	36	28

All values are in mg/L except pH



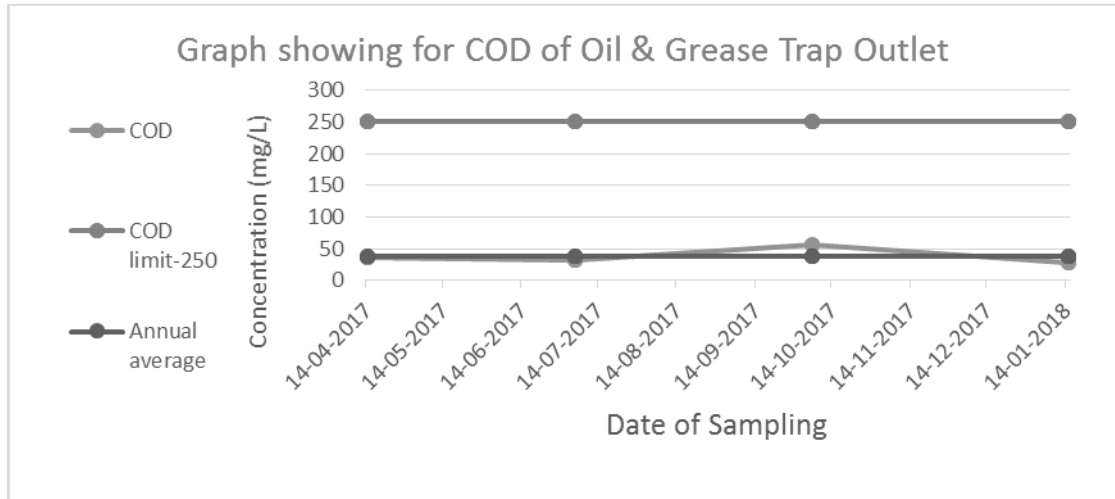
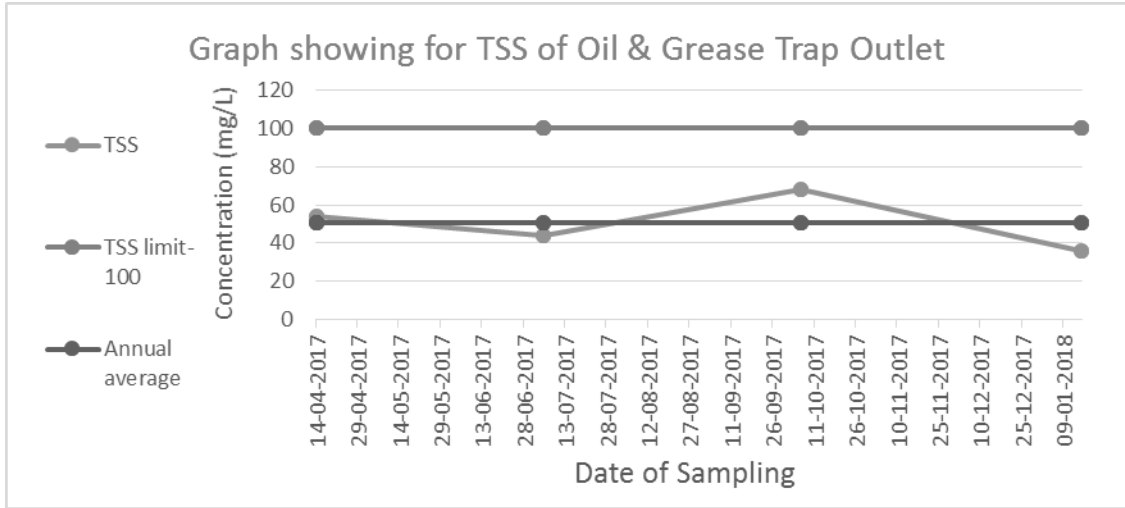
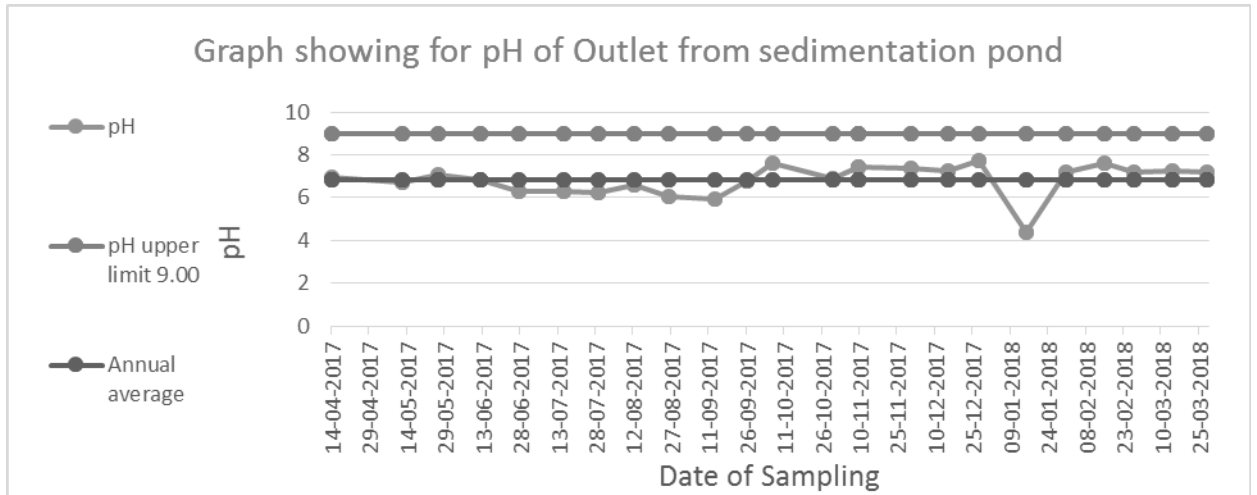


Table 111
Project: Belpahar OCP
Monitoring Station: Outlet from sedimentation pond

Date of Sampling	pH	Oil & Grease	TSS	COD
14-04-2017	6.97	<4.0	22	16
12-05-2017	6.74	<4.0	34	24
26-05-2017	7.1	<4.0	36	28
12-06-2017	6.83	<4.0	46	32
27-06-2017	6.3	<4.0	74	56
15-07-2017	6.3	<4.0	52	40

29-07-2017	6.22	<4.0	20	12
12-08-2017	6.58	<4.0	92	160
26-08-2017	6.03	<4.0	36	28
13-09-2017	5.91	<4.0	24	16
26-09-2017	6.75	<4.0	16	8
06-10-2017	7.6	<4.0	48	36
30-10-2017	6.89	<4.0	70	64
09-11-2017	7.42	<4.0	38	36
30-11-2017	7.35	<4.0	28	24
15-12-2017	7.23	<4.0	28	16
27-12-2017	7.74	<4.0	22	16
15-01-2018	4.36	16.2	8	36
31-01-2018	7.19	21.8	8	68
15-02-2018	7.64	9.8	36	104
27-02-2018	7.18	5.6	14	16
14-03-2018	7.23	9.6	36	24
28-03-2018	7.18	4.2	26	20

All values are in mg/L except pH



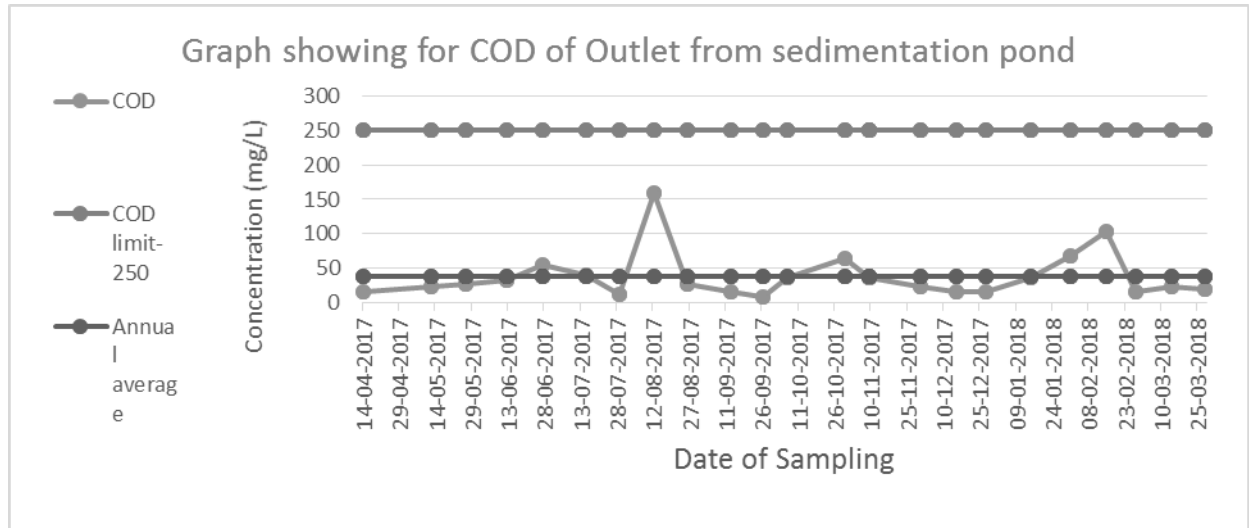
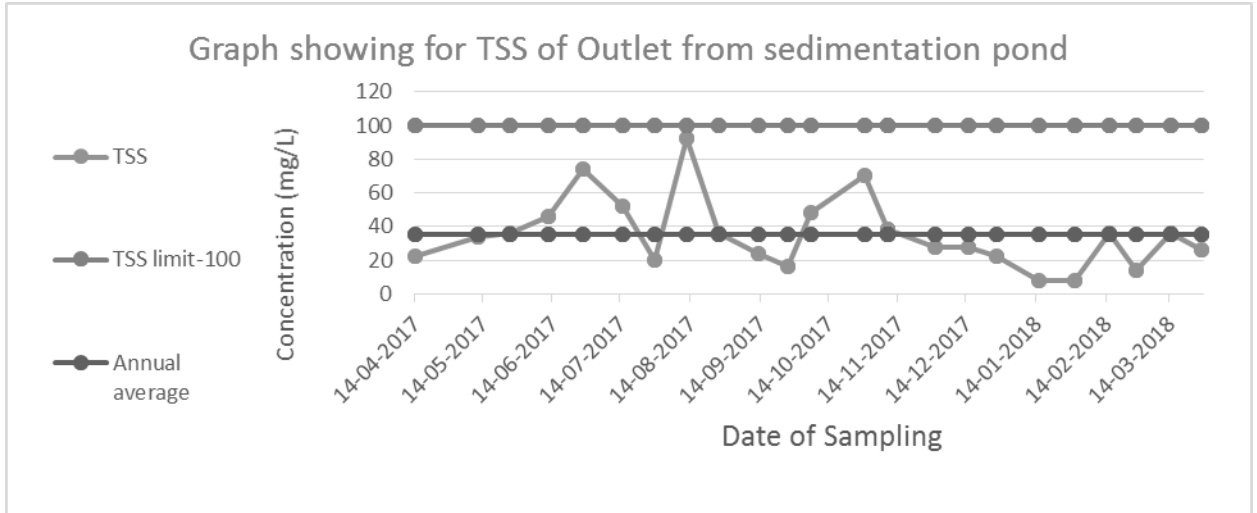


Table 112
Project: Kulda OCP
Monitoring Station: Final discharge point of mine

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	7.88	<4.0	14	8
26-04-2017	7.03	<4.0	16	8
11-05-2017	7.01	<4.0	26	16
26-05-2017	7.99	<4.0	52	32
05-06-2017	7.44	<4.0	24	12
21-06-2017	7.03	<4.0	52	44
06-07-2017	6.4	<4.0	24	16

19-07-2017	6.15	<4.0	22	8
05-08-2017	6.54	<4.0	34	20
19-08-2017	5.98	<4.0	54	28
06-09-2017	6.02	<4.0	64	56
21-09-2017	6.65	<4.0	28	20
09-10-2017	8.1	<4.0	52	36
21-10-2017	7.7	<4.0	64	52
06-11-2017	7.37	<4.0	40	36
06-11-2017	7.37	<4.0	40	36
20-11-2017	7.98	<4.0	18	12
02-12-2017	7.87	<4.0	18	8
16-12-2017	7.92	<4.0	14	8
13-01-2018	7.71	<4.0	8	24
30-01-2018	7.7	19	12	28
14-02-2018	8.36	10.8	12	8
19-02-2018	7.27	7.6	24	32
13-03-2018	6.98	9.4	14	44
28-03-2018	6.74	4.0	50	32

All values are in mg/L except pH

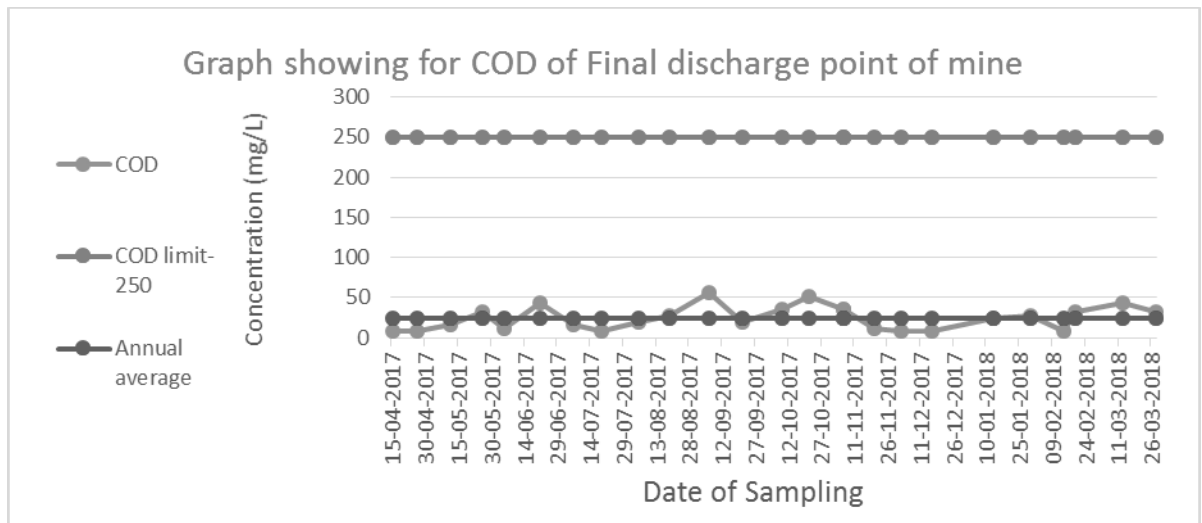
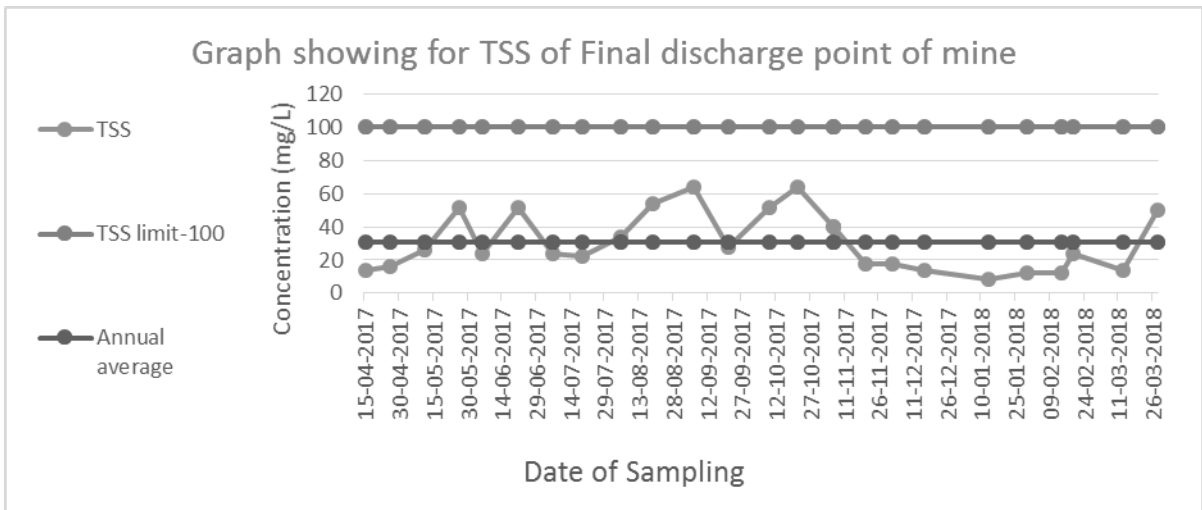
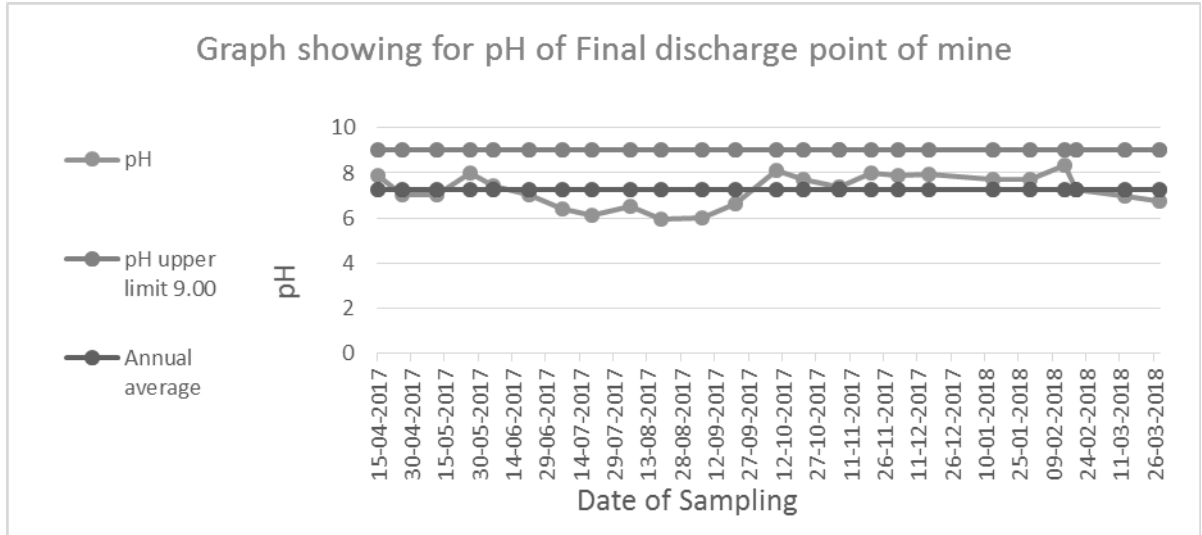


Table 113
Project: Kulda OCP
Monitoring Station:

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	7.37	<4.0	36	20
11-05-2017	6.72	<4.0	58	44
05-06-2017	8.12	<4.0	26	16
06-07-2017	6.7	<4.0	32	28
05-08-2017	6.62	<4.0	16	12
06-09-2017	6.08	<4.0	18	12
09-10-2017	7.98	<4.0	34	28
06-11-2017	7.34	<4.0	58	52
06-11-2017	7.34	<4.0	58	52
02-12-2017	7.77	<4.0	14	8
13-01-2018	7.08	<4.0	20	32
14-02-2018	8.17	13.2	8	16
13-03-2018	7.32	3.4	28	32

All values are in mg/L except pH

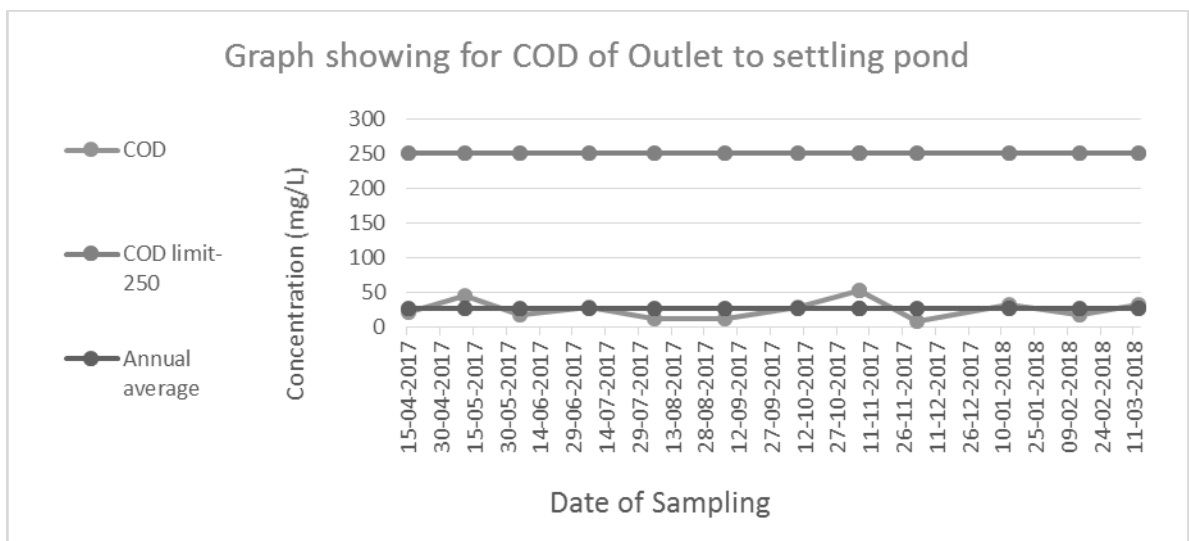
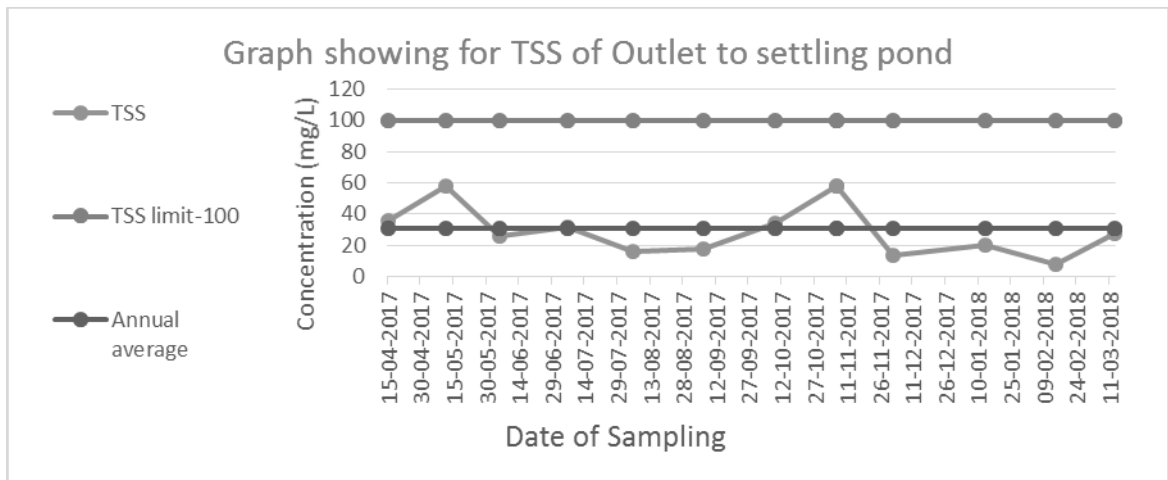
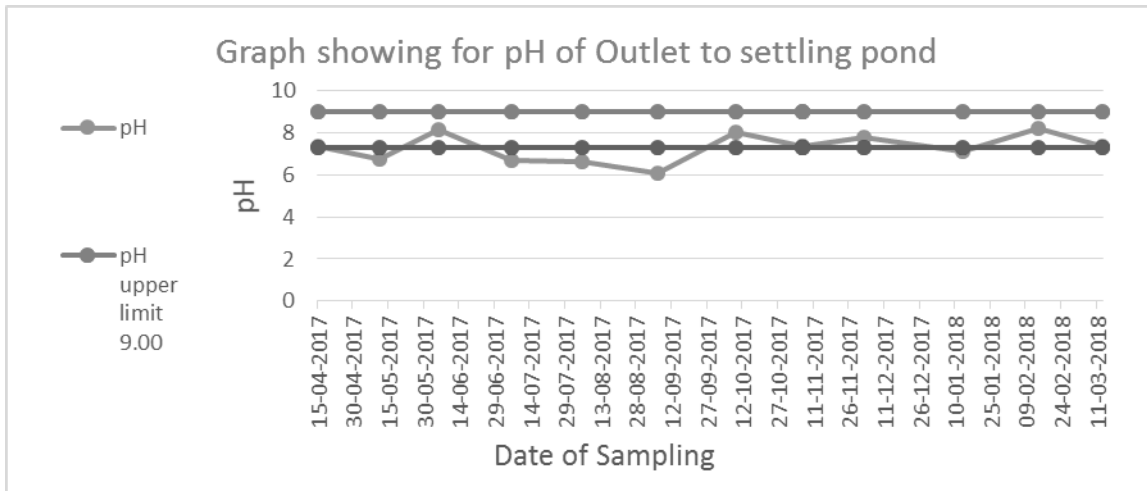


Table 114
Project: Basundhara (W) OCP
Monitoring Station: Outlet from Settling tank / abandoned quarry of Basundhara-E

Date of Sampling	pH	Oil & Grease	TSS	COD
06-06-2017	7.43	<4.0	34	24
06-09-2017	6.29	<4.0	34	28
02-12-2017	8.62	<4.0	62	56
13-03-2018	7.14	10.8	16	32

All values are in mg/L except pH

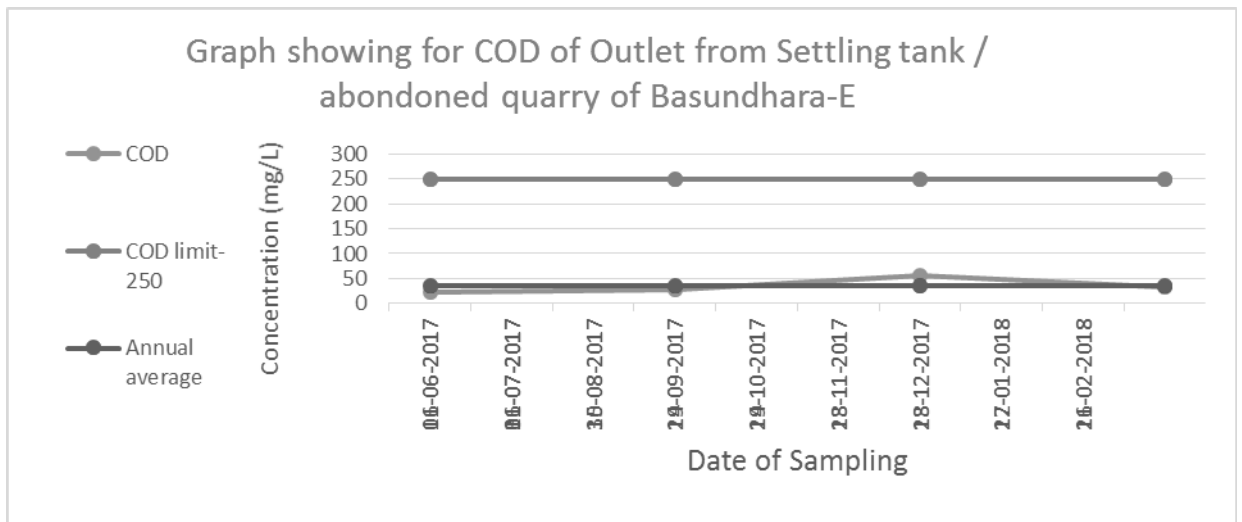
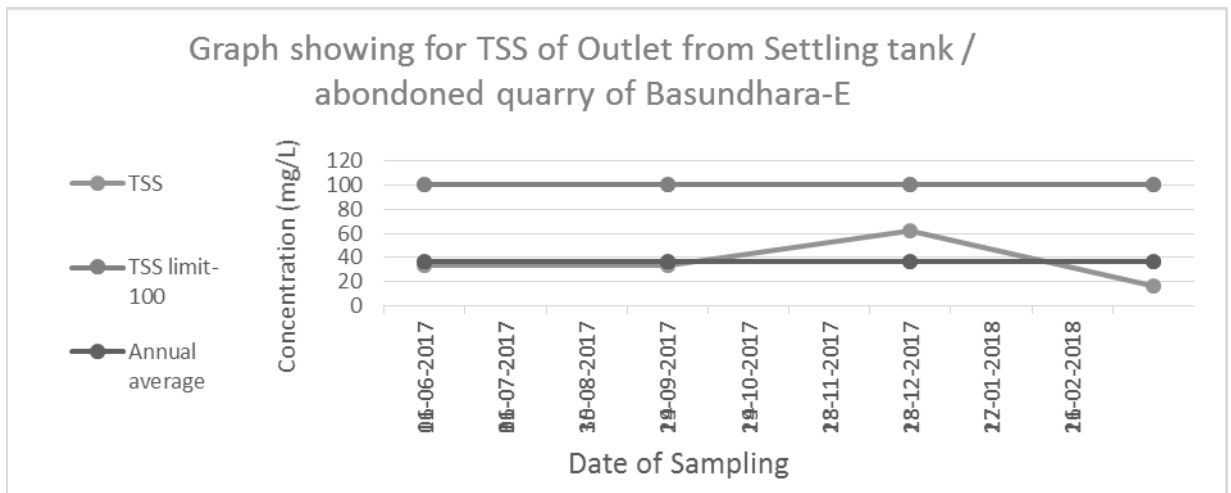
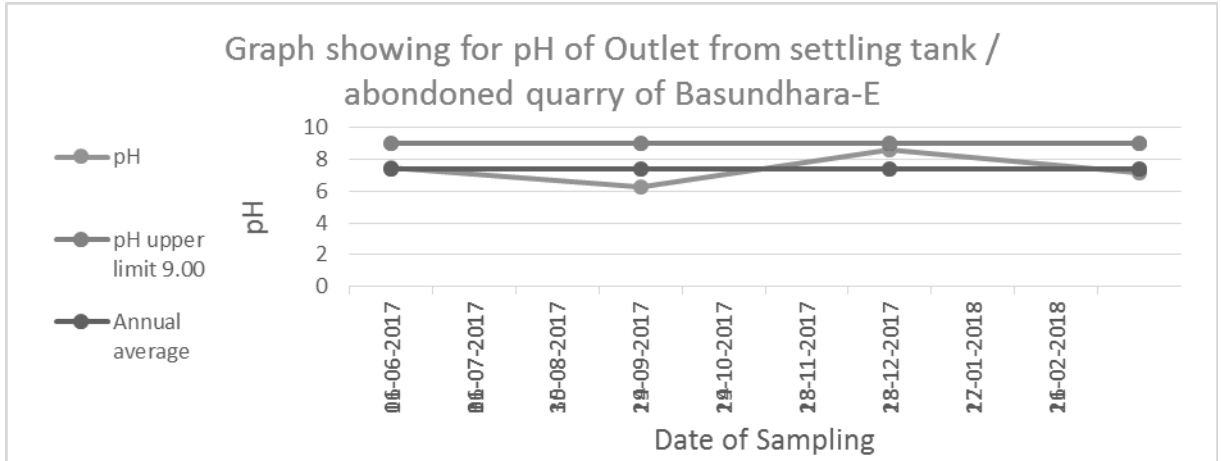


Table 115
Project: Basundhara (W) OCP
Monitoring Station: Inlet from Settling Pond Near Kanika Rly. Siding

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	7.21	<4.0	162	640
26-04-2017	7.15	<4.0	184	720
11-05-2017	6.84	<4.0	192	766
05-08-2017	6.7	<4.0	120	560
21-09-2017	6.84	<4.0	120	640
21-10-2017	8.2	<4.0	124	760
16-12-2017	8.02	<4.0	88	120
14-02-2018	7.93	8.8	72	240
19-02-2018	7.25	5.8	18	40

All values are in mg/L except pH

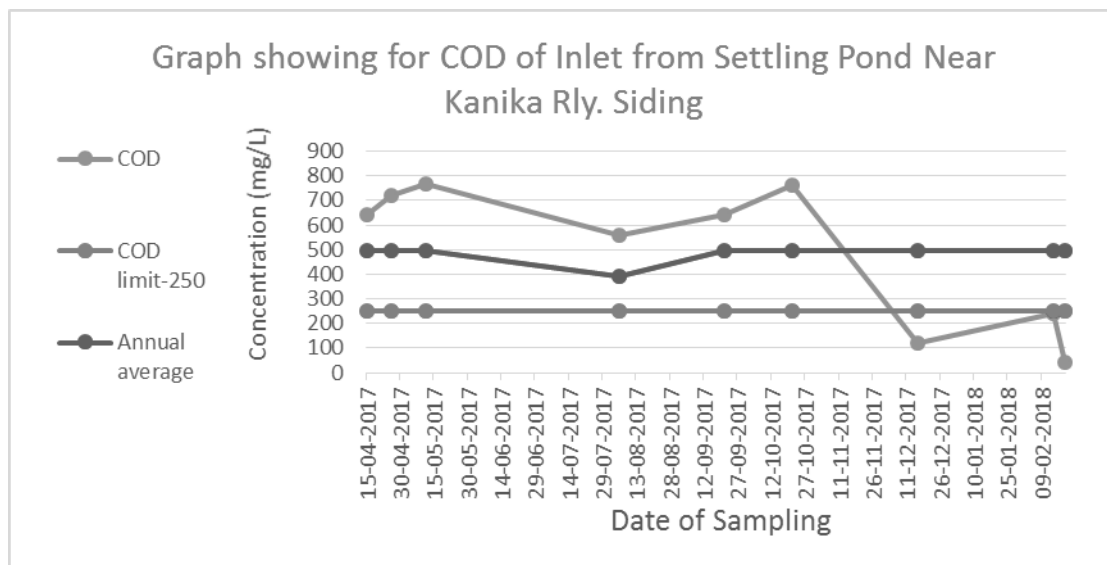
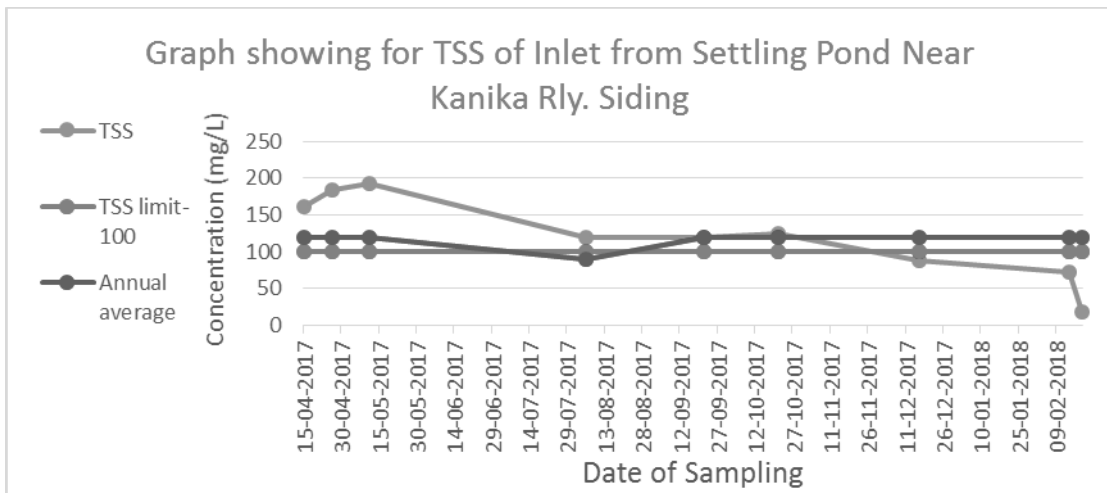
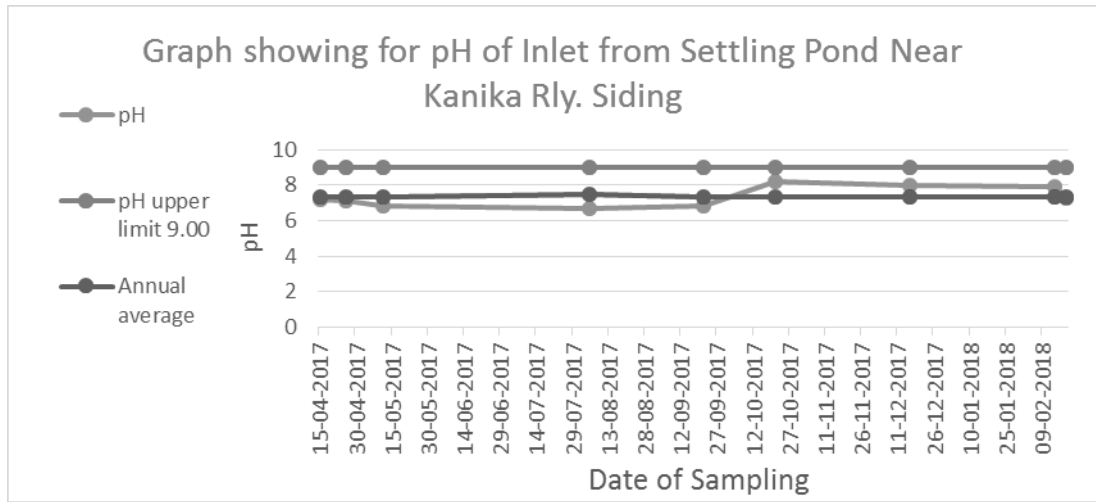


Table 116
Project: Basundhara (W) OCP
Monitoring Station: Outlet from settling pond near Kanika Rly Siding

Date of Sampling	pH	Oil & Grease	TSS	COD
26-05-2017	7.65	<4.0	182	640
06-06-2017	7.66	<4.0	82	68
21-06-2017	7.06	<4.0	78	56
06-07-2017	6.16	<4.0	112	520
19-07-2017	6.34	<4.0	132	840
19-08-2017	6.22	<4.0	112	640
06-09-2017	6.35	<4.0	120	680
09-10-2017	7.66	<4.0	480	2520
06-11-2017	7.8	<4.0	120	840
06-11-2017	7.8	<4.0	120	840
02-12-2017	8.33	<4.0	130	200
13-01-2018	7.32	6.8	66	240
30-01-2018	7.22	24.8	78	640
13-03-2018	7.52	10.4	32	16
28-03-2018	7.44	5.8	32	20

All values are in mg/L except pH

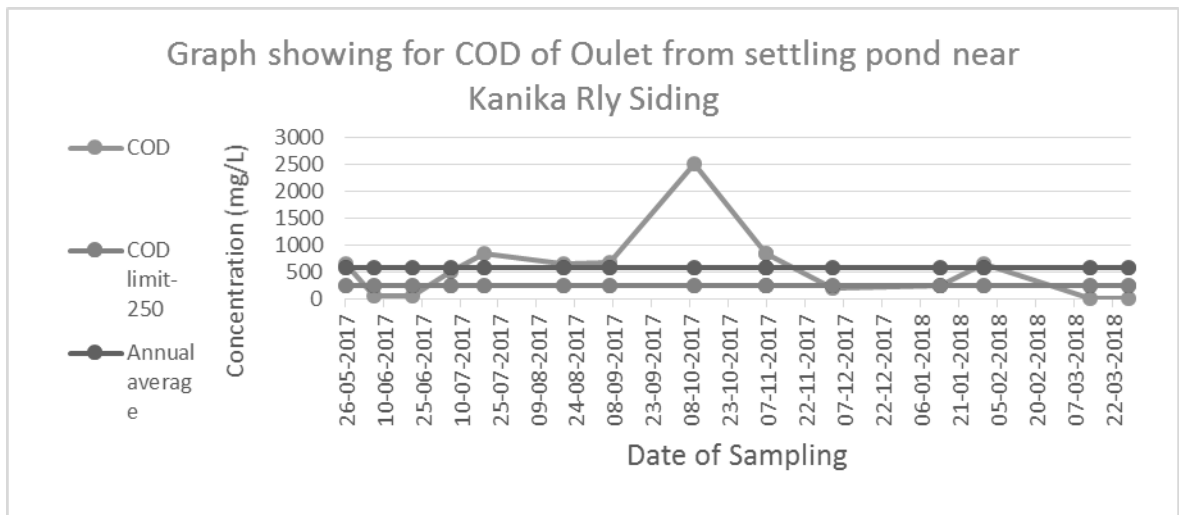
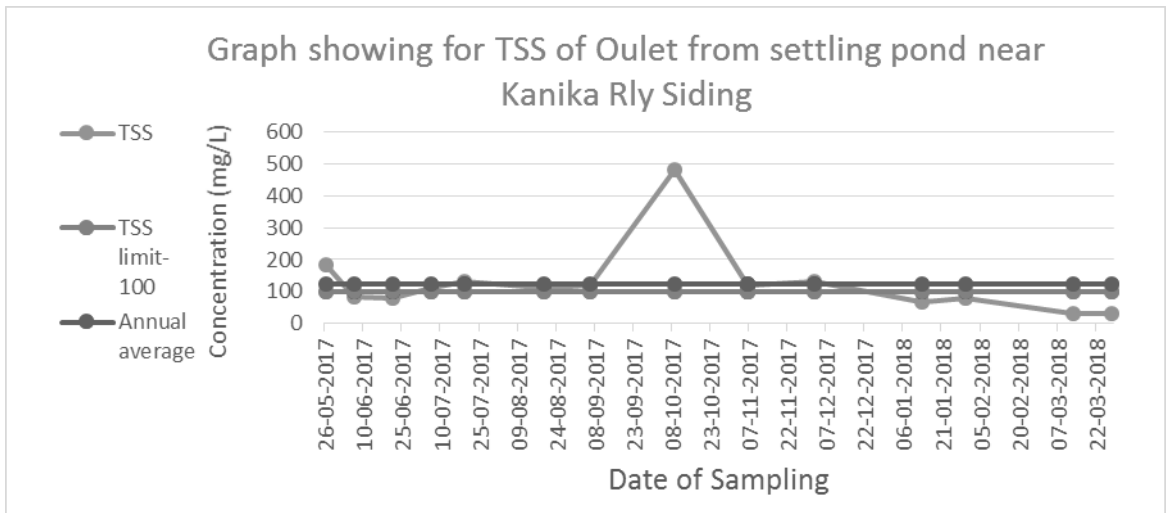
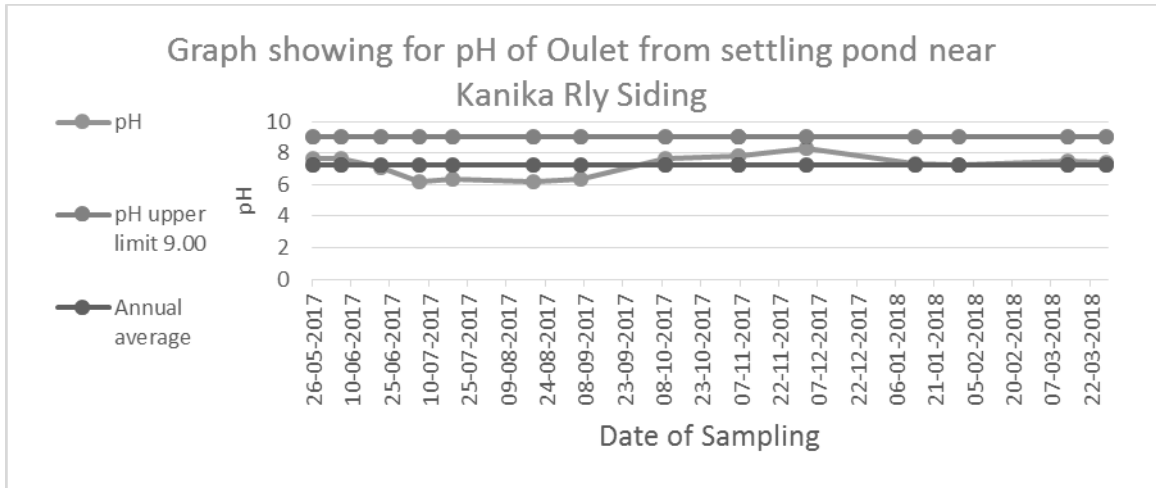


Table 117
Project: Basundhara (W) OCP
Monitoring Station: Inlet Of Oil & Grease Trap

Date of Sampling	pH	Oil & Grease	TSS	COD
07-10-2017	7.52	<4.0	32	24
15-04-2017	7.76	<4.0	40	28

All values are in mg/L except pH

Table 118
Project: Basundhara (W) OCP
Monitoring Station: Outlet of Oil & Grease trap

Date of Sampling	pH	Oil & Grease	TSS	COD
13-01-2018	7.38	13.4	8	32
06-07-2017	6.25	<4.0	24	12

All values are in mg/L except pH

Table 119
Project: Orient Area
Monitoring Station: Mine sump of HBI

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	8.03	<4.0	24	16
26-04-2017	7.54	<4.0	30	24
11-05-2017	7.4	<4.0	34	16
25-05-2017	7.34	<4.0	44	28
12-06-2017	7.43	<4.0	16	8
28-06-2017	7.7	<4.0	20	12
14-07-2017	5.3	<4.0	44	32
28-07-2017	6.26	<4.0	34	28
12-08-2017	6.77	<4.0	32	28
25-08-2017	6.66	<4.0	28	20
13-09-2017	7.39	<4.0	52	36
25-09-2017	6.52	<4.0	18	8
07-10-2017	8.04	<4.0	48	36
30-10-2017	6.72	<4.0	52	40
09-11-2017	4.13	<4.0	24	20
09-11-2017	4.13	<4.0	24	20
30-11-2017	8.04	<4.0	32	28
15-12-2017	6.84	<4.0	14	8
27-12-2017	6.77	<4.0	16	12
15-01-2018	6.84	12.6	12	16
30-01-2018	7.43	<4.0	14	52
15-02-2018	7.37	4	22	36
27-02-2018	7.35	7.4	32	44
13-03-2018	7.26	9	26	20
28-03-2018	7.03	8.4	20	16

All values are in mg/L except pH

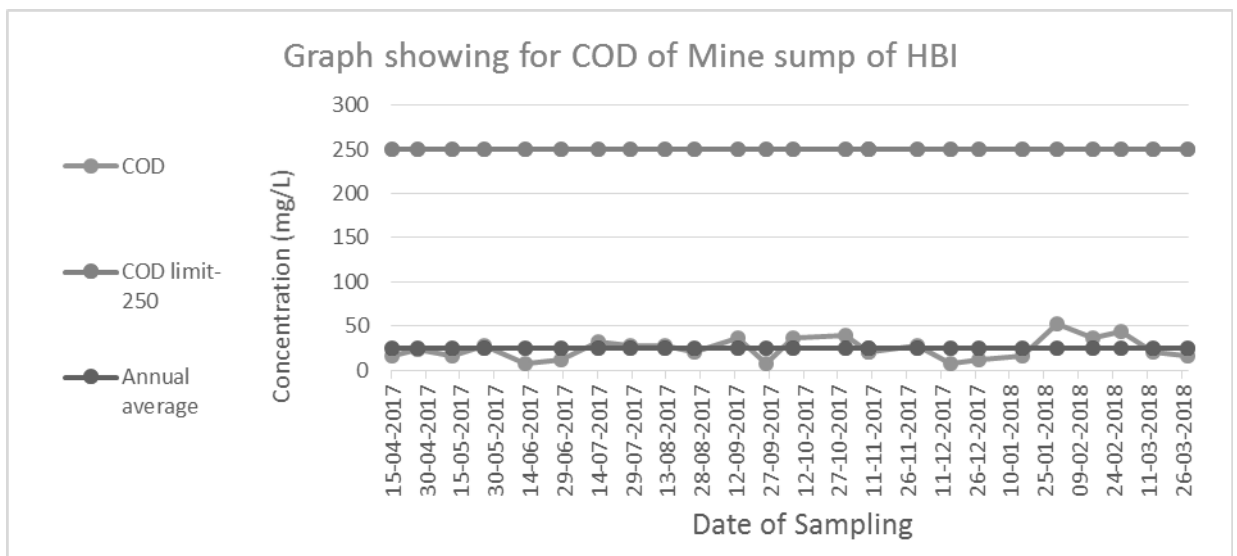
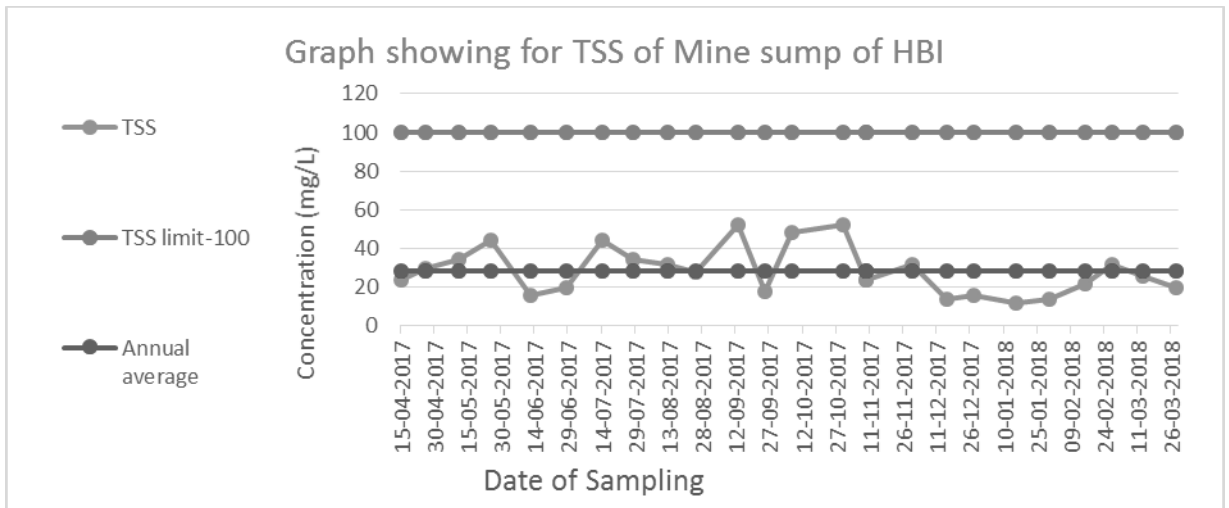
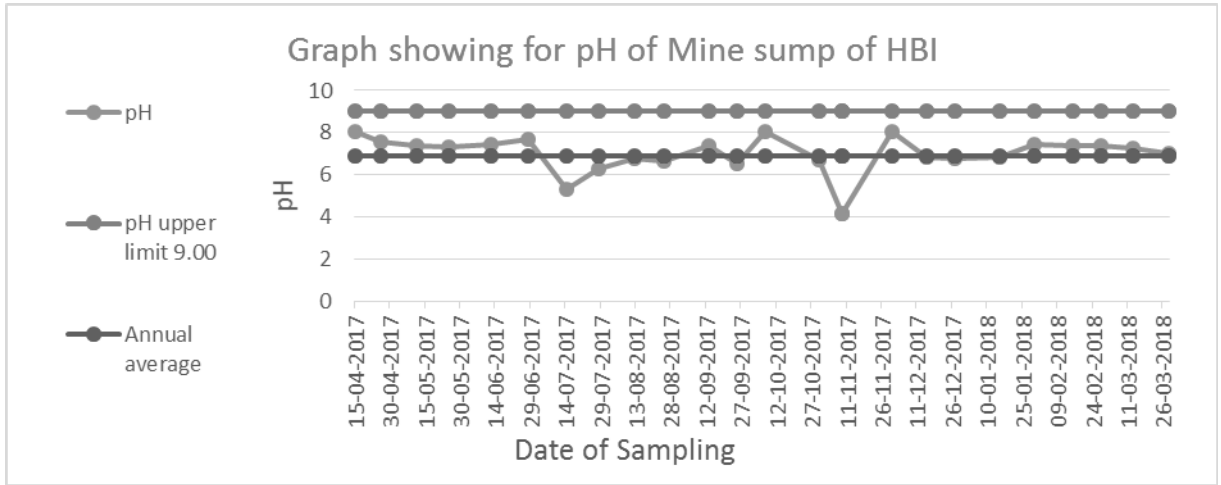


Table 120
Project: Orient Area
Monitoring Station: Mine sump of HRC

Date of Sampling	pH	Oil & Grease	TSS	COD
26-04-2017	7.26	<4.0	24	16
11-05-2017	7.13	<4.0	16	8
25-05-2017	7.19	<4.0	52	36
12-06-2017	7.88	<4.0	28	20
28-06-2017	7.06	<4.0	44	32
14-07-2017	6.2	<4.0	26	12
28-07-2017	6.33	<4.0	26	12
12-08-2017	6.81	<4.0	24	8
25-08-2017	6.9	<4.0	44	32
13-09-2017	7.12	<4.0	74	68
25-09-2017	5.95	<4.0	24	12
07-10-2017	8.02	<4.0	50	32
30-10-2017	6.74	<4.0	36	24
09-11-2017	7.28	<4.0	22	20
09-11-2017	7.28	<4.0	22	20
30-11-2017	7.79	<4.0	46	40
15-12-2017	7.62	<4.0	16	12
27-12-2017	6.52	<4.0	14	8
15-01-2018	6.65	14.4	8	16
30-01-2018	6.82	12.2	8	40
15-02-2018	7.88	11.8	8	12
27-02-2018	6.9	6.4	16	24
13-03-2018	6.86	3.6	20	20
28-03-2018	7.62	7.6	18	8

All values are in mg/L except pH

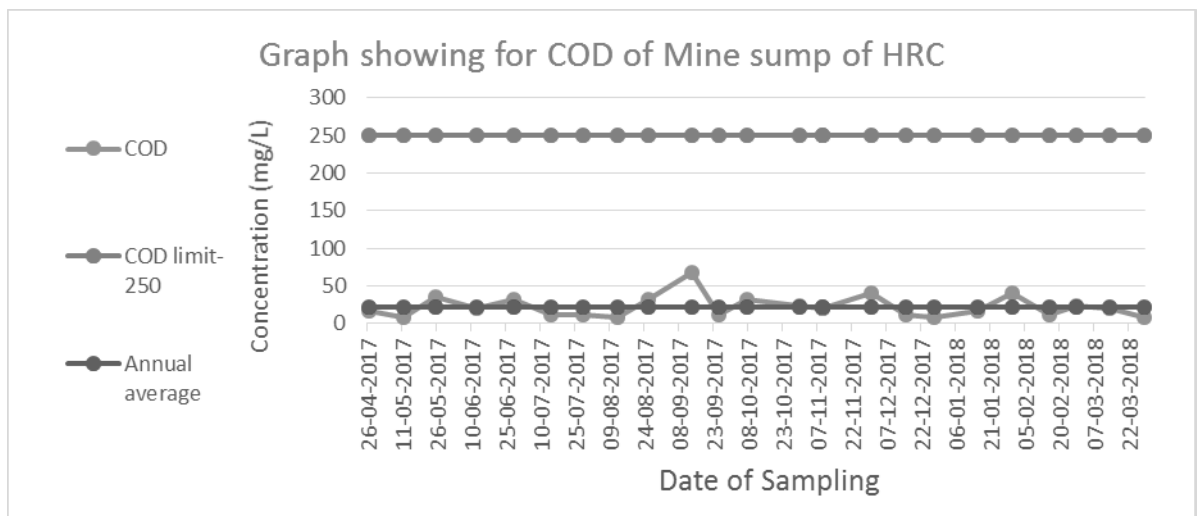
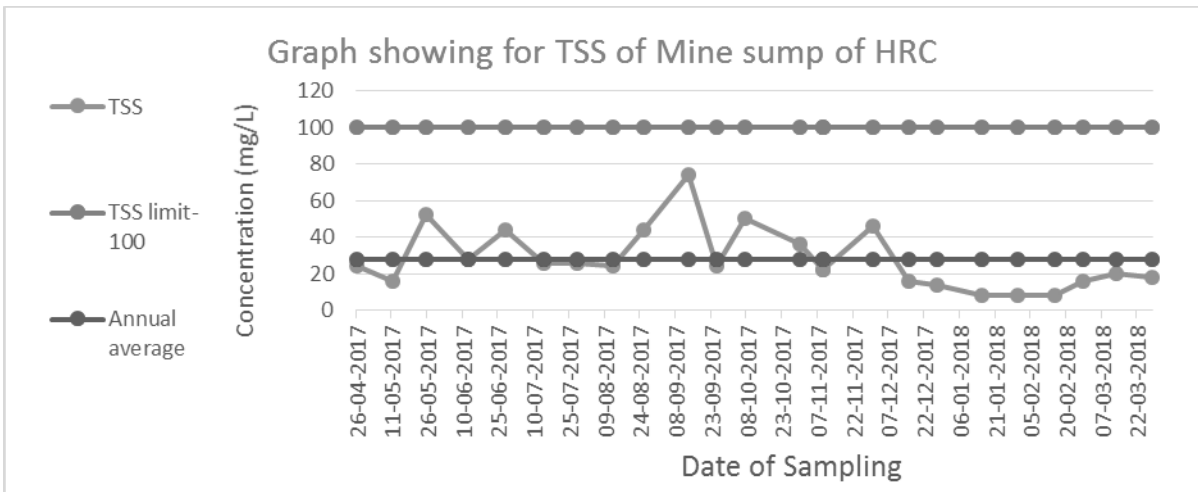
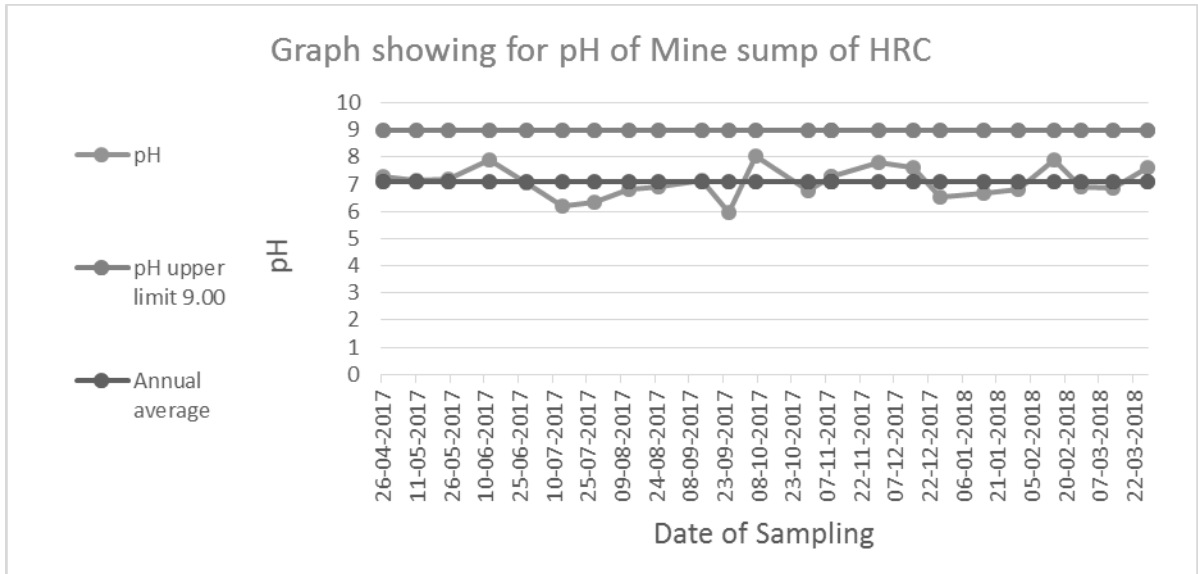


Table 121
Project: Orient Area
Monitoring Station: Mine Sump Of Mine-2

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	8.04	<4.0	22	16
26-04-2017	7.31	<4.0	24	20
11-05-2017	7.02	<4.0	22	8
25-05-2017	7.61	<4.0	24	12
12-06-2017	7.48	<4.0	26	16
28-06-2017	6.94	<4.0	28	16
14-07-2017	5.36	<4.0	18	12
28-07-2017	6.42	<4.0	16	8
12-08-2017	6.84	<4.0	16	8
25-08-2017	6.65	<4.0	18	16
13-09-2017	6.9	<4.0	24	16
25-09-2017	6.82	<4.0	24	16
07-10-2017	7.89	<4.0	36	24
30-10-2017	7.28	<4.0	78	68
09-11-2017	8.17	<4.0	30	24
09-11-2017	8.17	<4.0	30	24
30-11-2017	8.14	<4.0	16	8
15-12-2017	8.31	<4.0	16	8
27-12-2017	6.73	<4.0	20	8
13-01-2018	7.52	<4.0	8	44
30-01-2018	6.77	8.4	12	24
15-02-2018	7.38	6	16	28
27-02-2018	7.36	4.2	14	8
13-03-2018	7.55	6	26	24
28-03-2018	6.98	10	24	12

All values are in mg/L except pH

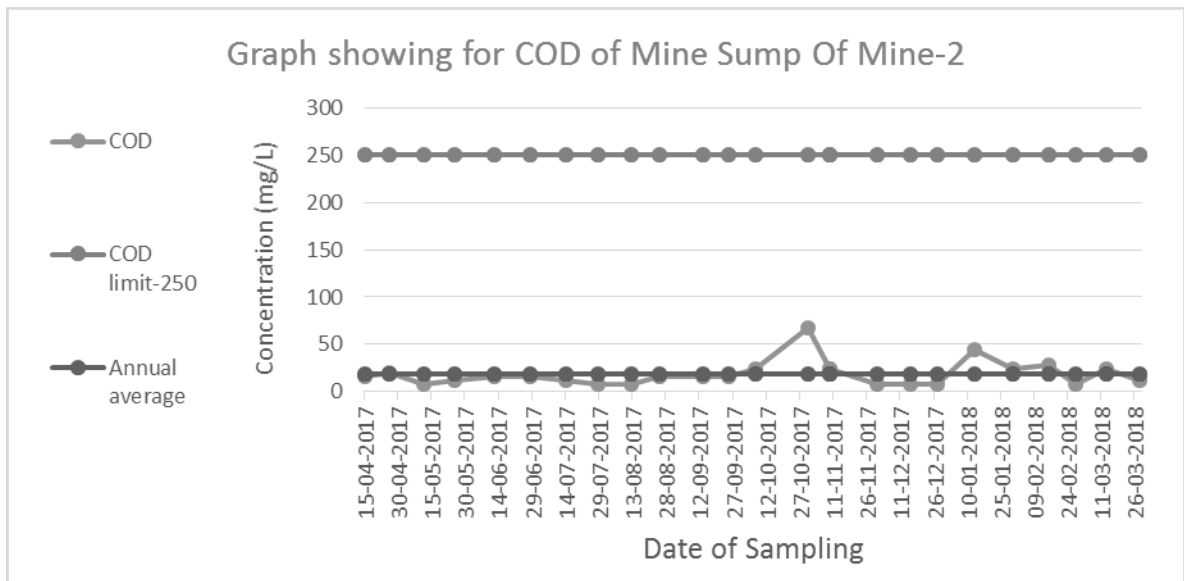
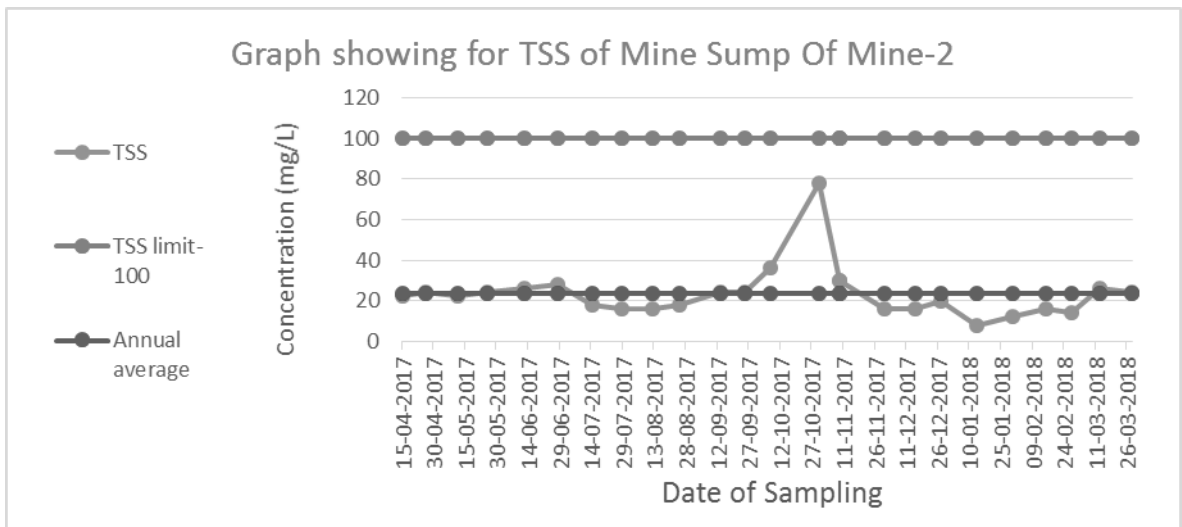
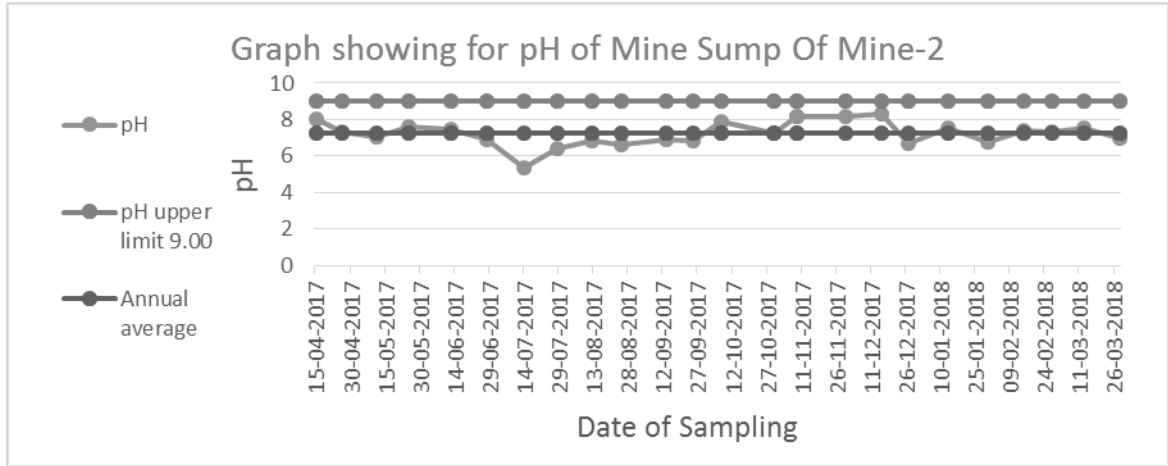


Table 122

Project: Orient Area
Monitoring Station: Mine Sump Of Mine-3

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	7.87	<4.0	26	20
26-04-2017	7.68	<4.0	26	16
11-05-2017	7.14	<4.0	26	12
25-05-2017	7.79	<4.0	34	12
12-06-2017	7.46	<4.0	22	12
28-06-2017	7	<4.0	36	28
14-07-2017	6.28	<4.0	30	24
28-07-2017	6.39	<4.0	20	8
12-08-2017	6.76	<4.0	34	28
25-08-2017	6.7	<4.0	34	28
13-09-2017	6.96	<4.0	42	36
25-09-2017	6.9	<4.0	36	24
07-10-2017	7.86	<4.0	16	8
30-10-2017	6.5	<4.0	36	24
09-11-2017	8.01	<4.0	80	72
09-11-2017	8.01	<4.0	80	72
30-11-2017	8.02	<4.0	20	12
15-12-2017	7.85	<4.0	18	8
27-12-2017	7.62	<4.0	62	56
13-01-2018	6.82	<4.0	8	12
30-01-2018	6.9	12	18	60
15-02-2018	7.65	<4.0	8	20
27-02-2018	6.72	8.2	18	28
13-03-2018	7.04	6.2	38	16
28-03-2018	7.82	9.2	18	16

All values are in mg/L except pH

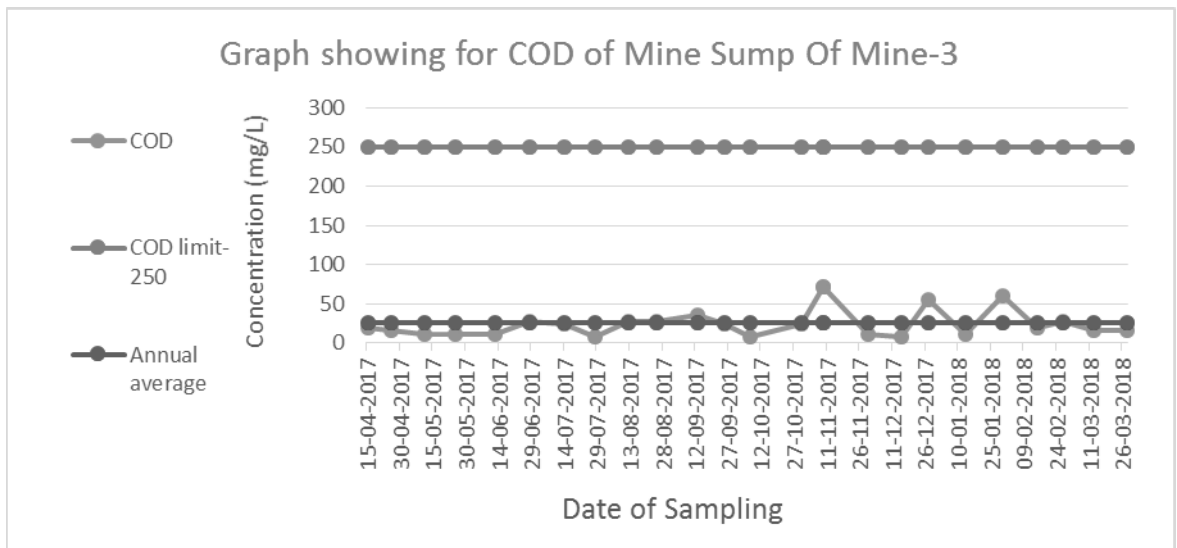
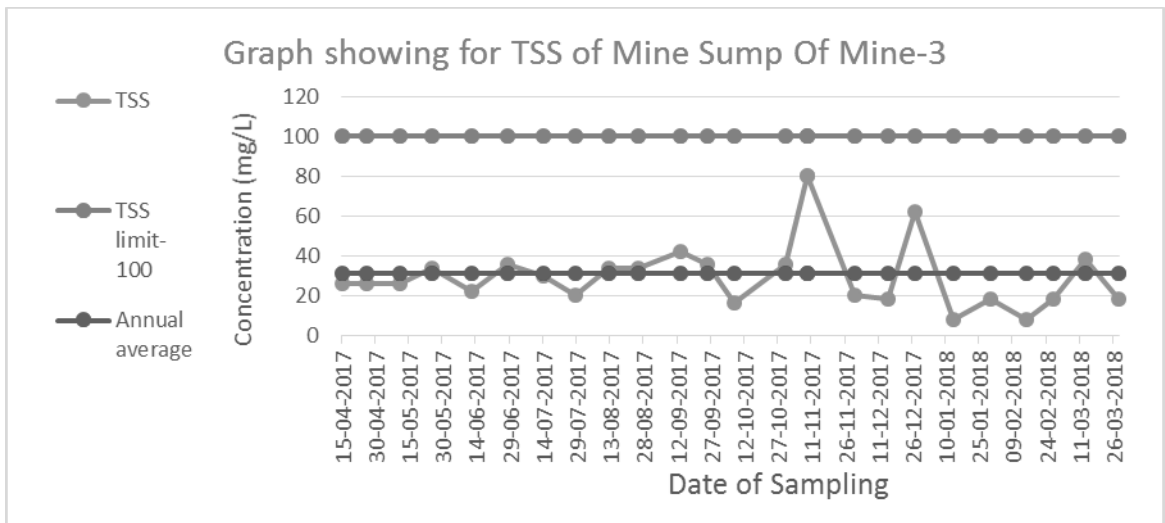
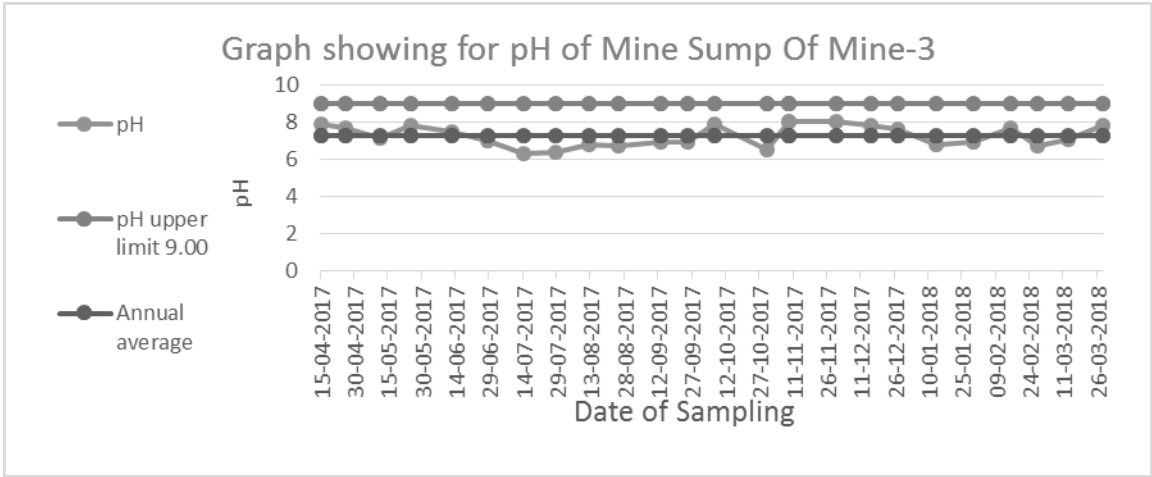
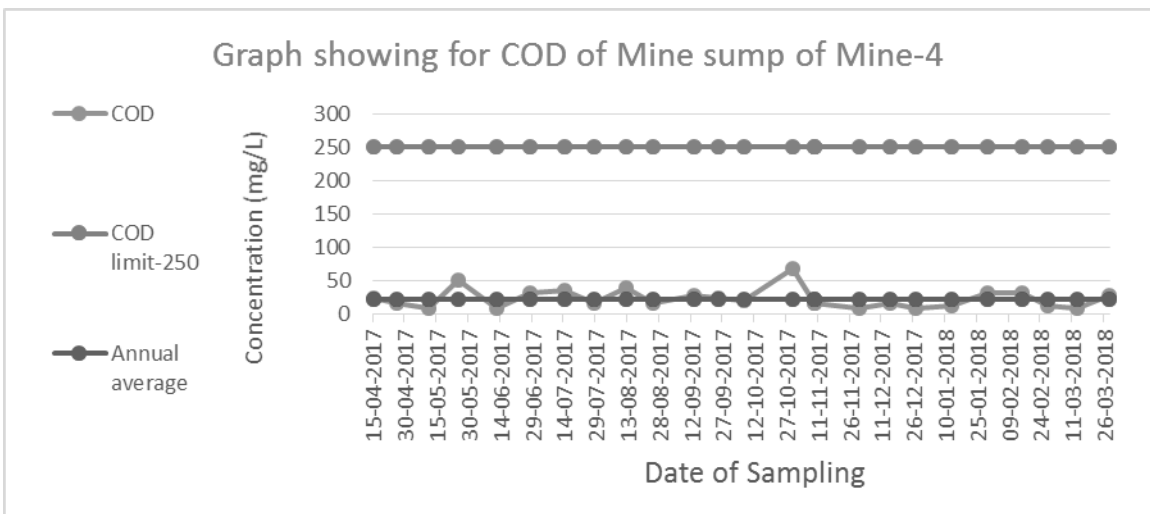
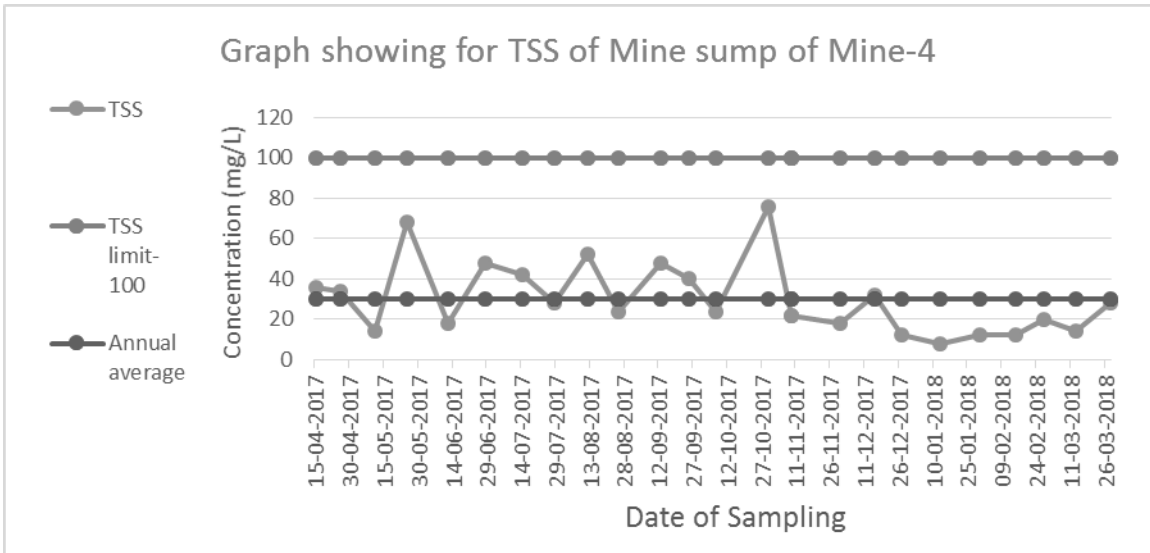
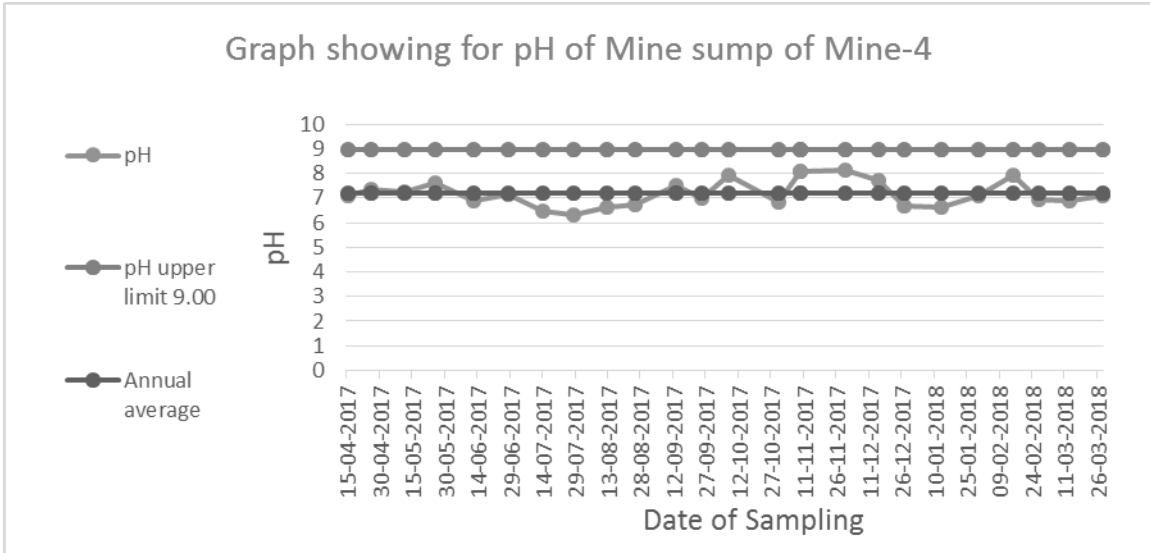


Table 123
Project: Orient Area
Monitoring Station: Mine sump of Mine-4

Date of Sampling	pH	Oil & Grease	TSS	COD
15-04-2017	7.09	<4.0	36	24
26-04-2017	7.37	<4.0	34	16
11-05-2017	7.25	<4.0	14	8
25-05-2017	7.6	<4.0	68	52
12-06-2017	6.9	<4.0	18	8
28-06-2017	7.17	<4.0	48	32
14-07-2017	6.45	<4.0	42	36
28-07-2017	6.3	<4.0	28	16
12-08-2017	6.65	<4.0	52	40
25-08-2017	6.76	<4.0	24	16
13-09-2017	7.5	<4.0	48	28
25-09-2017	6.98	<4.0	40	24
07-10-2017	7.92	<4.0	24	20
30-10-2017	6.86	<4.0	76	68
09-11-2017	8.11	<4.0	22	16
09-11-2017	8.11	<4.0	22	16
30-11-2017	8.16	<4.0	18	8
15-12-2017	7.7	<4.0	32	16
27-12-2017	6.71	<4.0	12	8
13-01-2018	6.64	8	8	12
30-01-2018	7.08	9.4	12	32
15-02-2018	7.92	4	12	32
27-02-2018	6.94	5.6	20	12
13-03-2018	6.88	4.2	14	8
28-03-2018	7.09	7	28	28

All values are in mg/L except pH



TABLES FOR DRINKING WATER QUALITY DATA

Table 15

Project / OCP	Samaleswari OCP				Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Well water from Chingriguda Village	Well water Kudopali village	Well water Lajkura	Well water Ainlapali		
Dt. of sampling	15-04-2017	15-04-2017	15-04-2017	15-04-2017	Acceptable	Permissible
Colour(Hazen)	4	8	2	8	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	5	1	5	1	5
pH	7.22	7.02	6.98	7.40	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	24	16	28	16	200	600
Total Hardness(mg/L)	148	88	632	80	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	108	42	34	38	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	364	218	1004	194	500	2000
Calcium(mg/L)	46.4	22.4	156.8	24.0	75	200
Copper(mg/L)	0.06	0.04	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.08	0.03	0.2	<0.02	0.1	0.3
Sulphate(mg/L)	32	30	228	30	200	400
Nitrate(mg/L)	4.76	4.43	6.23	4.76	45	No relaxation
Fluoride(mg/L)	0.49	0.32	0.28	0.47	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.07	<0.02	0.07	<0.02	5	15
Total Chromium (mg/L)	<0.01	<0.01	<0.01	<0.01	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 125

Project / OCP	Lajkura OCP				
	Monitoring Station	Madhuban nagar well water	Adarsh nagar colony well water	Chauliberna village well water	Indian Drinking Standards (IS-10500):2012
Dt. of sampling	15-04-2017	15-04-2017	15-04-2017	Acceptable	Permissible
Colour(Hazen)	2	4	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	7.80	7.63	6.92	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	12	28	200	600
Total Hardness(mg/L)	32	72	624	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	12	18.0	38	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	92	160.0	994	500	2000
Calcium(mg/L)	6.4	17.6	155.2	75	200
Copper(mg/L)	0.08	0.03	0.07	0.05	1.5
Manganese(mg/L)	0.04	<0.02	0.05	0.1	0.3
Sulphate(mg/L)	4	12	220	200	400
Nitrate(mg/L)	2.47	3.99	6.47	45	No relaxation
Fluoride(mg/L)	0.52	0.43	0.41	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.08	<0.02	<0.02	5	15
Total Chromium (mg/L)	<0.01	<0.01	<0.01	0.05	No relaxation
Boron(mg/L)	<0.2	<0.01	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 126

Project / OCP	Lakhanpur OCP				Indian Drinking Standards (IS-10500):2012	
	Ubuda village well warter	Khairkuni village tubewell water				
Dt. of sampling	26-04-2017	14-04-2017	12-05-2017	12-06-2017	Acceptable	Permissible
Colour(Hazen)	2	6	8	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	3	3	1	1	5
pH	6.70	7.32	6.72	6.52	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	32	28	12	16	200	600
Total Hardness(mg/L)	320	64	72	72	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	102	30	24	6	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	608	154	124	152	500	2000
Calcium(mg/L)	73.6	16.0	16.0	17.6	75	200
Copper(mg/L)	0.04	0.04	<0.03	0.04	0.05	1.5
Manganese(mg/L)	0.02	0.21	0.33	<0.02	0.1	0.3
Sulphate(mg/L)	104	6	4	4	200	400
Nitrate(mg/L)	5.87	4.76	2.37	6.23	45	No relaxation
Fluoride(mg/L)	0.36	0.40	0.32	0.48	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	<0.02	0.19	<0.02	5	15
Total Chromium (mg/L)	<0.01	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.02	<0.02	<0.02	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 127

Project / OCP	Lakhanpur OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station				
	Khairkuni village tubewell water				
Dt. of sampling	15-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	4	2	6	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	8	2	8	1	5
pH	6.63	6.96	7.26	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	8	24	200	600
Total Hardness(mg/L)	96	88	72	200	600
Iron(mg/L)	0.19	<0.06	0.07	0.3	No relaxation
Chloride(mg/L)	38	22	14	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	210	160	160	500	2000
Calcium(mg/L)	25.6	24	16	75	200
Copper(mg/L)	0.09	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.31	0.07	0.1	0.1	0.3
Sulphate(mg/L)	20	21	10	200	400
Nitrate(mg/L)	4.43	3.47	5.76	45	No relaxation
Fluoride(mg/L)	0.56	0.64	0.49	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.18	<0.02	0.08	5	15
Total Chromium (mg/L)	0.32	0.1	0.19	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 128

Project / OCP	Lakhanpur OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station				
	Khairkuni village tubewell water				
Dt. of sampling	06-10-2017	09-11-2017	14-12-2017	Acceptable	Permissible
Colour(Hazen)	4	5	5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	7	3	1	5
pH	7.14	7.02	7.01	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	4	92	200	600
Total Hardness(mg/L)	56	36	124	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	16	18	22	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	106	88	198	500	2000
Calcium(mg/L)	17.6	11.2	41.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.02	0.07	0.33	0.1	0.3
Sulphate(mg/L)	12	12	6	200	400
Nitrate(mg/L)	2.47	<1	2.90	45	No relaxation
Fluoride(mg/L)	0.05	0.18	0.56	1	1.5
Selenium(mg/L)	<0.002			0.01	No relaxation
Arsenic(mg/L)	0.003		<0.002	0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.19	0.18	0.15	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 129

Project / OCP	Lakhanpur OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station				
	Khairkuni village tubewell water				
Dt. of sampling	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Colour(Hazen)	4	3	5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	2	3	1	5
pH	6.52	6.67	7.48	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	40	40	72	200	600
Total Hardness(mg/L)	56	60	96	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	16	18	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	124	160	284	500	2000
Calcium(mg/L)	16	16	30.4	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.28	0.26	0.25	0.1	0.3
Sulphate(mg/L)	5	6	3	200	400
Nitrate(mg/L)	6.35	1.68		45	No relaxation
Fluoride(mg/L)	0.21	0.44	0.67	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.25	0.14	0.12	5	15
Total Chromium (mg/L)	0.07	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	0.4	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 130

Project / OCP	Lakhanpur OCP			Indian Drinking Standards (IS-10500):2012	
	LKP canteen tap water				
Monitoring Station	14-04-2017	12-05-2017	12-06-2017	Acceptable	Permissible
Dt. of sampling	14-04-2017	12-05-2017	12-06-2017	Acceptable	Permissible
Colour(Hazen)	8	4	8	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	2	2	1	5
pH	6.99	6.72	7.16	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	20	12	16	200	600
Total Hardness(mg/L)	76	64	80	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	14	34	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	146	120	184	500	2000
Calcium(mg/L)	19.2	19.2	19.2	75	200
Copper(mg/L)	<0.03	0.04	<0.03	0.05	1.5
Manganese(mg/L)	<0.08	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	8	9	12	200	400
Nitrate(mg/L)	3.99	1.87	4.43	45	No relaxation
Fluoride(mg/L)	0.32	0.29	0.63	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	0.0035	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	0.02	<0.02	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.02	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 131

Project / OCP	Lakhanpur OCP			Indian Drinking Standards (IS-10500):2012	
	LKP canteen tap water				
Monitoring Station	15-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Dt. of sampling	15-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	5	3	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	4	1	1	5
pH	6.87	7.02	7.24	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	12	200	600
Total Hardness(mg/L)	92	88	68	200	600
Iron(mg/L)	0.22	<0.06	0.08	0.3	No relaxation
Chloride(mg/L)	16	10	12	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	168	166	126	500	2000
Calcium(mg/L)	24.0	20.8	17.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.09	0.03	<0.02	0.1	0.3
Sulphate(mg/L)	38	26	20	200	400
Nitrate(mg/L)	2.87	3.76	3.87	45	No relaxation
Fluoride(mg/L)	0.42	0.42	0.63	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.004	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.08	0.14	0.11	5	15
Total Chromium (mg/L)	0.36	0.13	0.18	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 132

Project / OCP	Lakhanpur OCP			Indian Drinking Standards (IS-10500):2012	
	LKP canteen tap water				
Monitoring Station	06-10-2017	09-11-2017	14-12-2017	Acceptable	Permissible
Dt. of sampling	06-10-2017	09-11-2017	14-12-2017	Acceptable	Permissible
Colour(Hazen)	3	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	1	5
pH	7.21	7.94	7.55	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	8	52	200	600
Total Hardness(mg/L)	80	60	64	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	12	8	14	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	132	102	120	500	2000
Calcium(mg/L)	16.0	19.2	19.2	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	14	10	9	200	400
Nitrate(mg/L)	4.87	<1	1.20	45	No relaxation
Fluoride(mg/L)	0.36	0.46	0.45	1	1.5
Selenium(mg/L)	<0.002			0.01	No relaxation
Arsenic(mg/L)	0.003		<0.002	0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.35	0.11	0.06	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.05	0.05	No relaxation
Boron(mg/L)	<0.2		<0.02	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 133

Project / OCP	Lakhanpur OCP			Indian Drinking Standards (IS-10500):2012	
	LKP canteen tap water				
Monitoring Station	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Dt. of sampling	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Colour(Hazen)	2	2	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	2	1	5
pH	7.44	7.85	7.69	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	48	56	68	200	600
Total Hardness(mg/L)	72	80	88	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	10	10	10	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	114	198	270	500	2000
Calcium(mg/L)	19.2	22.4	28.8	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	11	11	13	200	400
Nitrate(mg/L)	1.91	2.07		45	No relaxation
Fluoride(mg/L)	0.51	0.6	0.38	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.05	0.09	0.05	5	15
Total Chromium (mg/L)	0.06	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	0.4	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 16

Project / OCP	Liliari OCP		
	Jurabaga village well water	Indian Drinking Standards (IS-10500):2012	
Dt. of sampling	14-04-2017	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	6.70	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	32	200	600
Total Hardness(mg/L)	320	200	600
Iron(mg/L)	<0.06	0.3	No relaxation
Chloride(mg/L)	102	250	1000
Residual Free chlorine(mg/L)	<1.0	0.2	1
Total Dissolve Solid(mg/L)	608	500	2000
Calcium(mg/L)	73.6	75	200
Copper(mg/L)	0.04	0.05	1.5
Manganese(mg/L)	0.02	0.1	0.3
Sulphate(mg/L)	104	200	400
Nitrate(mg/L)	5.87	45	No relaxation
Fluoride(mg/L)	0.36	1	1.5
Selenium(mg/L)	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	0.01	0.05
Lead(mg/L)	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	5	15
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Boron(mg/L)	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	0.003	No relaxation

Table 135

Project / OCP	Belpahar OCP				
Monitoring Station	Belpahar Colony tap water			Indian Drinking Standards (IS-10500):2012	
Dt. of sampling	14-04-2017	12-05-2017	13-06-2017	Acceptable	Permissible
Colour(Hazen)	6	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	1	1	5
pH	6.72	6.86	7.34	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	20	12	16	200	600
Total Hardness(mg/L)	80	72	84	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	14	18	16	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	142	128	178	500	2000
Calcium(mg/L)	19.2	17.6	19.2	75	200
Copper(mg/L)	<0.03	0.04	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	8	10	10	200	400
Nitrate(mg/L)	3.76	2.07	4.76	45	No relaxation
Fluoride(mg/L)	0.39	0.41	0.34	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	0.0075	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	0.02	<0.02	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 136

Project / OCP	Belpahar OCP				
Monitoring Station	Belpahar Colony tap water			Indian Drinking Standards (IS-10500):2012	
Dt. of sampling	15-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	3	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	2	1	1	5
pH	6.55	6.60	7.28	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	24	200	600
Total Hardness(mg/L)	84	80	76	200	600
Iron(mg/L)	0.22	0.20	0.08	0.3	No relaxation
Chloride(mg/L)	16	8	10	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	152	128	176	500	2000
Calcium(mg/L)	20.8	22.4	22.4	75	200
Copper(mg/L)	0.08	0.06	<0.03	0.05	1.5
Manganese(mg/L)	0.2	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	32	20	15	200	400
Nitrate(mg/L)	2.17	2.47	5.76	45	No relaxation
Fluoride(mg/L)	0.61	0.71	0.48	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.25	<0.02	<0.02	5	15
Total Chromium (mg/L)	0.35	0.04	0.17	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 137

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	Belpahar Colony tap water				
Monitoring Station					
Dt. of sampling	06-10-2017	09-11-2017	14-12-2017	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	1	5
pH	7.30	7.87	7.47	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	48	200	600
Total Hardness(mg/L)	44	60	64	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	12	12	10	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	64	108	126	500	2000
Calcium(mg/L)	12.8	17.6	19.2	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	10	10	11	200	400
Nitrate(mg/L)	2.07	<1	1.20	45	No relaxation
Fluoride(mg/L)	0.35	0.31	0.33	1	1.5
Selenium(mg/L)	<0.002			0.01	No relaxation
Arsenic(mg/L)	0.004		<0.002	0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.25	0.24	0.05	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 138

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	Belpahar Colony tap water				
Monitoring Station	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Dt. of sampling	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Colour(Hazen)	2	2	5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	2	1	5
pH	7.39	8.01	7.62	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	48	56	68	200	600
Total Hardness(mg/L)	68	84	156	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	10	8	12	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	114	194	452	500	2000
Calcium(mg/L)	19.2	22.4	46.4	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	9	12	107	200	400
Nitrate(mg/L)	1.94	1.74		45	No relaxation
Fluoride(mg/L)	0.37	0.73	0.42	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.08	0.02	0.1	5	15
Total Chromium (mg/L)	0.06	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 139

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	CHP tap water				
Monitoring Station					
Dt. of sampling	14.04.17	12-05-2017	13-06-2017	Acceptable	Permissible
Colour(Hazen)	8	2	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	5	1	3	1	5
pH	7.11	7.10	7.48	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	20	16	20	200	600
Total Hardness(mg/L)	76	68	84	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	16	14	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	138	134	186	500	2000
Calcium(mg/L)	19.2	17.6	19.2	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.02	0.28	0.1	0.3
Sulphate(mg/L)	8	9	12	200	400
Nitrate(mg/L)	3.99	2.06	5.47	45	No relaxation
Fluoride(mg/L)	0.53	0.42	0.40	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.-02	0.03	0.1	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 140

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	CHP tap water				
Monitoring Station					
Dt. of sampling	15-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	4	3	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	2	1	1	5
pH	6.57	6.58	7.34	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	28	200	600
Total Hardness(mg/L)	76	76	60	200	600
Iron(mg/L)	0.18	<0.06	0.08	0.3	No relaxation
Chloride(mg/L)	14	10	8	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	146	124	152	500	2000
Calcium(mg/L)	20.8	17.6	14.4	75	200
Copper(mg/L)	<0.03	0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.1	0.02	<0.02	0.1	0.3
Sulphate(mg/L)	34	21	16	200	400
Nitrate(mg/L)	3.47	2.87	6.47	45	No relaxation
Fluoride(mg/L)	0.47	0.73	0.38	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.004	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.2	<0.02	0.08	5	15
Total Chromium (mg/L)	0.39	0.2	0.18	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 141

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	CHP tap water				
Monitoring Station					
Dt. of sampling	06-10-2017	09-11-2017	14-12-2017	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	3	1	1	5
pH	7.28	7.95	7.50	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	12	56	200	600
Total Hardness(mg/L)	52	56	72	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	10	10	12	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	98	102	148	500	2000
Calcium(mg/L)	14.4	16	19.2	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	13	12	12	200	400
Nitrate(mg/L)	2.76	<1	1.60	45	No relaxation
Fluoride(mg/L)	0.34	0.35	0.49	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.004			0.01	0.05
Lead(mg/L)	<0.005		0.006	0.01	No relaxation
Zinc(mg/L)	0.08	0.24	0.05	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.05	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 142

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	CHP tap water				
Monitoring Station	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Colour(Hazen)	2	2	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	2	1	5
pH	7.46	7.75	7.82	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	52	56	56	200	600
Total Hardness(mg/L)	64	76	88	200	600
Iron(mg/L)	<0.06	0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	10	12	12	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	120	230	246	500	2000
Calcium(mg/L)	19.2	20.8	24.0	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	8	13	11	200	400
Nitrate(mg/L)	2.0	1.87		45	No relaxation
Fluoride(mg/L)	0.52	0.94	0.63	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.03	0.15	0.04	5	15
Total Chromium (mg/L)	0.07	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 143

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	Belpahar Integrated township- Indradhanush club outlet				
Monitoring Station	14-04-2017	12-05-2017	13-06-2017	Acceptable	Permissible
Dt. of sampling	14-04-2017	12-05-2017	13-06-2017	Acceptable	Permissible
Colour(Hazen)	2	8	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	3	1	1	5
pH	7.23	7.02	7.45	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	72	12	20	200	600
Total Hardness(mg/L)	76	60	84	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	16	20	16	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	218	120	180	500	2000
Calcium(mg/L)	19.2	16.0	19.2	75	200
Copper(mg/L)	0.07	0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	8	8	11	200	400
Nitrate(mg/L)	7.56	2.43	5.37	45	No relaxation
Fluoride(mg/L)	0.62	0.45	0.52	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	<0.02	<0.02	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 144

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Belpahar Integrated township- Indradhanush club outlet			
Dt. of sampling	15-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	5	3	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	3	1	1	5
pH	6.60	6.72	7.27	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	12	200	600
Total Hardness(mg/L)	88	92	76	200	600
Iron(mg/L)	0.19	0.09	<0.06	0.3	No relaxation
Chloride(mg/L)	16	10	10	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	158	142	140	500	2000
Calcium(mg/L)	20.8	19.2	16	75	200
Copper(mg/L)	0.11	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.12	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	30	22	22	200	400
Nitrate(mg/L)	3.99	3.76	3.76	45	No relaxation
Fluoride(mg/L)	0.35	0.64	0.44	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.004	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.25	0.04	0.26	5	15
Total Chromium (mg/L)	0.31	0.14	0.18	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	0.003	0.003	No relaxation

Table 145

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	Bepahar integrated township - indradhanush club outlet				
Monitoring Station	06-10-2017	09-11-2017	15-12-2017	Acceptable	Permissible
Dt. of sampling	06-10-2017	09-11-2017	15-12-2017	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	1	5
pH	7.06	7.52	7.35	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	8	40	200	600
Total Hardness(mg/L)	52	56	64	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	8	8	10	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	108	98	112	500	2000
Calcium(mg/L)	16	16	17.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	14	10	12	200	400
Nitrate(mg/L)	2.47	<1	0.90	45	No relaxation
Fluoride(mg/L)	0.41	0.35	0.51	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.004			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.17	0.21	0.09	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 146

Project / OCP	Belpahar OCP			Indian Drinking Standards (IS-10500):2012	
	Bepahar integrated township - indradhanush club outlet				
Monitoring Station	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Dt. of sampling	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Colour(Hazen)	2	4	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	1	5
pH	7.09	7.72	7.70	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	48	56	56	200	600
Total Hardness(mg/L)	68	76	72	200	600
Iron(mg/L)	<0.06	0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	10	8	8	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	114	196	235	500	2000
Calcium(mg/L)	19.2	20.8	20.8	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.07	<0.02	0.1	0.3
Sulphate(mg/L)	9	12	11	200	400
Nitrate(mg/L)	1.91	1.85		45	No relaxation
Fluoride(mg/L)	0.38	0.23	0.51	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.17	0.07	0.03	5	15
Total Chromium (mg/L)	0.07	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	0.008	0.0005	0.0005	0.003	No relaxation

Table 147

Project / OCP	Belpahar OCP	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Darlipali village well water		
Dt. of sampling	14.04.17	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	7.32	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	32	200	600
Total Hardness(mg/L)	328	200	600
Iron(mg/L)	<0.06	0.3	No relaxation
Chloride(mg/L)	102	250	1000
Residual Free chlorine(mg/L)	<1.0	0.2	1
Total Dissolve Solid(mg/L)	602	500	2000
Calcium(mg/L)	76,8	75	200
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	0.05	0.1	0.3
Sulphate(mg/L)	98	200	400
Nitrate(mg/L)	6.47	45	No relaxation
Fluoride(mg/L)	0.48	1	1.5
Selenium(mg/L)	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	0.01	0.05
Lead(mg/L)	<0.005	0.01	No relaxation
Zinc(mg/L)	0.03	5	15
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Boron(mg/L)	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	0.003	No relaxation

Table 148

Project / OCP	Belpahar OCP		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Intake water of IWSS		
Dt. of sampling	13-09-2017	14-03-2018	Acceptable	Permissible
Colour(Hazen)	3	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	1	5
pH	7.3	7.65	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	72	200	600
Total Hardness(mg/L)	60	76	200	600
Iron(mg/L)	0.26	<0.06	0.3	No relaxation
Chloride(mg/L)	14	8	250	1000
Residual Free chlorine(mg/L)	<1.0		0.2	1
Total Dissolve Solid(mg/L)	130	268	500	2000
Calcium(mg/L)	17.6	24.0	75	200
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	11	11	200	400
Nitrate(mg/L)	4.43		45	No relaxation
Fluoride(mg/L)	0.3	0.48	1	1.5
Selenium(mg/L)	<0.002		0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.02	0.07	5	15
Total Chromium (mg/L)	0.17	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	0.003	No relaxation

Table 149

Project / OCP	Kulda OCP	Indian Drinking Standards (IS-10500):2012	
		Monitoring Station	Well at Tumulia
Dt. of sampling	15-04-2017	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	7.36	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	200	600
Total Hardness(mg/L)	280	200	600
Iron(mg/L)	<0.06	0.3	No relaxation
Chloride(mg/L)	62	250	1000
Residual Free chlorine(mg/L)	<1.0	0.2	1
Total Dissolve Solid(mg/L)	396	500	2000
Calcium(mg/L)	54.4	75	200
Copper(mg/L)	0.08	0.05	1.5
Manganese(mg/L)	0.04	0.1	0.3
Sulphate(mg/L)	14	200	400
Nitrate(mg/L)	4.43	45	No relaxation
Fluoride(mg/L)	0.54	1	1.5
Selenium(mg/L)	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	0.01	0.05
Lead(mg/L)	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	5	15
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Boron(mg/L)	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	0.003	No relaxation

Table 150

Project / OCP	Kulda OCP			Indian Drinking Standards (IS-10500):2012	
	Filter plant				
Monitoring Station	15-04-17	11-05-2017	05-06-2017	Acceptable	Permissible
Dt. of sampling	15-04-17	11-05-2017	05-06-2017	Acceptable	Permissible
Colour(Hazen)	4	2	6	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	7.64	7.18	6.67	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	48	24	16	200	600
Total Hardness(mg/L)	224	220	148	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	28	30	20	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	362	314	344	500	2000
Calcium(mg/L)	46.4	48.0	30.4	75	200
Copper(mg/L)	0.1	0.06	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	29	26	106	200	400
Nitrate(mg/L)	6.76	4.78	4.43	45	No relaxation
Fluoride(mg/L)	0.44	0.56	0.71	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	0.04	<0.02	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 151

Project / OCP	Kulda OCP			Indian Drinking Standards (IS-10500):2012	
	Filter plant				
Monitoring Station					
Dt. of sampling	06-07-2017	05-08-2017	06-09-2017	Acceptable	Permissible
Colour(Hazen)	2	4	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	2	1	1	5
pH	6.85	6.55	7.07	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	12	16	200	600
Total Hardness(mg/L)	200	184	252	200	600
Iron(mg/L)	0.27	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	22	14	16	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	384	356	448	500	2000
Calcium(mg/L)	44.8	33.6	44.8	75	200
Copper(mg/L)	0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.12	0.03	<0.02	0.1	0.3
Sulphate(mg/L)	92	78	134	200	400
Nitrate(mg/L)	4.76	4.76	5.47	45	No relaxation
Fluoride(mg/L)	0.79	0.59	0.29	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.31	0.05	0.09	5	15
Total Chromium (mg/L)	0.4	0.13	0.15	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 152

Project / OCP	Kulda OCP			Indian Drinking Standards (IS-10500):2012	
	Filter plant				
Monitoring Station					
Dt. of sampling	09-10-2017	06-11-2017	02-12-2017	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	1	5
pH	7.58	7.58	7.65	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	16	148	200	600
Total Hardness(mg/L)	216	232	224	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	14	18	24	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	394	348	402	500	2000
Calcium(mg/L)	25.6	44.8	49.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.02	<0.02	0.02	0.1	0.3
Sulphate(mg/L)	118	56	41	200	400
Nitrate(mg/L)	5.47	25.07	7.50	45	No relaxation
Fluoride(mg/L)	1.39	1.02	0.47	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.002			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.15	0.15	<0.02	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 153

Project / OCP	Kulda OCP			Indian Drinking Standards (IS-10500):2012	
	Filter plant				
Monitoring Station					
Dt. of sampling	13-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Colour(Hazen)	5	2	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	1	2	1	5
pH	6.85	8.03	7.35	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	132	148	144	200	600
Total Hardness(mg/L)	236	252	252	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	24	24	32	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	400	570	560	500	2000
Calcium(mg/L)	49.6	51.2	49.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.04	<0.02	0.1	0.3
Sulphate(mg/L)	51	68	55	200	400
Nitrate(mg/L)	40.74	3.98		45	No relaxation
Fluoride(mg/L)	1.5	0.48	0.47	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.14	0.1	0.06	5	15
Total Chromium (mg/L)	0.06	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	0.0006	<0.0005	<0.0005	0.003	No relaxation

Table 154

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Tap water at Budhijaam colony			
Dt. of sampling	15-04-2017	11-05-2017	12-06-2017	Acceptable	Permissible
Colour(Hazen)	4	8	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	3	1	1	5
pH	7.54	7.15	7.30	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	16	12	200	600
Total Hardness(mg/L)	84	52	116	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	16	32	24	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	148	122	246	500	2000
Calcium(mg/L)	17.6	17.6	22.4	75	200
Copper(mg/L)	0.04	0.05	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	10	6	58	200	400
Nitrate(mg/L)	3.23	2.07	3.99	45	No relaxation
Fluoride(mg/L)	0.42	0.38	0.52	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.82	<0.02	0.30	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	0.0006	<0.0005	0.003	No relaxation

Table 155

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Tap water at Budhijaam colony				
Monitoring Station	14-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Dt. of sampling	14-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	4	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	5	2	1	1	5
pH	6.96	6.68	6.87	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	12	200	600
Total Hardness(mg/L)	104	116	104	200	600
Iron(mg/L)	0.22	<0.06	0.12	0.3	No relaxation
Chloride(mg/L)	32	8	22	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	176	172	192	500	2000
Calcium(mg/L)	17.6	19.2	19.2	75	200
Copper(mg/L)	<0.03	0.04	<0.03	0.05	1.5
Manganese(mg/L)	0.1	0.03	0.05	0.1	0.3
Sulphate(mg/L)	6	42	40	200	400
Nitrate(mg/L)	3.47	4.43	3.78	45	No relaxation
Fluoride(mg/L)	0.36	0.48	0.37	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.09	0.52	0.27	5	15
Total Chromium (mg/L)	0.31	0.13	0.21	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 156

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Tap water at Budhijaam colony			
Dt. of sampling	07-10-2017	08-11-2017	15-12-2017	Acceptable	Permissible
Colour(Hazen)	2	4	5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	2	1	5
pH	7.46	7.86	7.94	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	12	56	200	600
Total Hardness(mg/L)	116	92	68	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	22	12	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	212	202	110	500	2000
Calcium(mg/L)	20.8	19.2	16	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.02	0.03	<0.02	0.1	0.3
Sulphate(mg/L)	52	38	6	200	400
Nitrate(mg/L)	3.47	<1	1.10	45	No relaxation
Fluoride(mg/L)	0.53	0.63	0.52	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.002			0.01	0.05
Lead(mg/L)	0.009		<0.005	0.01	No relaxation
Zinc(mg/L)	0.19	0.13	0.04	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.05	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 157

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Tap water at Budhijaam colony			
Dt. of sampling	13-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	7.26	7.59	7.58	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	52	60	56	200	600
Total Hardness(mg/L)	100	100	72	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	20	12	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	180	276	245	500	2000
Calcium(mg/L)	19.2	20.8	17.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	42	36	6	200	400
Nitrate(mg/L)	1.28	1.38		45	No relaxation
Fluoride(mg/L)	0.61	0.49	0.46	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.13	0.3	0.09	5	15
Total Chromium (mg/L)	0.06	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 158

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Tap water at Rampur colony				
Monitoring Station	15-04-17	11-05-2017	12-06-2017	Acceptable	Permissible
Dt. of sampling	15-04-17	11-05-2017	12-06-2017	Acceptable	Permissible
Colour(Hazen)	2	4	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	7.30	7.25	7.17	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	20	30	200	600
Total Hardness(mg/L)	104	104	100	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	34	28	32	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	174	190	204	500	2000
Calcium(mg/L)	20.8	24.0	20.8	75	200
Copper(mg/L)	0.11	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.05	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	6	14	6	200	400
Nitrate(mg/L)	2.87	3.17	4.76	45	No relaxation
Fluoride(mg/L)	0.47	0.26	0.61	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.02	0.11	0.12	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 159

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Tap water at Rampur colony				
Monitoring Station	14-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Dt. of sampling	14-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	5	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	35	2	1	1	5
pH	6.86	6.82	6.95	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	16	28	200	600
Total Hardness(mg/L)	132	108	132	200	600
Iron(mg/L)	0.22	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	24	28	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	254	136	244	500	2000
Calcium(mg/L)	19.2	25.6	25.6	75	200
Copper(mg/L)	0.09	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.38	0.03	<0.02	0.1	0.3
Sulphate(mg/L)	74	6	6	200	400
Nitrate(mg/L)	3.99	3.76	5.76	45	No relaxation
Fluoride(mg/L)	0.28	0.55	0.53	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.09	<0.02	0.03	5	15
Total Chromium (mg/L)	0.37	0.14	0.21	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 160

Project / OCP Monitoring Station	Orient			Indian Drinking Standards (IS-10500):2012	
	Tap water at Rampur colony				
Dt. of sampling	07-10-2017	08-11-2017	15-12-2017	Acceptable	Permissible
Colour(Hazen)	2	4	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	3	1	1	5
pH	7.66	8.24	7.55	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	12	100	200	600
Total Hardness(mg/L)	96	100	92	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	30	32	24	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	178	174	190	500	2000
Calcium(mg/L)	20.8	22.4	19.2	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.02	<0.02	0.1	0.3
Sulphate(mg/L)	10	10	8	200	400
Nitrate(mg/L)	4.43	<1	5.20	45	No relaxation
Fluoride(mg/L)	0.42	0.12	0.33	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.002			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.03	0.02	0.12	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 161

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Tap water at Rampur colony				
Monitoring Station	15-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Dt. of sampling	15-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Colour(Hazen)	5	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	1	1	1	5
pH	7.04	7.46	7.74	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	96	100	104	200	600
Total Hardness(mg/L)	96	104	120	200	600
Iron(mg/L)	0.1	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	28	24	26	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	190	406	350	500	2000
Calcium(mg/L)	20.8	22.4	30.4	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	5	7	4	200	400
Nitrate(mg/L)	1.57	1.84		45	No relaxation
Fluoride(mg/L)	0.42	0.37	0.39	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.36	0.41	0.16	5	15
Total Chromium (mg/L)	0.1	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 162

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Mine no 1&2 filter plant				
Monitoring Station	15-04-2017	11-05-2017	12-06-2017	Acceptable	Permissible
Dt. of sampling	15-04-2017	11-05-2017	12-06-2017	Acceptable	Permissible
Colour(Hazen)	4	8	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	4	1	1	5
pH	7.07	7.10	7.38	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	12	20	200	600
Total Hardness(mg/L)	56	96	152	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	32	34	30	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	152	170	256	500	2000
Calcium(mg/L)	12.8	17.6	33.6	75	200
Copper(mg/L)	0.11	0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.05	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	11	6	9	200	400
Nitrate(mg/L)	3.47	3.43	5.47	45	No relaxation
Fluoride(mg/L)	0.58	0.55	0.38	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.02	0.03	<0.02	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 163

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Mine no 1&2 filter plant				
Monitoring Station					
Dt. of sampling	14-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	5	4	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	3	3	1	5
pH	6.82	6.80	7.05	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	8	20	200	600
Total Hardness(mg/L)	108	104	96	200	600
Iron(mg/L)	0.2	<0.06	0.27	0.3	No relaxation
Chloride(mg/L)	34	26	32	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	210	166	198	500	2000
Calcium(mg/L)	20.8	17.6	17.6	75	200
Copper(mg/L)	<0.03	<0.04	<0.03	0.05	1.5
Manganese(mg/L)	0.19	0.04	0.45	0.1	0.3
Sulphate(mg/L)	8	8	8	200	400
Nitrate(mg/L)	4.76	4.43	4.87	45	No relaxation
Fluoride(mg/L)	0.52	0.63	0.52	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.2	<0.02	0.12	5	15
Total Chromium (mg/L)	0.32	0.11	0.21	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 164

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Mine no 1&2 filter plant				
Monitoring Station					
Dt. of sampling	07-10-2017	08-11-2017	15-12-2017	Acceptable	Permissible
Colour(Hazen)	3	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	1	1	5
pH	7.54	8.04	6.84	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	12	84	200	600
Total Hardness(mg/L)	96	148	104	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	24	30	32	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	184	244	208	500	2000
Calcium(mg/L)	16	35.2	19.2	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	0.02	<0.02	0.1	0.3
Sulphate(mg/L)	16	12	6	200	400
Nitrate(mg/L)	5.76	<1	3.80	45	No relaxation
Fluoride(mg/L)	0.66	1.00	0.52	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.002			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.02	0.04	0.02	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 165

Project / OCP	Orient		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Mine no 1 & 2 filter plant		
Dt. of sampling	15-02-2018	13-03-2018	Acceptable	Permissible
Colour(Hazen)	2	5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	5
pH	7.66	7.6	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	100	92	200	600
Total Hardness(mg/L)	120	108	200	600
Iron(mg/L)	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	32	30	250	1000
Residual Free chlorine(mg/L)			0.2	1
Total Dissolve Solid(mg/L)	298	317	500	2000
Calcium(mg/L)	24	19.2	75	200
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	9	2	200	400
Nitrate(mg/L)	2.28		45	No relaxation
Fluoride(mg/L)	0.19	0.37	1	1.5
Selenium(mg/L)			0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.07	0.1	5	15
Total Chromium (mg/L)	0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	0.003	No relaxation

Table 166

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Mine no 3 filter plant				
Monitoring Station	15-04-2017	11-05-2017	12-06-2017	Acceptable	Permissible
Dt. of sampling	15-04-2017	11-05-2017	12-06-2017	Acceptable	Permissible
Colour(Hazen)	2	4	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	7.37	7.02	7.24	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	20	12	16	200	600
Total Hardness(mg/L)	100	112	152	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	36	22	26	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	198	234	312	500	2000
Calcium(mg/L)	19.2	22.4	32.0	75	200
Copper(mg/L)	0.07	0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.07	0.11	0.24	0.1	0.3
Sulphate(mg/L)	10	64	62	200	400
Nitrate(mg/L)	4.43	4.43	4.87	45	No relaxation
Fluoride(mg/L)	0.50	0.52	0.36	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.02	0.08	0.14	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	0.0026	<0.0005	0.003	No relaxation

Table 167

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Mine no 3 filter plant				
Monitoring Station					
Dt. of sampling	07-10-2017	08-11-2017	15-12-2017	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	7.68	7.75	6.72	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	60	200	600
Total Hardness(mg/L)	112	104	112	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	22	22	20	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	216	220	236	500	2000
Calcium(mg/L)	20.8	22.4	20.8	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.02	<0.02	0.16	0.1	0.3
Sulphate(mg/L)	60	61	57	200	400
Nitrate(mg/L)	3.99	<1	3.20	45	No relaxation
Fluoride(mg/L)	0.56	1.13	0.35	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.03	0.03	0.02	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 168

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Mine no 3 filter plant				
Monitoring Station	13-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Dt. of sampling	13-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Colour(Hazen)	5	4	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	4	2	1	1	5
pH	6.54	6.78	7.55	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	48	52	60	200	600
Total Hardness(mg/L)	108	112	120	200	600
Iron(mg/L)	0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	22	20	22	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	222	276	356	500	2000
Calcium(mg/L)	20.8	22.4	27.2	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.19	0.1	<0.02	0.1	0.3
Sulphate(mg/L)	59	48	63	200	400
Nitrate(mg/L)	12.22	1.97		45	No relaxation
Fluoride(mg/L)	0.66	0.43	0.34	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	0.06	0.07	5	15
Total Chromium (mg/L)	0.1	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 169

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	Mine no 3 filter plant	HBI filter plant			
Dt. of sampling	14-07-2017	12-08-2017	13-09-2017	Acceptable	Permissible
Colour(Hazen)	3	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	5	2	1	1	5
pH	6.93	6.94	7.34	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	16	12	200	600
Total Hardness(mg/L)	108	104	52	200	600
Iron(mg/L)	0.3	<0.06	0.1	0.3	No relaxation
Chloride(mg/L)	28	26	24	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	202	178	120	500	2000
Calcium(mg/L)	22.4	20.8	11.2	75	200
Copper(mg/L)	0.04	<0.03	0.02	0.05	1.5
Manganese(mg/L)	0.09	0.03	<0.03	0.1	0.3
Sulphate(mg/L)	7	6	22	200	400
Nitrate(mg/L)	4.43	5.87	2.37	45	No relaxation
Fluoride(mg/L)	0.63	0.56	0.31	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.02	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.12	0.12	<0.06	5	15
Total Chromium (mg/L)	0.35	0.14	0.2	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 170

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	HBI filter plant	Mine no 3 filter plant	HBI filter plant		
Dt. of sampling	07-10-2017	08-11-2017	15-12-2017	Acceptable	Permissible
Colour(Hazen)	3	2	5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	2	1	5
pH	7.39	7.75	7.55	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	8	96	200	600
Total Hardness(mg/L)	44	104	56	200	600
Iron(mg/L)	<0.06	<0.06	0.1	0.3	No relaxation
Chloride(mg/L)	18	22	22	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	170	220	196	500	2000
Calcium(mg/L)	11.2	22.4	12.8	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	30	61	10	200	400
Nitrate(mg/L)	6.47	<1	4.40	45	No relaxation
Fluoride(mg/L)	1.04	1.13	0.38	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.004			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.03	0.03	0.03	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 171

Project / OCP	Orient			Indian Drinking Standards (IS-10500):2012	
	HBI filter plant				
Monitoring Station	15-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Dt. of sampling	15-01-2018	15-02-2018	13-03-2018	Acceptable	Permissible
Colour(Hazen)	6	3	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	5	2	2	1	5
pH	7.42	7.48	7.28	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	96	96	92	200	600
Total Hardness(mg/L)	68	100	100	200	600
Iron(mg/L)	0.18	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	26	26	24	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	180	324	295	500	2000
Calcium(mg/L)	16.0	20.8	22.4	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.02	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	6	6	2	200	400
Nitrate(mg/L)	1.37	1.34		45	No relaxation
Fluoride(mg/L)	0.67	0.45	0.53	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	0.18	0.05	5	15
Total Chromium (mg/L)	0.1	0.06	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 172

Project / OCP	MCL(HQ)			Indian Drinking Standards (IS-10500):2012	
	Tap water at DAV school (anand vihar) monthly			Acceptable	Permissible
Monitoring Station	17-04-2017	11-05-2017	10-06-2017		
Dt. of sampling	17-04-2017	11-05-2017	10-06-2017	Acceptable	Permissible
Colour(Hazen)	2	4	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	6.92	7.01	7.42	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	20	16	16	200	600
Total Hardness(mg/L)	88	92	92	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	14	14	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	164	158	176	500	2000
Calcium(mg/L)	24.0	33.6	24.0	75	200
Copper(mg/L)	0.08	0.04	<0.03	0.05	1.5
Manganese(mg/L)	0.04	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	11	10	12	200	400
Nitrate(mg/L)	4.43	4.43	3.99	45	No relaxation
Fluoride(mg/L)	0.38	0.47	0.52	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.02	<0.02	0.05	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	0.0015	<0.0005	0.003	No relaxation

Table 173

Project / OCP	MCL(HQ)			Indian Drinking Standards (IS-10500):2012	
	Tap water at DAV school(anand vihar) monthly				
Monitoring Station	11-07-2017	10-08-2017	15-09-2017	Acceptable	Permissible
Dt. of sampling	11-07-2017	10-08-2017	15-09-2017	Acceptable	Permissible
Colour(Hazen)	5	2	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	1	5
pH	7.08	6.85	7.17	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	12	12	200	600
Total Hardness(mg/L)	92	64	96	200	600
Iron(mg/L)	0.21	<0.06	0.08	0.3	No relaxation
Chloride(mg/L)	14	8	14	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	148	154	166	500	2000
Calcium(mg/L)	22.4	17.6	22.4	75	200
Copper(mg/L)	0.07	0.07	<0.03	0.05	1.5
Manganese(mg/L)	0.12	0.08	<0.02	0.1	0.3
Sulphate(mg/L)	16	54	38	200	400
Nitrate(mg/L)	3.07	4.47	3.47	45	No relaxation
Fluoride(mg/L)	0.31	0.64	0.54	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.08	0.55	0.05	5	15
Total Chromium (mg/L)	0.37	0.14	0.18	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 174

Project / OCP	MCL(HQ)			Indian Drinking Standards (IS-10500):2012	
	Tap water at DAV school (anand vihar)				
Monitoring Station	08-10-2017	08-11-2017	14-12-2017	Acceptable	Permissible
Dt. of sampling	08-10-2017	08-11-2017	14-12-2017	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	1	5
pH	7.45	8.02	7.91	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	12	8	56	200	600
Total Hardness(mg/L)	68	68	80	200	600
Iron(mg/L)	<0.06	<0.06	0.06	0.3	No relaxation
Chloride(mg/L)	16	14	12	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	148	112	128	500	2000
Calcium(mg/L)	19.2	22.4	24	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.02	0.02	<0.02	0.1	0.3
Sulphate(mg/L)	28	17	13	200	400
Nitrate(mg/L)	4.76	<1	1.10	45	No relaxation
Fluoride(mg/L)	0.20	0.20	0.47	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.004			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.04	0.02	<0.002	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 175

Project / OCP	MCL(HQ)			Indian Drinking Standards (IS-10500):2012	
	Tap water at DAV school (anand vihar)				
Monitoring Station					
Dt. of sampling	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Colour(Hazen)	2	3	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	2	1	5
pH	7.56	7.72	7.66	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	48	52	52	200	600
Total Hardness(mg/L)	68	80	76	200	600
Iron(mg/L)	<0.06	0.08	<0.06	0.3	No relaxation
Chloride(mg/L)	10	10	10	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	124	260	257	500	2000
Calcium(mg/L)	19.2	22.4	24.0	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.02	0.05	<0.02	0.1	0.3
Sulphate(mg/L)	8	14	10	200	400
Nitrate(mg/L)	1.78	1.07		45	No relaxation
Fluoride(mg/L)	0.47	0.21	0.61	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	0.17	0.07	5	15
Total Chromium (mg/L)	0.11	0.06	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 176

Project / OCP	MCL(HQ)			Indian Drinking Standards (IS-10500):2012	
	Tap water at corporate office (jagrati vihar) monthly				
Monitoring Station				Acceptable	Permissible
Dt. of sampling	17-04-2017	11-05-2017	10-06-2017		
Colour(Hazen)	4	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	1	5
pH	7.04	7.10	7.21	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	68	20	12	200	600
Total Hardness(mg/L)	92	96	96	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	16	16	16	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0	<1.0	0.2	1
Total Dissolve Solid(mg/L)	220	168	166	500	2000
Calcium(mg/L)	27.2	27.2	25.6	75	200
Copper(mg/L)	0.04	0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.04	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	12	9	16	200	400
Nitrate(mg/L)	5.87	4.76	3.78	45	No relaxation
Fluoride(mg/L)	0.63	0.62	0.39	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002	0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.02	0.02	<0.02	5	15
Total Chromium (mg/L)	<0.01			0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	0.0006	<0.0005	0.003	No relaxation

Table 177

Project / OCP	MCL(HQ)			Indian Drinking Standards (IS-10500):2012	
	Tap water at corporate office (jagriti vihar)				
Monitoring Station	08-10-2017	08-11-2017	14-12-2017	Acceptable	Permissible
Dt. of sampling	08-10-2017	08-11-2017	14-12-2017	Acceptable	Permissible
Colour(Hazen)	3	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	1	5
pH	7.42	7.90	7.60	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	68	200	600
Total Hardness(mg/L)	80	80	88	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	14	12	12	250	1000
Residual Free chlorine(mg/L)	<1.0			0.2	1
Total Dissolve Solid(mg/L)	136	130	140	500	2000
Calcium(mg/L)	19.2	20.8	25.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	0.02	0.1	0.3
Sulphate(mg/L)	26	20	10	200	400
Nitrate(mg/L)	3.47	<1	1.40	45	No relaxation
Fluoride(mg/L)	0.26	0.18	0.44	1	1.5
Selenium(mg/L)	<0.002		<0.002	0.01	No relaxation
Arsenic(mg/L)	0.003			0.01	0.05
Lead(mg/L)	<0.005		<0.005	0.01	No relaxation
Zinc(mg/L)	0.06	0.05	0.04	5	15
Total Chromium (mg/L)	<0.05	<0.05	0.06	0.05	No relaxation
Boron(mg/L)	<0.2		<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005		<0.0005	0.003	No relaxation

Table 178

Project / OCP	MCL(HQ)			Indian Drinking Standards (IS-10500):2012	
	Tap water at corporate office (jagriti vihar)				
Monitoring Station	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Dt. of sampling	15-01-2018	15-02-2018	14-03-2018	Acceptable	Permissible
Colour(Hazen)	2	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	1	1	5
pH	7.32	7.85	7.73	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	100	76	68	200	600
Total Hardness(mg/L)	120	104	56	200	600
Iron(mg/L)	<0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	10	10	12	250	1000
Residual Free chlorine(mg/L)				0.2	1
Total Dissolve Solid(mg/L)	190	254	270	500	2000
Calcium(mg/L)	33.6	30.4	33.6	75	200
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.09	0.04	0.02	0.1	0.3
Sulphate(mg/L)	7	16	12	200	400
Nitrate(mg/L)	1.30	1.26		45	No relaxation
Fluoride(mg/L)	0.50	0.34	0.49	1	1.5
Selenium(mg/L)				0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.01	0.05
Lead(mg/L)	<0.005	<0.005	0.007	0.01	No relaxation
Zinc(mg/L)	0.11	0.11	0.04	5	15
Total Chromium (mg/L)	0.11	<0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 179

Project / OCP	MCL(HQ)				Indian Drinking Standards (IS-10500):2012	
	Outlet of water treatment plant (anand vihar)					
Monitoring Station						
Dt. of sampling	10-06-2017	15-09-2017	14-12-2017	14-03-2018	Acceptable	Permissible
Colour(Hazen)	2	2	5	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	2	1	1	5
pH	7.50	7.2	7.89	7.52	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	8	56	56	200	600
Total Hardness(mg/L)	76	68	80	80	200	600
Iron(mg/L)	<0.06	0.06	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	20	10	10	8	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0			0.2	1
Total Dissolve Solid(mg/L)	154	104	148	270	500	2000
Calcium(mg/L)	17.6	19.2	24	22.4	75	200
Copper(mg/L)	0.04	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.02	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	12	32	10	15	200	400
Nitrate(mg/L)	2.76	2.07	0.90		45	No relaxation
Fluoride(mg/L)	0.44	0.48	0.36	0.58	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002		0.01	No relaxation
Arsenic(mg/L)	<0.002	<0.002		0.003	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	0.03	<0.02	<0.02	0.02	5	15
Total Chromium (mg/L)		0.2	0.05	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.003	No relaxation

Table 180

Project / OCP Monitoring Station	MCL(HQ)				Indian Drinking Standards (IS-10500):2012	
	Inlet to water treatment plant (anand vihar)					
Dt. of sampling	10-06-2017	15-09-2017	14-12-2017	14-03-2018	Acceptable	Permissible
Colour(Hazen)	4	3	6	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	3	2	1	5
pH	7.50	7.19	7.02	7.45	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	16	12	52	56	200	600
Total Hardness(mg/L)	80	84	76	76	200	600
Iron(mg/L)	<0.06	0.25	<0.06	<0.06	0.3	No relaxation
Chloride(mg/L)	18	14	14	8	250	1000
Residual Free chlorine(mg/L)	<1.0	<1.0			0.2	1
Total Dissolve Solid(mg/L)	162	134	144	235	500	2000
Calcium(mg/L)	19.2	20.8	20.8	22.4	75	200
Copper(mg/L)	<0.03	<0.02	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.02	<0.03	<0.02	<0.02	0.1	0.3
Sulphate(mg/L)	10	15	12	11	200	400
Nitrate(mg/L)	4.43	2.76	1.60		45	No relaxation
Fluoride(mg/L)	0.58	0.42	0.40	0.44	1	1.5
Selenium(mg/L)	<0.002	<0.002	<0.002		0.01	No relaxation
Arsenic(mg/L)	0.0034	<0.002		0.004	0.01	0.05
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.01	No relaxation
Zinc(mg/L)	<0.02	<0.02	<0.02	0.02	5	15
Total Chromium (mg/L)		0.19	0.06	<0.05	0.05	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	<0.2	0.5	1.0
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.003	No relaxation

TABLES FOR GROUND WATER LEVEL DATA

Table 17
Project: Samleswari OCP
Monitoring Station: Well of Ainlapali

Date of sampling	Water level
10-05-2017	4.25
12-08-2017	1.74
23-11-2017	9.06
31-01-2018	9.72

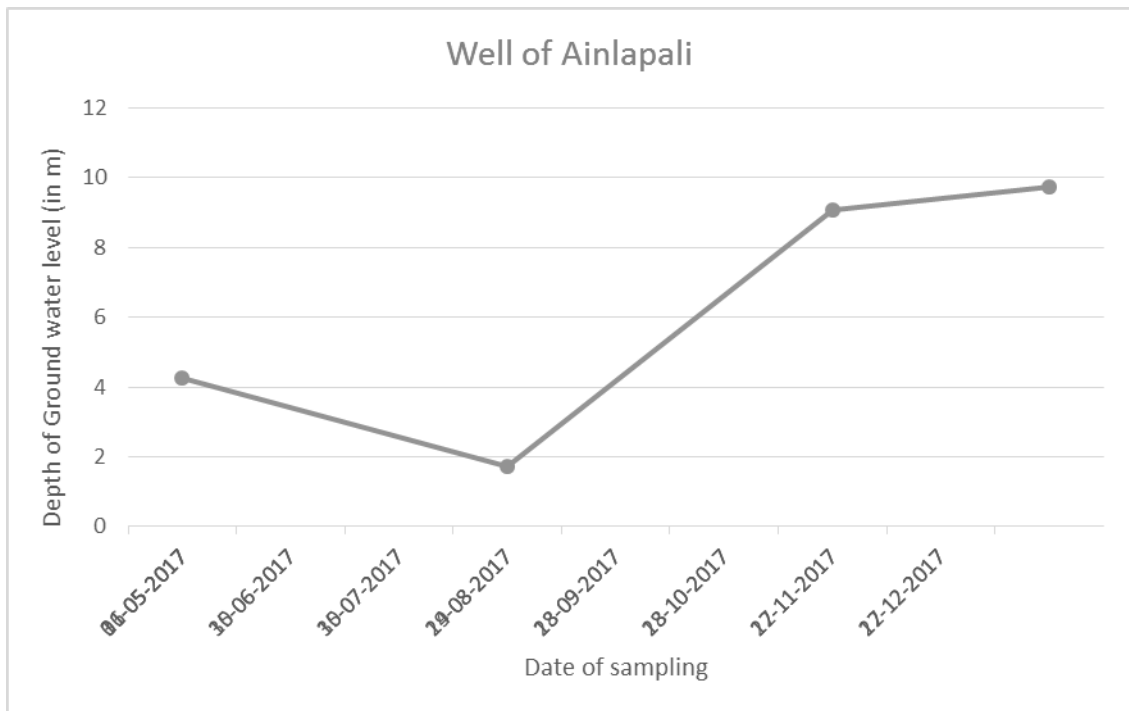


Table 182
Project: Samleswari OCP
Monitoring Station: Well of Chingriguda

Date of sampling	Water level
10-05-2017	4.575
10-08-2017	0.69
16-11-2017	2.46
31-01-2018	4.86

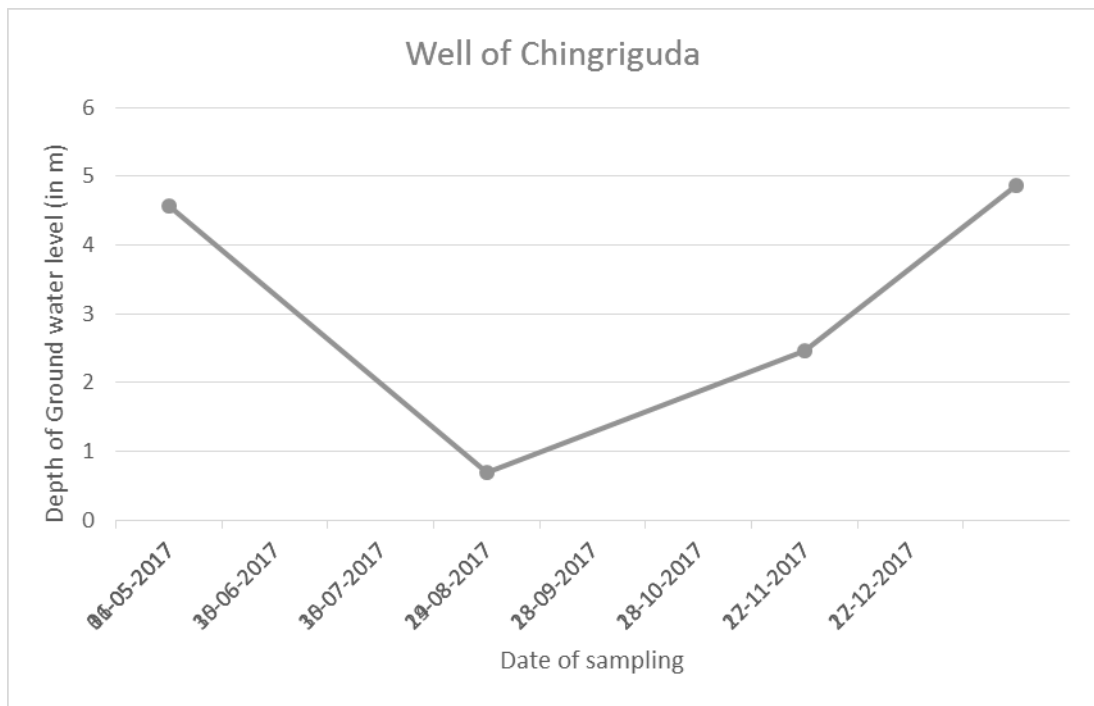


Table 183
Project: Samleswari OCP
Monitoring Station: Well of Kudopali

Date of sampling	Water level
10-05-2017	2.275
12-08-2017	0.51
23-11-2017	2.61
31-01-2018	3.51

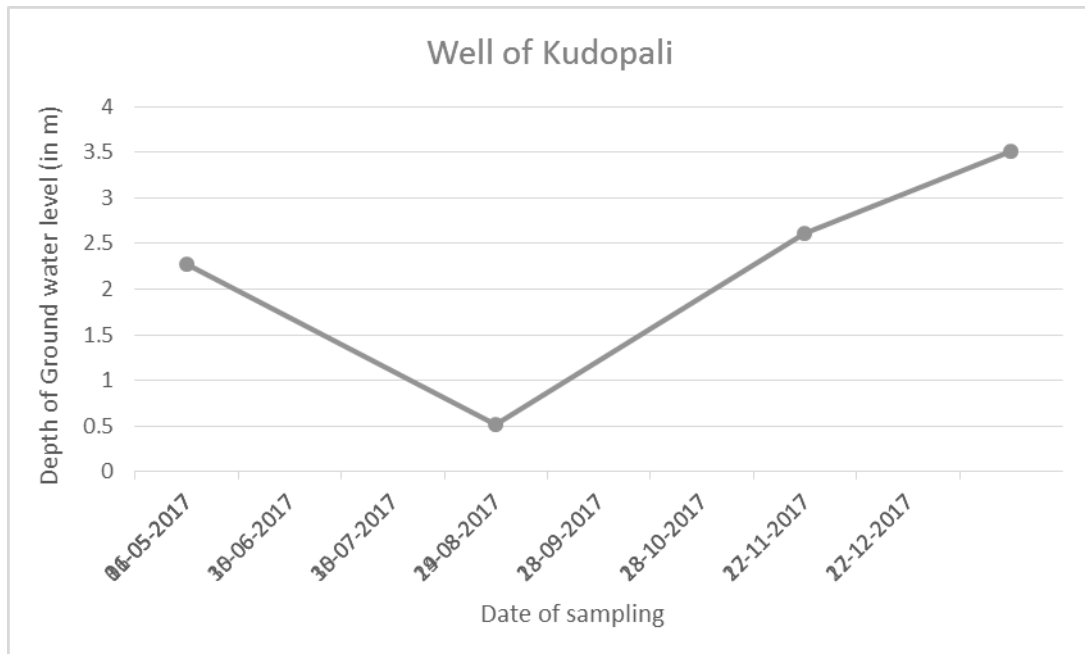


Table 184
Project: Samleswari OCP
Monitoring Station: Well of Lajkura

Date of sampling	Water level
10-05-2017	4.975
12-08-2017	1.11
22-11-2017	4.71
31-01-2018	4.56

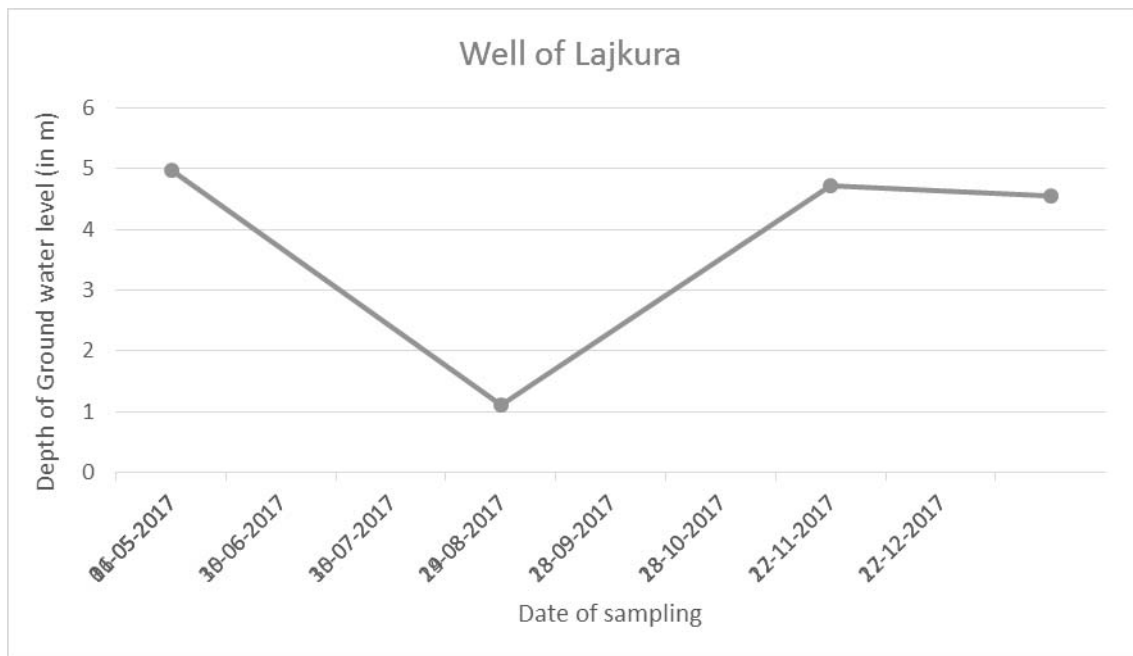


Table 185
Project: Lajkura OCP
Monitoring Station: Adarsh nagar colony well water

Date of sampling	Water level
08-05-2017	5.45
12-08-2017	0.93
21-11-2017	6.75
31-01-2018	8.13

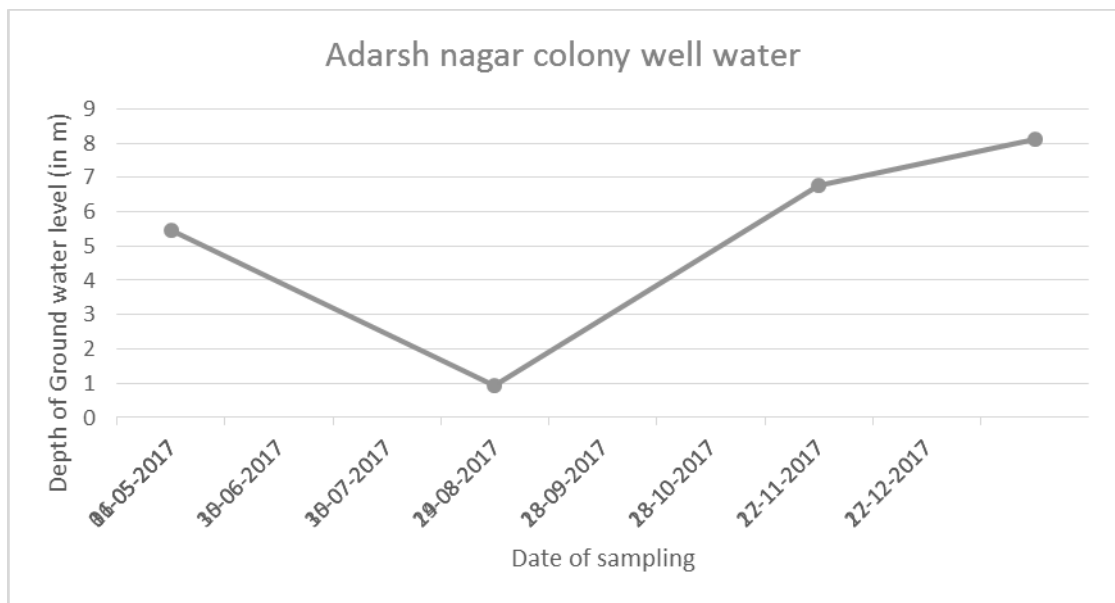


Table 18
Project : Lajkura OCP
Monitoring Station : Chhualiberna village well water

Date of sampling	Water level
08-05-2017	5.225
07-08-2017	0.45
21-11-2017	3.36
31-01-2018	4.62

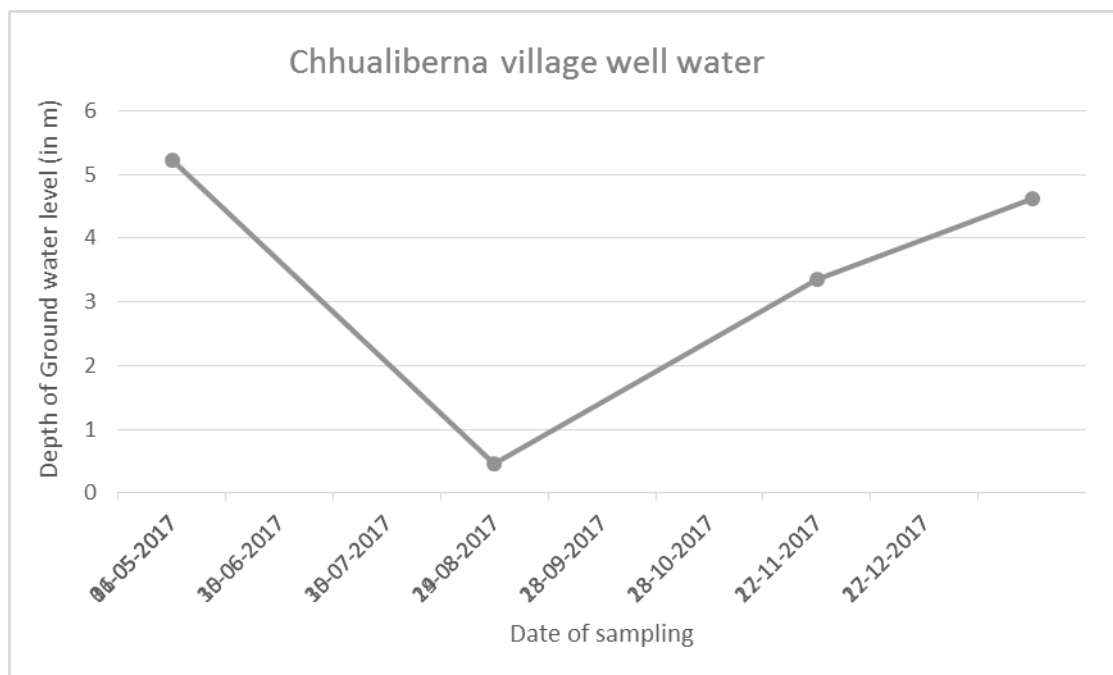


Table 19
Project : Lajkura OCP
Monitoring Station : Madhuban Nagar Well water

Date of sampling	Water level
08-05-2017	4.875
07-08-2017	1.86
21-11-2017	7.89
31-01-2018	9

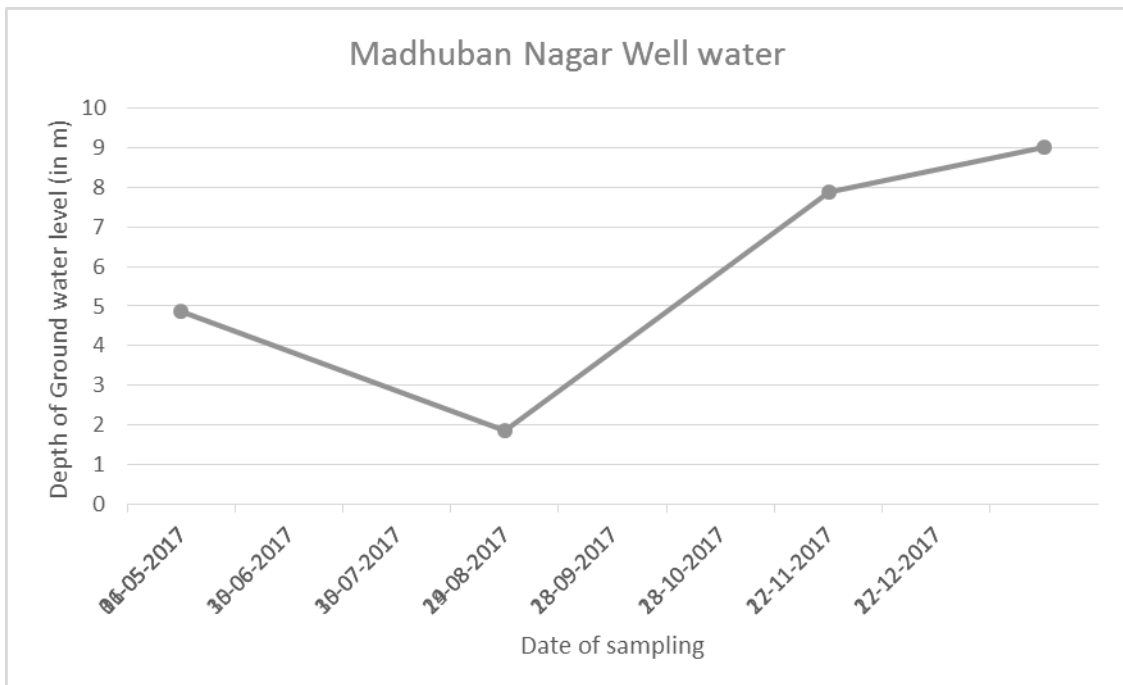


Table 20188
Project: Lakhanpur OCP
Monitoring Station: Ubuda Village well water

Date of sampling	Water level
12-08-2017	2.04
24-11-2017	2.43
31-01-2018	3.96

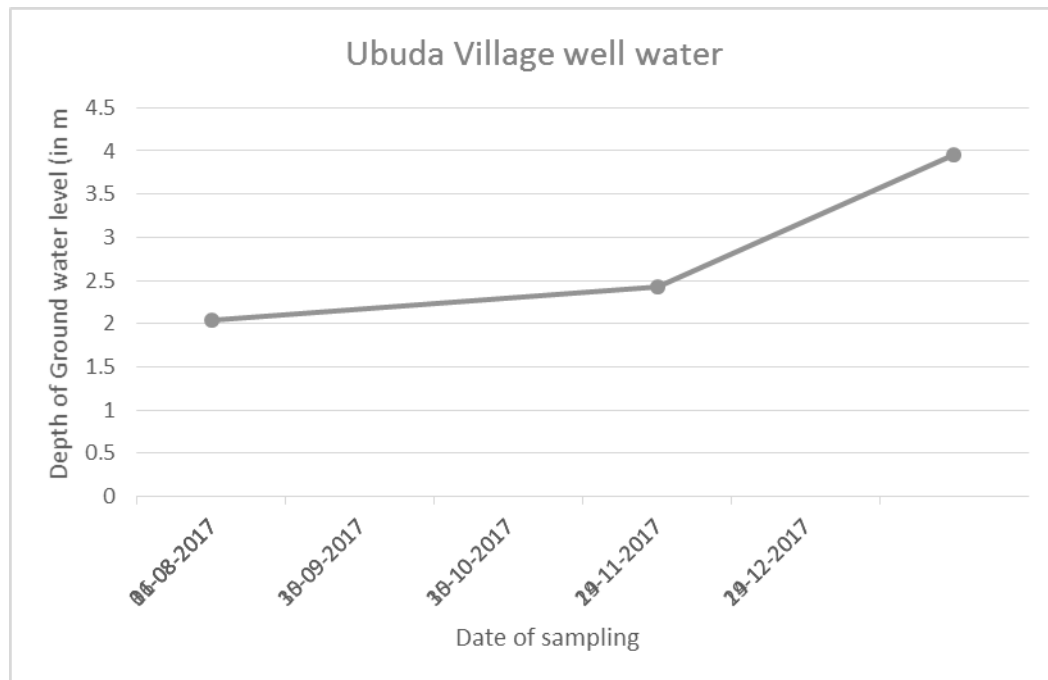


Table 189
Project : Belpahar OCP
Monitoring Station: Darlipali village well water

Date of sampling	Water level
11-05-2017	3.65
12-08-2017	1.23
28-11-2017	3.24
31-01-2018	5.64

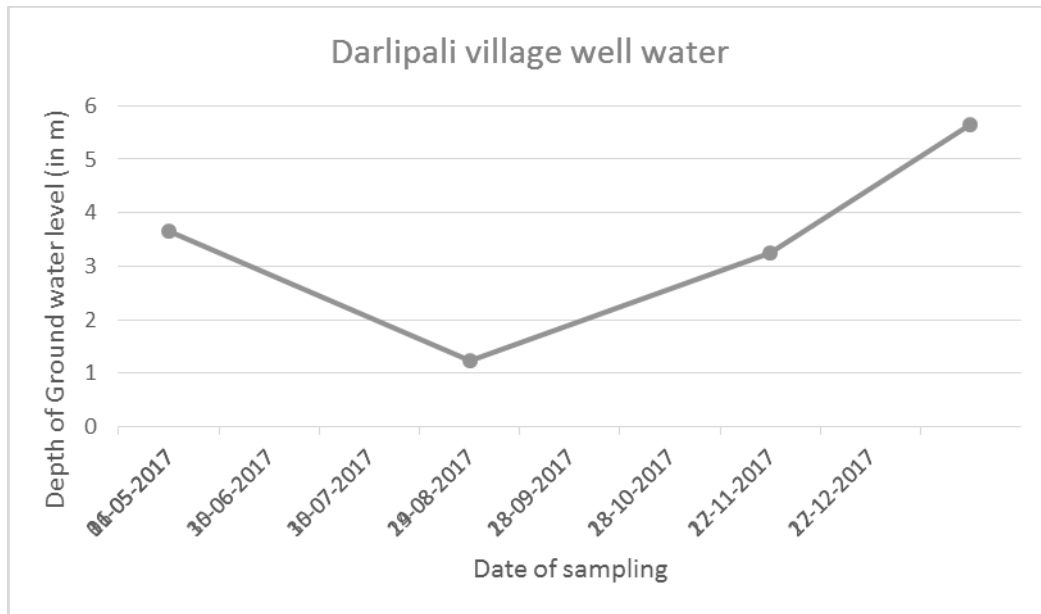


Table 190
Project : Belpahar OCP
Monitoring Station: Ubuda Village well water

Date of sampling	Water level
11-05-2017	3.95

Table 191

Project : Kulda OCP
Monitoring Station : Well at Kulda

Date of sampling	Water level
04-05-2017	1.25
02-08-2017	0.48
17-11-2017	0.69
19-01-2018	0.78

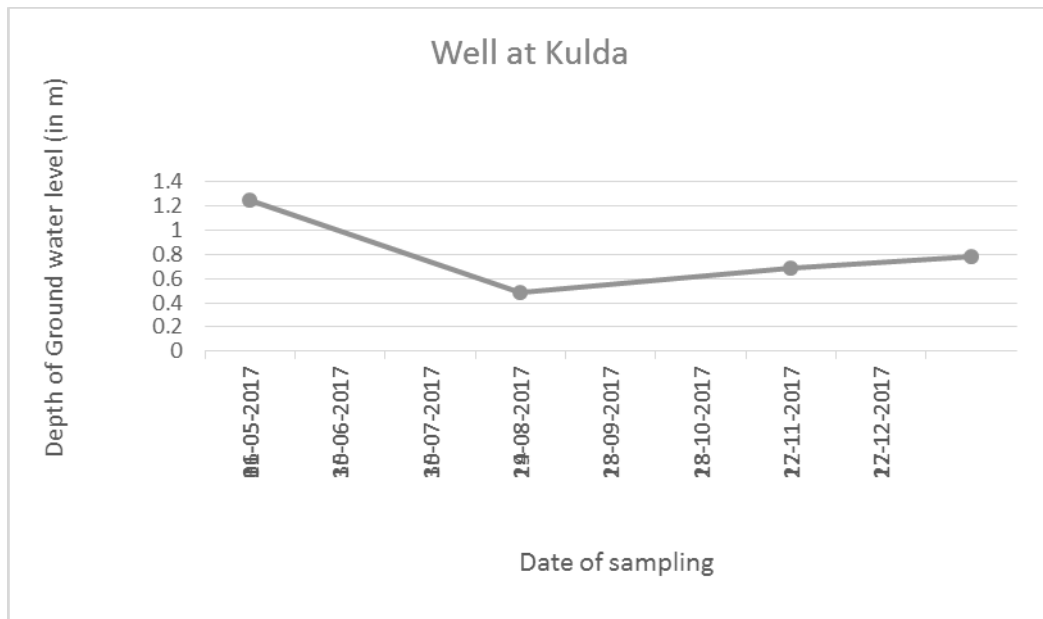


Table 2192
Project : Kulda OCP

Monitoring Station : Well of Tumulia

Date of sampling	Water level
04-05-2017	3.95
03-08-2017	2.88
17-11-2017	1.26
19-01-2018	2.19

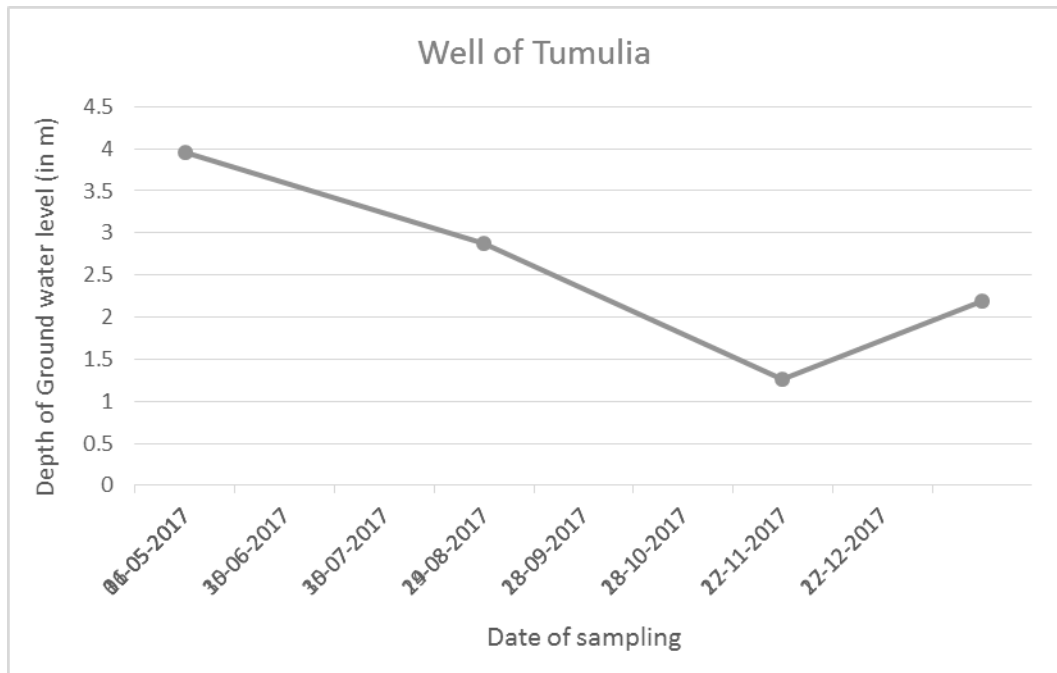


Table 22
Project : Basundhara OCP

Monitoring Station : Sardega Village Well

Date of sampling	Water level
04-05-2017	3.375
02-08-2017	2.22
20-11-2017	2.01
19-01-2018	4.86

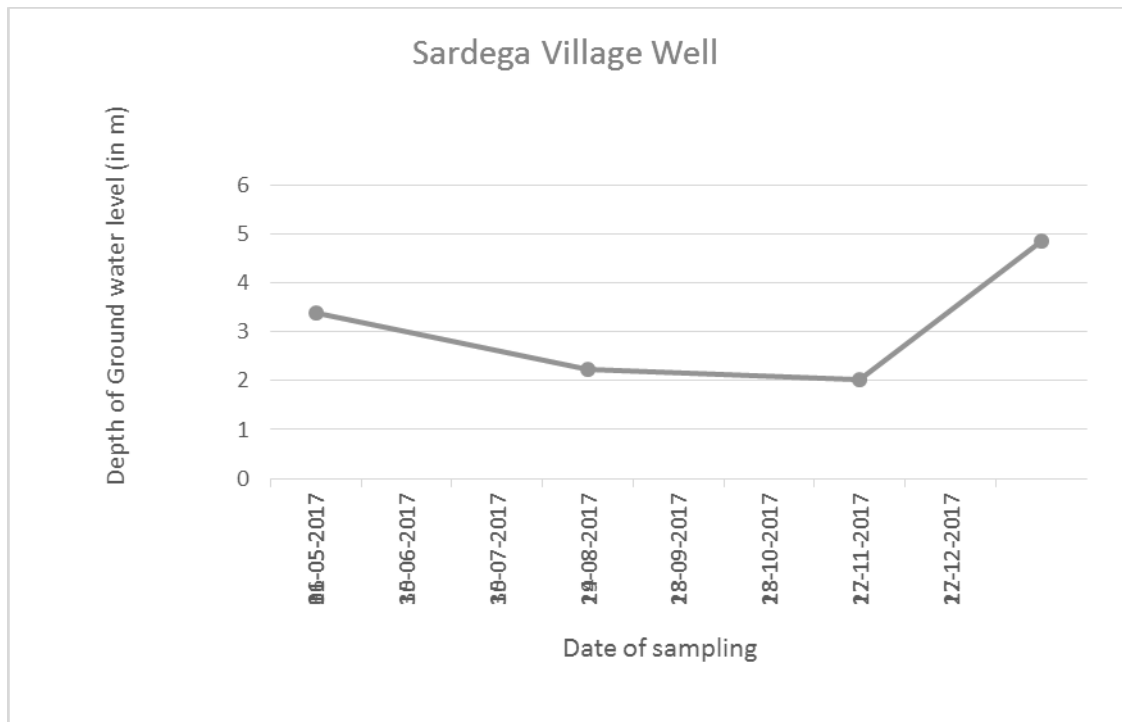
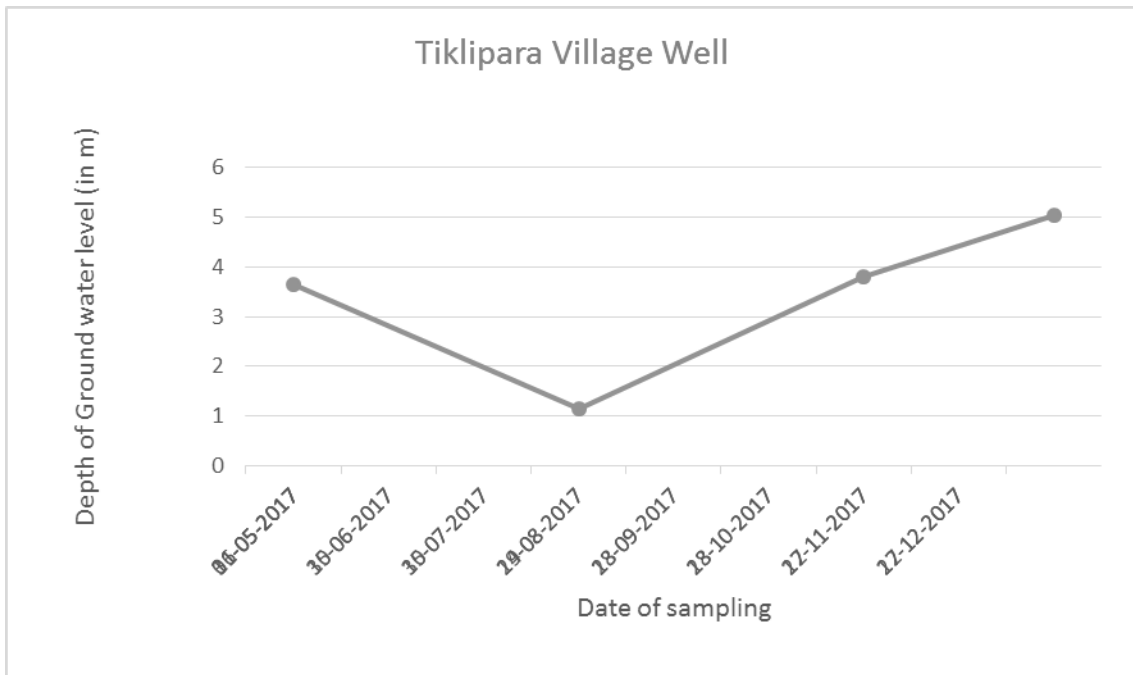


Table 23
Project : Basundhara OCP

Monitoring Station : Tiklipara Village Well

Date of sampling	Water level
04-05-2017	3.65
02-08-2017	1.14
20-11-2017	3.81
19-01-2018	5.04



TABLES FOR SURFACE WATER QUALITY DATA

Table 195
Surface Water Quality Data
Area: Samaleswari

Project/OCP	Samaleswari OCP			IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Pandren Jhor stream near Muchabahal village u/s of SOCP			
Date of sampling	12-06-2017	25-09-2017	29-03-2018	
pH	7.53	7.42	6.42	6.5-8.5
Dissolved Oxygen(mg/L)	5.7	4.7	9.8	4
BOD (3 days 27°c)(mg/L)	3.5	3.2	2.5	3
Color (Hazen unit)	2	2	5	300
Total dissolved solids (mg/L)	1086	204	1074	1500
Total Suspended Solids(mg/L)	36	22	64	-
Total Hardness(mg/L)	624	112	488	-
Copper(mg/L)	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	<0.06	<0.06	50
Chlorides(mg/L)	30	20	18	600
Sulphate(mg/L)	308	24	450	400
Nitrate(mg/L)	9.47	4.47		50
Fluoride(mg/L)	0.52	0.71	0.9	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002		0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	0.08	0.02	0.18	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	10	0.1

Table 196
Surface Water Quality Data
Area: Samaleswari

Project/OCP	Samaleswari OCP				
NAME OF STATIONS	Pandren Jhor stream before confluence point with Lilari Nallah				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	12-06-2017	25-09-2017	29-03-2018	29-03-2018	
pH	7.74	6.65	7.95	7.95	6.5-8.5
Dissolved Oxygen(mg/L)	5.9	3.7	9.7	9.7	4
BOD (3 days 27°c)(mg/L)	4.2	2.8	2.2	2.2	3
Color (Hazen unit)	2	2	4	4	300
Total dissolved solids (mg/L)	1068	188	763	763	1500
Total Suspended Solids(mg/L)	28	38	24	24	-
Total Hardness(mg/L)	632	92	380	380	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	<0.06	<0.06	<0.06	50
Chlorides(mg/L)	16	10	66	66	600
Sulphate(mg/L)	318	44	212	212	400
Nitrate(mg/L)	10.47	3.99			50
Fluoride(mg/L)	0.73	0.61	0.85	0.85	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	0.06	<0.02	0.08	0.08	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	9.4	9.4	0.1

Table 197
Surface Water Quality Data
Area: Lakhanpur

Project/OCP	Lakhanpur OCP				
NAME OF STATIONS	Pond water at Samra village				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	12-06-2017	26-09-2017	28-12-2017	29-03-2018	
pH	8.33	6.75	7.63	7.66	6.5-8.5
Dissolved Oxygen(mg/L)	4.8	4.8	6.2	9.8	4
BOD (3 days 27°c(mg/L)	2.3	3.6	3.5	2.5	3
Color (Hazen unit)	2	2	2	2	300
Total dissolved solids (mg/L)	398	116	172	391	1500
Total Suspended Solids(mg/L)	32	24	24	42	-
Total Hardness(mg/L)	260	48	88	104	-
Copper(mg/L)	0.06	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	<0.06	<0.06	<0.06	50
Chlorides(mg/L)	52	16	38	48	600
Sulphate(mg/L)	15	8	15	148	400
Nitrate(mg/L)	5.76	4.76	1.4		50
Fluoride(mg/L)	0.42	0.73	0.46	1.05	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	<0.02	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	5.2	0.1

Table 198
Surface Water Quality Data
Area: Lakhanpur

Project/OCP	Lakhanpur OCP				
NAME OF STATIONS	Lilari nallah at bridge point before joining Ib river near Dudolsingha village				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	12-06-2018	27-09-2017	28-12-2017	29-03-2018	
pH	7.65	6.8	7.67	6.82	6.5-8.5
Dissolved Oxygen(mg/L)	5.7	6.6	6.4	9.2	4
BOD (3 days 27°c(mg/L)	3.4	4.2	3.7	2.4	3
Color (Hazen unit)	2	3	2	2	300
Total dissolved solids (mg/L)	504	98	142	285	1500
Total Suspended Solids(mg/L)	28	18	20	50	-
Total Hardness(mg/L)	204	48	84	92	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.16	<0.06	<0.06	50
Chlorides(mg/L)	118	6	16	20	600
Sulphate(mg/L)	74	6	19	80	400
Nitrate(mg/L)	6.37	3.47	1.1		50
Fluoride(mg/L)	0.47	0.38	0.57	0.81	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.47	<0.02	0.03	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	8.4	0.1

Table 199
Surface Water Quality Data
Area: Lakhanpur

Project/OCP	Lakhanpur OCP				
NAME OF STATIONS	Pulijhor stream near Darlipalil Village before confluence to Lilari nallah as d/s water of Lakhanpur OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	12-06-2017	26-09-2017	28-12-2017	29-03-2018	
pH	7.29	6.7	7.12	6.48	6.5-8.5
Dissolved Oxygen(mg/L)	6.4	5.2	6.7	9	4
BOD (3 days 27°c(mg/L)	4.4	4.1	4.1	2.2	3
Color (Hazen unit)	2	5	2	3	300
Total disolved solids (mg/L)	1146	368	134	730	1500
Total Suspended Solids(mg/L)	46	42	24	46	-
Total Hardness(mg/L)	732	152	60	240	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	<0.06	<0.06	<0.06	50
Chlorides(mg/L)	28	10	12	18	600
Sulphate(mg/L)	314	132	30	380	400
Nitrate(mg/L)	9.76	5.87	0.8		50
Fluoride(mg/L)	0.42	0.49	0.29	0.59	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	0.003	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.02	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	6.8	0.1

Table 24
Surface Water Quality Data
Area: Lakhanpur

Project/OCP	Lakhanpur OCP				
NAME OF STATIONS	Pulijhor stream near Tingismal Village as u/s for Lakhanpur OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	12-06-2017	26-09-2017	28-12-2017	29-03-2018	
pH	7.24	7.26	7.29	6.88	6.5-8.5
Dissolved Oxygen(mg/L)	4.3	4.9	5.7	9.6	4
BOD (3 days 27°c(mg/L)	2.1	3.5	3.7	2.2	3
Color (Hazen unit)	4	3	4	2	300
Total dissolved solids (mg/L)	138	94	68	694	1500
Total Suspended Solids(mg/L)	38	16	18	32	-
Total Hardness(mg/L)	44	44	28	240	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.1	<0.06	<0.06	50
Chlorides(mg/L)	34	10	12	14	600
Sulphate(mg/L)	6	8	8	390	400
Nitrate(mg/L)	4.43	1.98	0.8		50
Fluoride(mg/L)	0.68	0.73	0.44	0.62	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	<0.02	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	5.6	0.1

Table 25
Surface Water Quality Data
Area: Belpahar

Project/OCP	Belpahar OCP				
NAME OF STATIONS	Hirakud reservoir for impact assessment of the coalfield				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	13-06-2017	27-09-2017	27-12-2017	28-03-2018	
pH	7.25	7.02	7.5	8.59	6.5-8.5
Dissolved Oxygen(mg/L)	4.9	4.8	5.8	9.6	4
BOD (3 days 27°c(mg/L)	2.6	3.1	4	2.2	3
Color (Hazen unit)	2	2	4	2	300
Total dissolved solids (mg/L)	164	116	102	342	1500
Total Suspended Solids(mg/L)	28	22	24	20	-
Total Hardness(mg/L)	84	60	68	60	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.17	0.07	0.07	50
Chlorides(mg/L)	14	6	8	10	600
Sulphate(mg/L)	10	9	8	166	400
Nitrate(mg/L)	4.76	3.76	0.9		50
Fluoride(mg/L)	0.82	0.41	0.63	0.69	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	0.0065	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.02	0.13	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	8.4	0.1

Table 26
Surface Water Quality Data
Area: Belpahar

Project/OCP	Belpahar OCP				
NAME OF STATIONS	lb river near Dumermunda village as d/s of the coalfield before joining to Hirakud reservoir				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	13-06-2017	26-09-2017	27-12-2017	28-03-2018	
pH	7.05	6.9	7.63	7.83	6.5-8.5
Dissolved Oxygen(mg/L)	6.1	4.3	6.6	8.9	4
BOD (3 days 27°c)(mg/L)	4	2.9	3.2	2.1	3
Color (Hazen unit)	2	3	2	5	300
Total dissolved solids (mg/L)	496	96	136	295	1500
Total Suspended Solids(mg/L)	36	18	32	24	-
Total Hardness(mg/L)	316	48	80	56	-
Copper(mg/L)	0.04	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.14	<0.06	<0.06	50
Chlorides(mg/L)	22	6	12	10	600
Sulphate(mg/L)	78	6	1.6	152	400
Nitrate(mg/L)	5.76	2.47	1.1		50
Fluoride(mg/L)	0.71	0.53	0.55	0.87	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.02	<0.02	<0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	9.6	0.1

Table 27
Surface Water Quality Data
Area: Belpahar

Project/OCP	Belpahar OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Lilari nallah near Kirarama village as d/s of Lakhanpur OCP and Belpahar OCP				
Date of sampling	13-06-2017	26-09-2017	27-12-2017	28-03-2018	
pH	7.45	6.82	6.48	6.55	6.5-8.5
Dissolved Oxygen(mg/L)	5.9	5.3	6.3	9.8	4
BOD (3 days 27°c(mg/L))	3.7	4.3	3.8	2.2	3
Color (Hazen unit)	4	2	2	4	300
Total dissolved solids (mg/L)	1082	318	348	983	1500
Total Suspended Solids(mg/L)	48	44	22	54	-
Total Hardness(mg/L)	656	136	176	460	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	<0.06	<0.06	<0.06	50
Chlorides(mg/L)	30	14	14	22	600
Sulphate(mg/L)	306	108	124	420	400
Nitrate(mg/L)	10.76	4.47	2.8		50
Fluoride(mg/L)	0.68	0.54	0.67	0.52	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	0.005	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.02	<0.02	0.14	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	4.8	0.1

Table 28
Surface Water Quality Data
Area: Belpahar

NAME OF STATIONS	Lilari nallah near Gouraparha village at bridge point of NH200 as u/s water for Lakhanpur OCP and Belpahar OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
	13-06-2017	27-09-2017	27-12-2017	28-03-2018	
Date of sampling	13-06-2017	27-09-2017	27-12-2017	28-03-2018	
pH	7.86	7.25	6.95	7.17	6.5-8.5
Dissolved Oxygen(mg/L)	6.7	4.2	5.9	9.4	4
BOD (3 days 27°c)(mg/L)	4.2	3.2	3.4	2.2	3
Color (Hazen unit)	2	2	2	2	300
Total dissolved solids (mg/L)	110	104	54	274	1500
Total Suspended Solids(mg/L)	52	36	18	18	-
Total Hardness(mg/L)	44	44	24	36	-
Copper(mg/L)	0.04	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.11	0.1	0.12	50
Chlorides(mg/L)	14	8	8	12	600
Sulphate(mg/L)	6	6	4	142	400
Nitrate(mg/L)	2.78	3.27	0.6		50
Fluoride(mg/L)	0.47	0.65	0.28	0.82	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	0.05	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.07	<0.02	<0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	6.4	0.1

Table 29
Surface Water Quality Data
Area: Kulda

Project/OCP	Kulda OCP				
NAME OF STATIONS	Pond water at Gopalpur village				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Date of sampling	05-06-2017	25-09-2017	16-12-2017	
pH	7.63	6.8	7.7	7.42	6.5-8.5
Dissolved Oxygen(mg/L)	6.8	4.6	6.9	8.9	4
BOD (3 days 27oc(mg/L)	3.3	3.6	3.4	2.1	3
Color (Hazen unit)	2	2	2	5	300
Total dissolved solids (mg/L)	338	212	212	532	1500
Total Suspended Solids(mg/L)	44	28	16	64	-
Total Hardness(mg/L)	148	104	104	132	-
Copper(mg/L)	<0.03	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	<0.06	<0.06	0.07	50
Chlorides(mg/L)	74	32	40	48	600
Sulphate(mg/L)	62	12	23	254	400
Nitrate(mg/L)	4.76	4.76	3.1		50
Fluoride(mg/L)	0.46	0.67	0.7	0.57	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	<0.02	<0.02	0.03	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	6.4	0.1

Table 30
Surface Water Quality Data
Area: Kulda

NAME OF STATIONS	Basundhara river near Kusura village as d/s water of Kulda OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Date of sampling	05-06-2017	25-09-2017	16-12-2017	
pH	7.2	6.78	7.29	7.1	6.5-8.5
Dissolved Oxygen(mg/L)	6.3	5.2	6.4	9.6	4
BOD (3 days 27oc)(mg/L)	2.9	3.2	3.2	2.3	3
Color (Hazen unit)	4	3	4	3	300
Total dissolved solids (mg/L)	362	86	144	247	1500
Total Suspended Solids(mg/L)	32	36	24	26	-
Total Hardness(mg/L)	128	36	68	72	-
Copper(mg/L)	0.04	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.15	<0.06	<0.06	50
Chlorides(mg/L)	56	6	12	16	600
Sulphate(mg/L)	80	6	32	74	400
Nitrate(mg/L)	5.76	1.98	2.4		50
Fluoride(mg/L)	0.57	0.66	0.47	0.41	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.02	0.03	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	7.6	0.1

Table 31
Surface Water Quality Data
Area: Kulda

NAME OF STATIONS	Basundhara river near Tiklipara village as d/s water of Kulda OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
	05-06-2017	25-09-2017	16-12-2017	28-03-2018	
Date of sampling	05-06-2017	25-09-2017	16-12-2017	28-03-2018	
pH	7.08	7.34	6.98	6.98	6.5-8.5
Dissolved Oxygen(mg/L)	5.9	5.8	6.2	8.7	4
BOD (3 days 27oc)(mg/L)	3.2	3.5	3.8	2.1	3
Color (Hazen unit)	2	2	2	4	300
Total dissolved solids (mg/L)	348	78	82	351	1500
Total Suspended Solids(mg/L)	28	24	22	34	-
Total Hardness(mg/L)	124	28	40	100	-
Copper(mg/L)	36	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.03	0.15	<0.06	<0.06	50
Chlorides(mg/L)	60	6	14	42	600
Sulphate(mg/L)	84	4	10	114	400
Nitrate(mg/L)	5.37	1.47	0.6		50
Fluoride(mg/L)	0.47	0.58	0.49	0.45	1.5
Cadmium(mg/L)	<0.001	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.0005	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	0.032	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.005	0.03	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.02	<0.01	<0.01	<0.01	0.05
Oil & Grease	<0.01	<4.0	<4.0	5.2	0.1

Table 32
Surface Water Quality Data
Area: Kulda

Project/OCP	Kulda OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Pond water at Gaddwar village				
Date of sampling	05-06-2017	25-09-2017	16-12-2017	28-03-2018	
pH	7.52	6.85	7.01	7.24	6.5-8.5
Dissolved Oxygen(mg/L)	5.4	4.5	7.1	9.9	4
BOD (3 days 27oc(mg/L)	2.2	3.8	3.8	2.7	3
Color (Hazen unit)	6	5	2	4	300
Total dissolved solids (mg/L)	102	86	92	246	1500
Total Suspended Solids(mg/L)	52	22	32	26	-
Total Hardness(mg/L)	36	28	32	36	-
Copper(mg/L)	0.07	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	0.41	0.69	<0.06	<0.06	50
Chlorides(mg/L)	14	8	14	10	600
Sulphate(mg/L)	13	6	11	78	400
Nitrate(mg/L)	3.99	2.87	0.5		50
Fluoride(mg/L)	0.59	0.52	0.44	0.38	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.27	0.4	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	5.6	0.1

Table 33
Surface Water Quality Data
Area: Kulda

Project/OCP	Kulda OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Basundhara river near Kulaparha village just after meeting point of Basundhara & Chaturdhara river as u/s of Siarmal OCP				
Date of sampling	05-06-2017	25-09-2017	16-12-2017	28-03-2018	
pH	6.81	6.88	7.4	7.15	6.5-8.5
Dissolved Oxygen(mg/L)	6.1	4.8	6.3	9.5	4
BOD (3 days 27oc)(mg/L)	4.2	3.4	3.6	2.1	3
Color (Hazen unit)	2	2	2	2	300
Total dissolved solids (mg/L)	198	68	174	310	1500
Total Suspended Solids(mg/L)	22	34	18	28	-
Total Hardness(mg/L)	80	20	80	32	-
Copper(mg/L)	0.04	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	0.28	0.23	<0.06	<0.06	50
Chlorides(mg/L)	24	6	12	12	600
Sulphate(mg/L)	14	4	60	186	400
Nitrate(mg/L)	4.43	1.07	1.6		50
Fluoride(mg/L)	0.56	0.38	0.45	0.75	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	<0.02	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	5.6	0.1

Table 34
Surface Water Quality Data
Area: Orient

Project/OCP	Orient				
NAME OF STATIONS	IB River bridge of NH200 at Gondahora village as u/s of Orient				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Date of sampling	12-06-2017	26-09-2017	27-12-2017	
pH	7.38	6.64	7.66	7.35	6.5-8.5
Dissolved Oxygen(mg/L)	5.2	4.4	5.8	8.9	4
BOD (3 days 27oc(mg/L)	3.3	3.8	3.1	2.2	3
Color (Hazen unit)	2	5	2	4	300
Total dissolved solids (mg/L)	134	104	110	325	1500
Total Suspended Solids(mg/L)	22	52	34	42	-
Total Hardness(mg/L)	68	48	64	68	-
Copper(mg/L)	0.04	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.16	<0.06	<0.06	50
Chlorides(mg/L)	12	6	10	12	600
Sulphate(mg/L)	8	4	7	184	400
Nitrate(mg/L)	3.76	2.47	0.9		50
Fluoride(mg/L)	0.51	0.69	0.62	0.42	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	<0.02	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	6.8	0.1

Table 35
Surface Water Quality Data
Area: Orient

NAME OF STATIONS	lb river near Kotarbaga village at bridge point				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Date of sampling	12-06-2017	26-09-2017	27-12-2017	
pH	7.56	7.63	7.83	DRY	6.5-8.5
Dissolved Oxygen(mg/L)	4.6	4.8	6.4	DRY	4
BOD (3 days 27oc)(mg/L)	2.8	2.8	3	DRY	3
Color (Hazen unit)	4	2	2	DRY	300
Total dissolved solids (mg/L)	560	86	108	DRY	1500
Total Suspended Solids(mg/L)	12	16	32	DRY	-
Total Hardness(mg/L)	236	48	60	DRY	-
Copper(mg/L)	<0.03	<0.03	<0.03	DRY	1.5
Iron(mg/L)	<0.06	0.21	<0.06	DRY	50
Chlorides(mg/L)	142	6	14	DRY	600
Sulphate(mg/L)	88	6	8	DRY	400
Nitrate(mg/L)	6.87	2.47	1.2	DRY	50
Fluoride(mg/L)	0.45	0.54	0.48	DRY	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	DRY	0.01
Selenium(mg/L)	<0.002	<0.002		DRY	0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	DRY	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	DRY	0.1
Zinc(mg/L)	<0.02	<0.02	0.02	DRY	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	DRY	0.05
Oil & Grease	<4.0	<4.0	<4.0	DRY	0.1

Table 36
Surface Water Quality Data
Area: Orient

Project/OCP	Orient				
NAME OF STATIONS	Bhedan river before confluence point with Ib river				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Date of sampling	12-06-2017	26-09-2017	27-12-2017	
pH	7.43	6.76	7.92	7.81	6.5-8.5
Dissolved Oxygen(mg/L)	4.8	5.4	6.2	9.4	4
BOD (3 days 27oc)(mg/L)	2.4	2.7	2.8	2.1	3
Color (Hazen unit)	2	2	2	2	300
Total dissolved solids (mg/L)	472	106	170	574	1500
Total Suspended Solids(mg/L)	16	18	16	28	-
Total Hardness(mg/L)	192	52	96	176	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.06	<0.06	<0.06	50
Chlorides(mg/L)	52	6	18	46	600
Sulphate(mg/L)	128	4	28	274	400
Nitrate(mg/L)	5.76	2.78	2.1		50
Fluoride(mg/L)	0.72	0.51	0.76	0.61	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	0.003	0.003	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.03	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	7.6	0.1

Table 37
Surface Water Quality Data
Area: Orient

NAME OF STATIONS	Bagachoppa jhor Gangapur village u/s for Rampur colliery				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Date of sampling	12-06-2017	26-09-2017	27-12-2017	
pH	DRY	6.84	7.45	7.02	6.5-8.5
Dissolved Oxygen(mg/L)	DRY	4.3	5.7	9.5	4
BOD (3 days 27oc)(mg/L)	DRY	3.2	2.7	2.1	3
Color (Hazen unit)	DRY	6	4	2	300
Total dissolved solids (mg/L)	DRY	170	238	1076	1500
Total Suspended Solids(mg/L)	DRY	16	28	76	-
Total Hardness(mg/L)	DRY	84	112	488	-
Copper(mg/L)	DRY	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	DRY	<0.06	<0.06	<0.06	50
Chlorides(mg/L)	DRY	20	28	20	600
Sulphate(mg/L)	DRY	18	49	460	400
Nitrate(mg/L)	DRY	3.76	2.9		50
Fluoride(mg/L)	DRY	0.6	0.62	0.58	1.5
Cadmium(mg/L)	DRY	<0.005	<0.005	<0.005	0.01
Selenium(mg/L)	DRY	<0.002			0.05
Arsenic(mg/L)	DRY	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	DRY	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	DRY	<0.02	<0.02	0.2	15
Hexavalent Chromium(mg/L)	DRY	<0.01	<0.01	<0.01	0.05
Oil & Grease	DRY	<4.0	<4.0	9.8	0.1

Table 38
Surface Water Quality Data
Area: Orient

Project/OCP	Orient				
NAME OF STATIONS	Pond water at Bhudhijam village				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Date of sampling	12-06-2017	26-09-2017	27-12-2017	
pH	7.96	6.76	7.17	7.46	6.5-8.5
Dissolved Oxygen(mg/L)	5.4	4.7	5.4	9.6	4
BOD (3 days 27oc)(mg/L)	3.1	3.6	3.8	2.7	3
Color (Hazen unit)	6	2	5	2	300
Total dissolved solids (mg/L)	322	184	210	432	1500
Total Suspended Solids(mg/L)	24	22	18	32	-
Total Hardness(mg/L)	136	96	88	108	-
Copper(mg/L)	<0.03	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	<0.06	0.07	0.09	50
Chlorides(mg/L)	44	26	34	24	600
Sulphate(mg/L)	56	11	43	218	400
Nitrate(mg/L)	4.76	3.99	2.4		50
Fluoride(mg/L)	0.63	0.58	0.68	0.63	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	0.0053	<0.005	0.1
Zinc(mg/L)	<0.02	<0.02	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	0.02	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	4.2	0.1

Table 39
Surface Water Quality Data
Area: Orient

Project/OCP	Orient				
NAME OF STATIONS	IB River near charbhathi village u/s water for ib valley coalfield				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	12-06-2017	26-09-2017	27-12-2017	29-03-2018	
pH	7.4	6.67	7.31	7.14	6.5-8.5
Dissolved Oxygen(mg/L)	4.8	4.8	5.9	9.4	4
BOD (3 days 27oc)(mg/L)	2.4	2.8	3.2	2.1	3
Color (Hazen unit)	4	3	2	2	300
Total dissolved solids (mg/L)	162	102	124	215	1500
Total Suspended Solids(mg/L)	18	16	44	30	-
Total Hardness(mg/L)	72	44	64	72	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.19	0.07	<0.06	50
Chlorides(mg/L)	22	6	14	16	600
Sulphate(mg/L)	17	5	26	46	400
Nitrate(mg/L)	4.43	2.67	0.7		50
Fluoride(mg/L)	0.45	0.36	0.54	0.91	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	0.59	<0.02	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	6.2	0.1

Table 40
Surface Water Quality Data
Area: Orient

Project/OCP	Orient				
NAME OF STATIONS	Basundhara river near Degan village before confluence to ib river				IS:2296-1982 Tolerance for inland Surface water (Class C)
Date of sampling	12-06-2017	26-09-2017	27-12-2017	29-03-2018	
pH	7.53	7.09	7.4	7.44	6.5-8.5
Dissolved Oxygen(mg/L)	4.6	5.3	5.7	9.8	4
BOD (3 days 27oc)(mg/L)	2.1	2.6	3.6	2.1	3
Color (Hazen unit)	2	2	4	3	300
Total dissolved solids (mg/L)	156	72	142	289	1500
Total Suspended Solids(mg/L)	32	40	22	22	-
Total Hardness(mg/L)	68	32	60	80	-
Copper(mg/L)	0.05	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.06	0.19	<0.06	<0.06	50
Chlorides(mg/L)	20	6	12	16	600
Sulphate(mg/L)	17	4	28	100	400
Nitrate(mg/L)	4.76	2.07	1.1		50
Fluoride(mg/L)	0.46	0.77	0.42	0.65	1.5
Cadmium(mg/L)	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Selenium(mg/L)	<0.002	<0.002			0.05
Arsenic(mg/L)	<0.002	<0.002	<0.002	<0.002	0.2
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Zinc(mg/L)	<0.02	<0.02	0.14	0.02	15
Hexavalent Chromium(mg/L)	<0.01	<0.01	<0.01	<0.01	0.05
Oil & Grease	<4.0	<4.0	<4.0	5.4	0.1

Siltation Study by TSS Monitoring

Table 41
Basundhara Area

Project/ OCP	Date of Sampling	Name of the station	TSS (mg/L)
Kulda OCP	19-08-2017	100 mtrs.D/S of the point of confluence of mine discharge water with Basundharanallah(atKushra village).	24
Basundhara (W) OCP	19-08-2017	100 mtrs. U/S of the point of confluence of mine discharge water with Basundharanallah near Kulaparha.	18

Table 42
Ib-Valley Area

Project /OCP	Date of Sampling	Name of the station	TSS (mg/L)
Lajkura OCP	25.08.17	Mine sump	34
	25.08.17	Surface pond	14

Table 43
Lakhanpur Area

OCP/Project	Date of Sampling	Name of the station	TSS (mg/L)
Belpahar OCP	26.08.2017	100m u/s of point of confluence of mine discharge water with Lilari	20
	26.08.2017	100m d/s of point of confluence of mine discharge water with Lilari	28