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(केवल कार्यालय उपयोग हेतु)



भारत सरकार
GOVERNMENT OF INDIA
केन्द्रीय जल आयोग
CENTRAL WATER COMMISSION

जल-वर्ष पुस्तिका
WATER YEAR BOOK
(VOLUME - I)

(जुन - २०१६ - मई-२०१७)
(JUNE 2016 - MAY 2017)



महानदी कछार
MAHANADI BASIN

जल-विज्ञानीय प्रेक्षण परिमंडल

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MAHANADI BASIN

जल-विज्ञानीय प्रेक्षण परिमंडल
भुवनेश्वर
HYDROLOGICAL OBSERVATION CIRCLE
BHUBANESWAR

SEPTEMBER - 2017

सितम्बर - २०१७

FOREWORD

Proper assessment, analysis and compilation of hydro-meteorological data are essential for planning and management of precious water resources, which is vital not only for economic development but also for providing basic needs for such a large population of our country. Water reaches the land-mass through precipitation, a part of which evaporates, a portion of it percolates into ground as natural ground water and the excess runoff flows through rivers and drain into the sea. Central Water Commission (CWC), an apex technical Organisation of Government of India for surface water resources, carries out systematic collection of hydro-meteorological data, assessment of surface water as one of its prime functions.

Hydro-meteorological observation stations have been established by CWC in almost all the river basins of India in a phased manner. These were further modernized and strengthened under various schemes. In the process, additional Divisions, Circles and Regional Offices have been set up on a basin-wise concept.

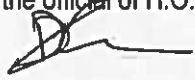
The basin encompassing the east flowing rivers in-between the Ganga and Godavari basins viz. Mahanadi, Subarnarekha, Brahmani, Baitarani, Vamsadhara, Rushikulya, Burhabalang, Nagavali and Sarada has been identified as Mahanadi and Eastern Rivers Basin which is dealt by Mahanadi and Eastern Rivers Organisation (M&ERO), CWC, Bhubaneswar. Hydrological Observation Circle (HOC), Bhubaneswar under M&ERO carries out hydrological observation and flood forecasting activities in these 9 river basins flowing mainly through Odisha alongwith its neighboring states of Jharkhand, Chhattisgarh, Andhra Pradesh and West Bengal through two Divisions under its jurisdiction viz. Mahanadi Division (MD), Burla and Eastern Rivers Division (ERD), Bhubaneswar.

There are a total of 119 observation stations under M&ERO. Systematic gauge and discharge observation are regularly conducted at 48 hydrological stations (out of the above 119) throughout the year. Sediment, Water Quality and Meteorological data are also observed at some of the stations. After scrutiny and checking, the collected and processed data are stored in a database through custom made software "Surface Water Data Entry System" (SWDES) and published in the form of Water Year Books. The present publication of Water Year Book contains Hydrological, Sediment and Water Quality data for the hydrological year 2016-17, i.e. from June-2016 to May-2017.

Water Year Book pertaining to the Hydrological Observation Circle, CWC, Bhubaneswar is published in four Volumes. While Volume-I incorporates data of Mahanadi Basin, Volume-II contains data of the Brahmani Basin, Volume-III of Subarnarekha, Burhabalang & Baitarani, basins, and Volume- IV of Vamsadhara, Nagavali, Rushikulya and Sarada basins. Each Volume contains Discharge data as Section-I, Sediment data as Section-II and Water Quality data as Section-III for respective river basins.

This volume- I covers hydrological, sediment and water quality data for Water Year 2016-17 of Twenty two sites of Mahanadi river basin alongwith salient features and other important statistical information. Sincere efforts put in by the officers and staff of Mahanadi Division, CWC, Burla under the able leadership of Shri N.Srinivasa Rao, Executive Engineer, in collecting and processing the data and bringing out this publication is highly commendable. The guidance and encouragement of Chief Engineer, M&ERO, Bhubaneswar and co-operation of the official of H.O. Circle and Chief Engineer office are duly acknowledged.

Place: Bhubaneswar
Date: Sept - 2017


(D.K.JENA)
Superintending Engineer
HOC, CWC, Bhubaneswar

LIST OF OFFICERS WHO HAVE CONTRIBUTED TO THIS PUBLICATION

Assistance render by the officers and staff of this division in the collection analysis and validation of data in bringing out the book in this form is thankfully acknowledged. Special appreciation is attributed to the field staff under all the Sub-Division of this Division and also Hydrological Observation Circle,C.W.C, Bhubaneswar for collection of data.

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INDEX

Sl.No.	Name of Sub-Basin	Subject/ Name of Site	Page No.
1		Basin Description	1-13
2	Pairi Sub-Basin	Baronda	14-42
3	Upper Mahanadi	Rajim	43-71
4	Sub-Basin	Seorinarayan	72-95
5		Basantpur	96-124
6		Kalma	125-132
7	Seonath Sub-Basin	Gunderdehi	133-143
8		Kotni	144-167
9		Pathardih	168-188
10		Simga	189-217
11		Andhiarkhore	218-246
12		Ghatora	247-275
13		Jondhra	276-304
14	Jonk Sub-Basin	Rampur	305-333
15	Hasdeo Sub-Basin	Manendragarh	334-362
16		Bamnidhi	363-391
17	Mond Sub-Basin	Kurubhata	392-420
18	IB Sub-Basin	Sundargarh	421-449
19	Ong Sub-Basin	Salebhata	450-478
20	Tel Sub-Basin	Kesinga	479-507
21		Kantamal	508-536
22	Lower Mahanadi	Tikarpara	537-566
23	Sub-Basin	Boudh	567-577
24	Year wise Trend Analysis		578-666
25	Abstract of Water Quality Analysis		667-686

INDEX

YEAR-WISE TREND ANALYSIS

Sl.No.	Name of Sub-Basin	Subject/ Name of Site	Page No.
1	Pairi Sub-Basin	Baronda	578-582
2	Upper Mahanadi Sub-Basin	Rajim	583-587
3		Seorinarayan	588-590
4		Basantpur	591-595
5		Kotni	596-597
6		Pathardih	598-601
7		Simga	602-606
8		Andhiarkhore	607-611
9		Ghatora	612-616
10		Jondhra	617-621
11	Jonk Sub-Basin	Rampur	622-626
12	Hasdeo Sub-Basin	Manendragarh	627-631
13		Bamnidhi	632-636
14	Mond Sub-Basin	Kurubhata	637-641
15	IB Sub-Basin	Sundargarh	642-646
16	Ong Sub-Basin	Salebhata	647-651
17	Tel Sub-Basin	Kesinga	652-656
18		Kantamal	657-661
19	Lower Mahanadi Sub-Basin	Tikarpara	662-666
20	Abstract of Water Quality Analysis		667-686

MAHANADI BASIN

1. BASIN DESCRIPTION

1.1 Introduction

River Mahanadi is one of the major inter-state east flowing rivers in the peninsular India. During the course of its traverse, it drains fairly large areas of Chattisgarh and Odisha and comparatively very small areas in the state of Jharkhand, Maharashtra and Madhya Pradesh. The basin encompasses the area within geographical co-ordinates of 80°30' to 86°50' East longitudes and 19°20' to 23°35' of North latitudes. The basin is physically bounded in the North by Central India hills, in the South and East by the Eastern Ghats, and in the West by Maikala hill range. The total catchment area of the basin is 1,41,600 sq. km.

Table below shows state wise break-up of the drainage area and the percentage with reference to total area of the basin.

Sl. No.	Name of the State	Drainage Area (km ²)	% of Total Area
1	Chhattisgarh	74,970	52.9
2	Odisha	65,600	46.3
3	Jharkhand	650	0.5
4	Maharashtra	250	0.2
5	Madhya Pradesh	130	0.1
	TOTAL	1,41,600	100.0

Basin map of Mahanadi river system depicting various hydrological and hydro-meteorological observation stations maintained by CWC is enclosed herewith. CWC is maintaining 61 stations in Mahanadi Basin, out of which 22 are of type Gauge/ Discharge/ Sediment/ Water Quality (GDSQ), 1 is of type Gauge /Discharge/ Water Quality (GDQ), 2 are of type Gauge/Seasonal Discharge (GD(S)), 28 are of type Gauge(G), 2 are of type Gauge (Seasonal). In addition, there are 6 stations of type Rainfall (RF) where only rainfall is observed. This report (Volume-I) contains data of 22 gauge and discharge sites which are being operated round the year.

1.2 River System

River Mahanadi originates at an elevation of about 442 meter above mean sea level near Pharsiya village near Nagri town in Raipur district of Chattisgarh. Total length of the river from its origin to outfall into the Bay of Bengal is about 851 km out of which 357 km is in Chhattisgarh and the balance 494 km in Odisha. During its traverse, a number of tributaries join the river on both the banks. Mahanadi has 8 major tributaries, out of which 6 join it upstream of Hirakud reservoir, while the balance 2 join it down stream of Hirakud.

The catchment upstream of Hirakud reservoir has an area of 83,400 km². The major tributaries in this reach are Seonath, Ib, Pairi, Jonk, Hasdeo and Mand. The catchment downstream of Hirakud reservoir has an

area of 58,200 km². The major tributaries in this reach are Tel and Ong. Though, the catchment area of downstream portion is less than that of the catchment upstream of Hirakud reservoir, it has been seen that the contribution of downstream area to the total flood in Mahanadi is equally significant.

The three major tributaries, namely Seonath and Ib on the Left Bank and Tel on the Right Bank, together constitute nearly 46.63 % of the total catchment area of the river Mahanadi.

Seonath, which is the largest tributary of Mahanadi, rises from an elevation of 533 meter in village Kotgai, District Durg (Chhattisgarh), and drains three districts of Chhattisgarh, namely, Durg, Rajnandgaon and Bilaspur.

Tel, which is the second largest tributary of Mahanadi, rises from an elevation of 700 m in village Jorigram of Nabarangpur district of Odisha and drains five districts of Odisha, namely Nabarangpur, Kalahandi, Bolangir, Boudh and Kandhamal.

Ib, which is the third largest tributary of Mahanadi, rises from an elevation of 762 m in village Pandrapat, District Raigarh (Chhattisgarh). It drains Raigarh and Jashpur districts of Chhattisgarh, along with three districts of Odisha, namely Sundargarh, Jharsuguda and Sambalpur.

The table below shows the details of the catchment area, length and elevation at source of the important tributaries.

Sl. No.	Name of the Tributary/ Sub-basin	Bank	Elevation at source above msl	Length (km)	Catchment Area (sq.km)	% of Total Area
1	Mahanadi		442	851	48,230	34.1
2	Pairi	Right	488	113	3,503	2.5
3	Seonath	Left	533	383	30,761	21.7
4	Jonk	Right	762	196	3,673	2.6
5	Hasdeo	Left	915	333	9,803	6.9
6	Mand	Left	686	242	5,237	3.7
7	Ib	Left	762	251	12,447	8.8
8	Ong	Right	457	204	5,128	3.6
9	Tel	Right	700	296	22,818	16.1
			Total		1,41,600	100.0

The delta region of river Mahanadi, comprising of the catchment below the Naraj barrage, is characterised by drainage congestion, tidal effect and extreme tendency for meandering and shifting of the course. The river branches repeatedly in this region. This area is also very fertile and supports very high population density. During periods of major floods, the delta area experiences significant economic and social problems.

Some of the major branches originating in the delta area of river Mahanadi include Kathjori, Birupa, Chitrotpala, Kuakhai, Daya, Kushabhadra, and Devi. In the recent years, all the major branches have been protected by construction of flood embankments. Some river reaches, especially near the outfall to the sea, are also experiencing the problem of siltation of the river bed, leading to increased flood problem.

1.3 Climatic Characteristics

The monsoon is the principal rainy season, when over 75 % of the annual rainfall is received over a major portion of the basin, with July/ August as the rainiest month. The average annual rainfall of the basin is of the order of 1400 mm.

Since the Mahanadi river basin covers a vast geographical area, there is wide spatial variation of hydro-meteorological characteristics. In winters, the mean daily temperature varies from 13°C to 20°C. In summers, the mean daily temperature varies from 30°C to 37°C. The month of May is generally the hottest month. During the year 1998, unusually high day temperatures of the order of 48.2 to 48.8°C were experienced in the basin.

1.4 Geology

The basin is physically bounded in the north by Central India hills, in the south and east by the Eastern Ghats, and in the west by Maikala hill range. The Chiroli Hills form the watershed dividing the Wainganga valley from the Mahanadi Basin, the upper portion of which is designated as the Chattisgarh Basin.

The floor of the basin is composed of horizontally bedded or very low dipping lime stones and shales of Cuddapah age, and is studded with shallow cup-like depressions. The ridges that form the southern rim of the basin comprise of sandstone and quartzite, dipping inward. Iron-ore ridges also occur here, which stand up very prominently because of resistance of iron ores to weathering agents. Rajhara Pahar is a typical example, which supplies iron ores to the Iron and Steel Plant at Bhilai.

On the north, the basin has a steep uneven edge, formed mainly of strong-bedded gneiss rocks with an east-west strike and high dip southwards.

Coal beds also occur in the basin near Korba. In the Bolangir region, khondalite or quartzite are seen. The Gandhamardan hill range is a good example of khondalite ridge. Sonabera Plateau appears to be a structural platform built of quartzite with an average elevation of 600 metre. It has a radial drainage, with all the streams descending the plateau scarp invariably formed waterfalls on leaving quartzite uplands, especially where they enter sandstone or limestone slopes.

In the upper Mahanadi region, the rocks generally found are belonging to Pleistocene to Archean age. Laterite, Basalt, Lime stone, Dolomite and Iron ore are abundantly found. The Seonath river basin belongs to Archean terrain, comprising of the Chhatisgarh and Eastern Ghats. The rocks are mostly Pleistocene, such as Lime stone Dolomite, Magnetite and Granite. The Hasdeo river basin contains Bauxite, Granite, Lime stone, Coal, Iron ore, Dolomite and Galena. The land of the Mand river basin comes under the Cuddapah series. It exhibits wide level plains of alluvial cover, deposited on the Cuddapah Lime stone and Shale stones. The Ib river basin belongs to the Archean Terrain of Chhotanagpur Plateau, and has been greatly influenced by the geomorphic features. The hilly regions have Igneous and Metamorphic rocks. The Tel river mainly comprises Sand stone, Silt stone and Shale rocks.

The Lower Mahanadi Basin comprises alluvial formation of recent origin, with varying thickness. In the North-Western region of delta, isolated out-crops of Archean sediment are seen. In the Western and South-Western region, Upper Gondwana rocks have been encountered.

1.5 Water storage / Diversion Structures

The water storage/ diversion structures constructed/ under construction in the basin have been detailed below:

Sl. No.	Name of the Project	River	Status	Original Capacity in Million Cubic Meter (MCM)	
				Gross	Live
1.	Hirakud Dam	Mahanadi	Existing	8141.0	5892.0
2.	Bango Dam	Hasdeo	Existing	3417.0	3046.0
3.	Ravishankar Sagar Dam	Mahanadi	Existing	909.0	768.0
4.	Murumsilli	Sillary	Existing	165.0	162.0
5.	Dudhawa Dam	Mahanadi	Existing	288.0	284.0
6.	Tandula	Tandula	Existing	322.0	312.0
7.	Kharang	Kharang	Existing	-	192.32
8.	Kodar Reservoir	Kodar Nala	Existing	160.23	148.91
9.	Mayana Tank	Naini Nala	Under const.	211.24	157.93
10.	Kelo Project	Kelo	Under const.	76.0	46.0
11.	Maniyari Project	Maniyari	Existing	151.0	148.0
12.	Kosarteda Project	Kosarteda	Existing	72.86	63.7
13.	Sikasar Dam	Pairi	Existing	217.0	199.0
14.	Sondur Dam	Sondur	Existing	198.0	179.0
15.	Lower Indra	Indra	Under const.	321.63	314.25
16.	Lower Suktel	Suktel	Under const.	320.28	263.43
17.	Paralkot Dam	Dewadha	Existing	66.3	63.6

2. STREAM FLOW DATA

2.1 Observation Methodology

Standard methods are adopted at all the discharge observation stations under Mahanadi Basin for collecting the data which are explained briefly as under:

Discharge observation Methods:- Area-velocity method is generally adopted for measuring discharge at sites. Velocities at the mid point of segments are observed using current meter suspended from an out-fit from Boat or Bridge, or by rigid rod in case of measurement by wading. Where none of the above methods is possible, velocity is observed by float method and the surface velocities are converted into mean velocities by applying suitable correction factor. The depth is measured by using sounding rod for depths up to 3 meter, and by log-line beyond 3 meter depth. Discharge by area velocity method is being observed once in a day except on Sundays and holidays, starting at 0800 Hrs. at all the sites. Besides, silt and water quality observation are also being made at GDSQ/GDQ sites.

Computation of Flow on Non-observed days:- The observed stage and discharge figures for each season (monsoon and non-monsoon) are plotted and a mean Stage v/s. Discharge curve is drawn, giving due attention to the scattered points with reference to area velocity etc.

The factors responsible for the shifting of the curves are also taken care of by studying the river cross section at regular intervals and with super imposition of previous year's Stage v/s. Discharge curves. Accordingly, the trend of the current curve is finalised. Finally, the discharges of the non observed days are computed from these Stage v/s. Discharge Curves.

2.2 Data Availability:

The data of following sites is presented in this volume:

Sl.No.	Name of Site	Tributary/ Sub-Tributary	Type	Data Available	
				From	To
1.	Rampur	Jonk	GDSQ		
			Gauge	29.01.1971	Continuing
			Discharge	20.02.1971	Continuing
			Sediment	05.07.1976	Continuing
			Water quality	15.09.1972	Continuing
2.	Rajim	-	GDSQ		
			Gauge	01.02.1971	Continuing
			Discharge	01.02.1971	Continuing
			Sediment	04.12.1972	Continuing
			Water quality	01.09.1972	Continuing
3.	Simga	Seonath	GDSQ		
			Gauge	29.09.1971	Continuing
			Discharge	09.09.1971	Continuing
			Sediment	30.12.1972	Continuing
			Water quality	01.09.1972	Continuing
4.	Kotni	Seonath	GDSQ		
			Gauge	22.09.1977	Continuing
			Discharge	30.09.1978	Continuing
			Sediment	25.07.2014	Continuing
			Water Quality	01.06.2015	Continuing
5.	Andhiyarkore	Seonath/ Hamp	GDSQ		
			Gauge	27.09.1977	Continuing
			Discharge	29.11.1977	Continuing
			Sediment	12.07.1980	Continuing
			Water quality	01.06.1980	Continuing
6.	Baronda	Pairi	GDSQ		
			Gauge	12.07.1977	Continuing
			Discharge	06.12.1977	Continuing
			Sediment	29.06.1980	Continuing
			Water quality	02.06.1980	Continuing
7.	Pathardihi	Seonath/ Kharun	GDQ		
			Gauge	12.09.1987	Continuing
			Discharge	15.09.1989	Continuing
			Water quality	01.08.1992	Continuing
8.	Basantpur	-	GDSQ		
			Gauge	01.02.1971	Continuing
			Discharge	11.05.1971	Continuing
			Sediment	07.04.1973	Continuing
			Water quality	01.09.1972	Continuing

Sl. No.	Name of Site	Tributary/ Sub-Tributary	Type	Data Available	
				From	To
9.	Bamnidihi	Hasdeo	GDSQ		
			Gauge	29.01.1971	Continuing
			Discharge	18.02.1971	Continuing
			Sediment	01.05.1973	Continuing
			Water quality	01.09.1972	Continuing
10.	Jondhra	Seonath	GDSQ		
			Gauge	24.01.1979	Continuing
			Discharge	21.01.1979	Continuing
			Sediment	11.10.1980	Continuing
			Water quality	02.06.1980	Continuing
11.	Ghatora	Seonath/ Arpa	GDSQ		
			Gauge	15.10.1977	Continuing
			Discharge	17.09.1979	Continuing
			Sediment	01.11.2000	Continuing
			Water quality	01.11.1991	Continuing
12.	Seorinarayan	-	GDSQ		
			Gauge	01.06.1985	Continuing
			Discharge	09.12.1985	Continuing
			Sediment	11.02.2013	Continuing
			Water quality	01.06.2015	
13.	Manendragarh	Hasdeo	GDSQ		
			Gauge	21.06.1987	Continuing
			Discharge	21.06.1989	Continuing
			Sediment	09.07.1993	Continuing
			Water quality	01.10.1992	Continuing
14.	Salebhata	Ong	GDSQ		
			Gauge	23.07.1971	Continuing
			Discharge	12.11.1971	Continuing
			Sediment	01.05.1973	Continuing
			Water quality	15.09.1972	Continuing
15.	Kantamal	Tel	GDSQ		
			Gauge	08.08.1971	Continuing
			Discharge	26.08.1971	Continuing
			Sediment	22.07.1976	Continuing
			Water quality	01.10.1972	Continuing
16.	Sundargarh	IB	GDSQ		
			Gauge	07.08.1977	Continuing
			Discharge	30.12.1977	Continuing
			Sediment	21.07.1980	Continuing
			Water quality	02.06.1980	Continuing
17.	Kesinga	Tel	GDSQ		
			Gauge	10.11.1977	Continuing
			Discharge	07.11.1978	Continuing
			Sediment	22.09.2006	Continuing

			Water quality	01.06.2001	Continuing
18.	Kurubhata	Mand	GDSQ		
			Gauge	23.10.1977	Continuing
			Discharge	01.04.1978	Continuing
			Sediment	22.07.1980	Continuing
			Water quality	01.07.1980	Continuing
19.	Tikarpara	-	GDSQ		
			Gauge	19.02.1971	Continuing
			Discharge	28.05.1972	Continuing
			Sediment	01.06.1973	Continuing
			Water quality	01.12.1972	Continuing
20.	Gunderdehi	Tandula	GDSQ		
			Gauge	01.07.2013	Continuing
			Discharge	15.07.2013	Continuing
21	Boudh	-	GDSQ		
			Gauge	31.03.2015	Continuing
			Discharge	31.03.2015	Continuing
22.	Kalma	Mahanadi	GDSQ	17.10.2016	Continuing

2.3 Surface Water Data Entry Software (SWDES):

Surface Water Data Entry Software (SWDES), a custom made software for processing hydrological data, has been used for this volume. The explanatory notes described below are designed to assist in the interpretation of data presented in the volume.

- i) Water Year ranges from June 1st of one calendar year to May 31st of the next calendar year, and covers one complete annual hydrological cycle.
- ii) Discharge is given in cubic meters per second.
- iii) Discharge is expressed as 0.000 when the river bed is dry and 0.000 N.F. when velocity is observed as 'NIL'.
- iv) The zero Reference Level (R.L.) of gauge is a datum level fixed for given the given site, which is kept 1 or 2 m lower than the lowest water level recorded in a perennial stream. In a non-perennial stream, it is kept 1 or 2 m lower than the lowest bed level of the stream.
- v) Discharges are rounded off as per standard practice.
- vi) Runoff in mm is the notional depth of water in mm over the catchments equivalent to annual runoff calculated at the discharge measurement station. It is computed using the relation.

$$\text{Runoff (mm)} = \frac{\text{Annual runoff (MCM)} \times 1000}{\text{Catchment area (km}^2\text{)}}$$

- vii) Peak and lowest flow correspond to the highest and lowest water levels recorded from 'SWDES' entered data.

- viii) Measuring authority refers to the field division of Central Water Commission (Mahanadi Division and Eastern Rivers Division) responsible for the operation of the gauging station.
- ix) The gauging station code number is a unique seven column alphanumeric reference number which facilitates storage and retrieval of flow data in data banks. The first column is identifier of either an integral river basin or, for convenience, a region when it has several contiguous river catchments. This is followed by a column which identifies an independent river system which either has one or more outlets to the sea or crosses international border to enter another country. The third, fourth and fifth column spaces denote first, second and third order tributaries respectively, from the mouth upstream. The sixth and seventh column spaces indicate the location of the gauging station in one of the 225 slots earmarked on the river. The blank column spaces are filled by zero.

3. HYDROLOGICAL DATA

This volume contains the following information for each of the above-stated site:

- i. History Sheet: Site Name, State, District, River Basin, Tributary, Sub-Tributary, Catchment Area, Latitude, Longitude, Date of Opening and Closing for various types of data.
- ii. Annual maximum/ minimum discharge since period of observation.
- iii. Daily Water level and observed/ computed discharge data including 10-daily, monthly and annual totals etc.
- iv. Histogram and hydrograph showing current year monthly mean discharges, historical monthly mean discharges, historical monthly minimum and monthly maximum discharge.
- v. Histogram showing annual run-off since beginning of observation.
- vi. Pie-Chart showing mean monthly run-off (as percentage of mean annual run-off) for the total years from inception.
- vii. Pie-Chart showing monthly run-off (as percentage of annual run-off) for the current year.
- viii. Plot of Pre-Monsoon and Post Monsoon Cross-section of the rivers for current year.
- ix. Water level hydrograph for 3 (three) major flood events of current year.

4. SEDIMENT DATA (*For Sediment Observation sites*)

Sediment observation is carried out daily during monsoon season and once in a week (on Monday) during the non-monsoon period. Data for non-observed days is estimated/ interpolated from the relationship of Discharge v/s. Sediment Load, prepared on the basis of observed sediment concentration and weighted mean discharge of the same year.

Sediment samples are collected from 0.6 x depth, from all the verticals along the hydrological observation sections where velocity is observed for computation of discharge, using Punjab type bottle sampler. The collected samples from all the segments are combined in 3 to 7 groups having

compartments or groups of equal or nearly equal discharge, for analysis. Quantum of suspended sediment load is estimated in three grades, viz. Coarse, Medium and Fine. Coarse and medium grades are separated by sieving process and the fine grade by filtration of left over samples through filter paper. Grade wise concentration is derived gravimetrically as per standard procedure. The results so recorded, include:

- Daily observed suspended sediment (g/l).
- Corresponding discharge.
- Average sediment load in tonnes / day (10 daily & monthly basis).
- Annual sediment load for the current year.
- Annual sediment load and the corresponding volume of inflow for all the year since inception.
- Grain size distribution of bed load.

5. **WATER QUALITY DATA (For Water Quality Observation sites)**

The Water samples are collected at a regular interval of once in a month, on 1st working day of each month, from the main flowing segment of the stream, just below the water surface (20 to 30 cm) on the Station Gauge line where depth of flow and velocity are maximum, preferably in the mid stream. The water samples are collected in clean and pre-rinsed one-litre capacity plastic bottle having double stopper (inside and out side) system. Sampling bottle is filled to its full capacity without entrapping inside any air bubbles.

After sampling, the collected samples are sent to the Water Quality Laboratory (Level-II) based at Bhubaneswar (under the Eastern Rivers Division) and to Raipur (under Mahanadi Division, Burla), along with information on in-situ physical characteristics, for analysis. The samples received from the sites are preserved in a refrigerator in the Level-II laboratories, prior to analysis.

Analysis of parameters, namely pH, Electrical conductivity, Sodium, Potassium, Iron, Fluoride, Nitrate, Nitrite, Phosphate, Silicate, Boron, Sulphate, Calcium, Magnesium, Carbonate, Bi-carbonate, Chloride, Dissolved Oxygen, BOD and COD, are carried out in the laboratory by using standard methodologies. Micro-biological parameters like total coliform and faecal coliform are also being analyzed. For analysis of trace and toxic elements, samples are sent to Level-II + laboratory at Hyderabad once in a year, in the month of April and to Level – III + Laboratory at Kalindi Bhawan, New Delhi twice in year in the month of March and September. The results so recorded, include:

- River Water Analysis Monthly Physical, Chemical and Biological parameters.
- Annual Water Quality Summary Physical, Chemical and Biological parameters.
- Average Values over the Year season-wise averages:
 - Average for Summer (March to June)
 - Average for Floods (July to October).
 - Average for Winter (November to February)

Sampling Stations

In addition, Water Quality observation samples are also collected from the following locations which are not CWC Sites.

SI No.	Station Name	River/ Tributary	Type	Co-ordinates	
				Latitude	Longitude
1	Champa Road Bridge	Hasdeo	Q	21° 53' 55"	82° 42' 29"
2	Madhya Bharat Paper Mill (MBPL)	Hasdeo	Q	22° 02' 04"	82° 13' 34"

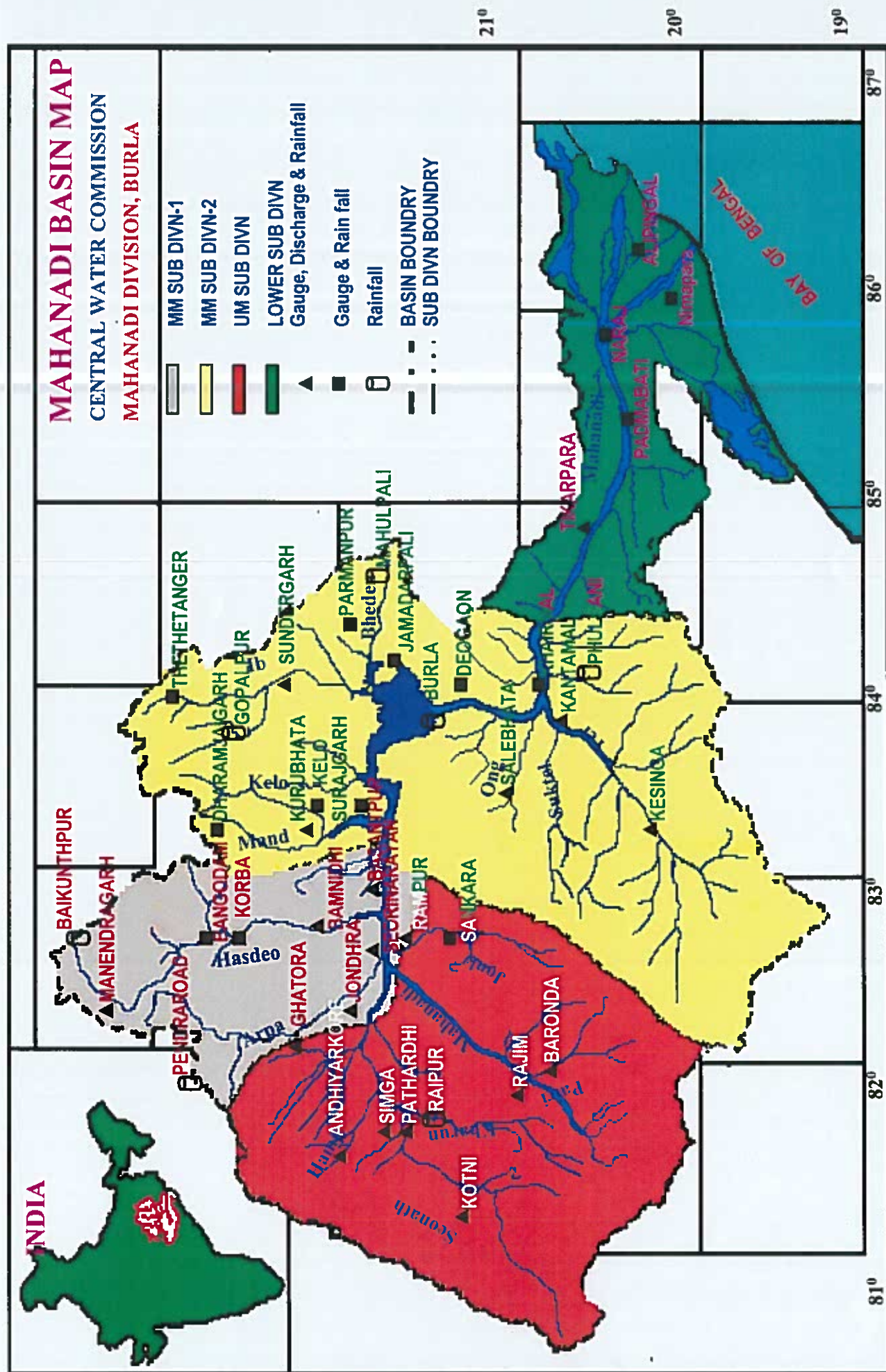
DETAILS OF CWC SITES IN MAHANADI BASIN

SINo.	Station Name	River/ Tributary	Code No	Type	Latitude	Longitude
1	Andhiyarkore	Hamp	EMP60E5	GDSQ	21° 50' 02"	81° 36' 21"
2	Bamnidihi	Hasdeo	EMM00B3	GDSQ	21° 53' 55"	82° 43' 02"
3	Bangodam	Hasdeo	001A	G	22° 35' 35"	82° 34' 31"
4	Baronda	Pairi	EMR00A4	GDSQ	20° 54' 45"	81° 53' 10"
5	Basantpur	Mahanadi	EM000R2	GDSQ	21° 43' 36"	82° 47' 17"
6	Baikunthpur	Hasdeo	004A	RF	23° 15' 02"	82° 35' 00"
7	Burla	-	001B	RF	21° 30' 30"	83° 53' 30"
8	Deogaon	Mahanadi	0012B	G	21° 18' 30"	83° 54' 00"
9	Dharamjaigarh	Mond	002B	G	22° 28' 20"	83° 12' 52"
10	Ghatora	Arpa	EMP40F2	GDSQ	22° 03' 24"	82° 13' 15"
11	Gopalpur	Basundhara	0011B	RF	22° 03' 40"	83° 43' 50"
12	Jamadarpali	Mahanadi	008B	G	21° 34' 14"	83° 59' 20"
13	Jondhra	Seonath	EMP00A4	GDSQ	21° 43' 30"	82° 20' 50"
14	Kantamal	Tel	EMF00C3	GDSQ	20° 39' 00"	83° 43' 55"
15	Kelo at Raigarh	Mahanadi	009B	G,D(S)	21° 53' 19"	83° 24' 10"
16	Kesinga	Tel	EMF00K6	GDSQ	20° 11' 51"	83° 13' 30"
17	Khairmal	Mahanadi	007B	G	20° 49' 18"	84° 00' 00"
18	Korba	Hasdeo	002A	G	22° 21' 30"	82° 41' 30"
19	Kotni	Seonath	EMP00P8	GDSQ	21° 14' 10"	81° 14' 50"
20	Kurubhata	Mand	EMK00E2	GDSQ	21° 59' 15"	83° 12' 15"
21	Mahulpali	Bheden	0010B	G	22° 52' 30"	84° 25' 00"
22	Manendragarh	Hasdeo	EM00T7	GDSQ	23° 12' 10"	82° 13' 05"
23	Parmanpur	Bheden	004B	G,D(S)	21° 46' 50"	84° 04' 54"
24	Patharidihi	Kharun	EMP70F3	GDQ	21° 20' 28"	81° 35' 38"
25	Pendra Road	Arpa	003A	RF	22° 45' 30"	81° 54' 30"
26	Phulbani	Mahanadi	006B	RF	20° 28' 00"	84° 15' 00"
27	Raipur	-	-	RF	21° 15' 36"	81° 36' 18"
28	Rajim	Mahanadi	EM000U7	GDSQ	20° 58' 25"	81° 52' 48"
29	Rampur	Jonk	EMN00B3	GDSQ	21° 39' 06"	82° 31' 10"
30	Salebhata	Ong	EMG00E5	GDSQ	20° 59' 00"	83° 32' 22"
31	Sankara	Jonk	163	G	21° 17' 19"	82° 31' 00"
32	Seorinarayan	Mahanadi	EM000R6	GDSQ	21° 43' 00"	82° 35' 48"
33	Simga	Seonath	EMP00J1	GDSQ	21° 37' 54"	81° 41' 16"
34	Sundargarh	Ib	EMI00H3	GDSQ	22° 06' 55"	84° 00' 40"
35	Surajgarh	Mahanadi	005B	G	21° 41' 35"	83° 22' 17"
36	Thethetanger	Ib	003B	G	22° 40' 05"	83° 54' 36"
37	Alipingal	Devi	-	G	20° 10' 00"	86° 10' 00"
38	Arapur	Sindolijore	-	G	20° 48' 06"	84° 36' 04"
39	Kanas	Daya	-	G(S)	20° 00' 08"	85° 38' 47"
40	Khandapara	Kusumi	-	G	20° 15' 22"	85° 11' 16"
41	Marshaghai	Luna	-	G	20° 20' 24"	86° 28' 51"
42	Naraj	Mahanadi	-	G	20° 28' 30"	85° 46' 30"
43	Nimapara	Kushabhadara	-	G	20° 04' 10"	86° 00' 00"
44	Padmavati	Mahanadi	-	G	20° 20' 36"	85° 17' 51"
45	Pubansa	Luna	-	G(S)	20° 26' 39"	86° 14' 51"
46	Tikarpara	Mahanadi	-	GDSQ	22° 38' 00"	84° 37' 08"

47.	Gunderdehi	Tandula	164	GDSQ	20° 57' 11"	81° 16' 45"
48.	BalaKathi Rd. Bridge	Bhargavi	-	G	20°12'09"	85°51'54"
49.	Balanga	Bhargavi	-	G	20°02'20"	85°52'45"
50.	Bhingarpur	Kushbhadra	-	G	20°15'48"	85°55'59"
51.	Daya Rd. Bridge	Daya	-	G	20°12'36"	85°51'07"
52.	Kishan Nagar	Mahanadi	-	G	20°25'34"	86°05'19"
53.	Tarpur	Mahanadi	-	G	20°19'02"	86°22'31"
54.	Kathajodi . Bridge	Kathajodi (Devi)	-	G	20°26'13"	85°53'17"
55.	Boudh	Mahanadi	-	GDSQ	20°51'56"	84°18'48"
56.	Katghora	Ahira	-	G(S)		
57.	Padampur	Ong	-	GDSQ	21°00'57"	83°06'11"
58.	Maniyari	Maniyari	-	G(S)		
59.	Sarangpal	Mahanadi	-	G(S)	21°43'00"	82°20'34"
60.	Kalma	Mahanadi	-	GDSQ		
61.	Malgaon	Mahanadi	-	G		

LIST OF ABBREVIATIONS USED

CWC	:	Central Water Commission
HP	:	Hydrology Project
IMD	:	India Meteorological Department
msl	:	Mean sea level
Q	:	Discharge
WL	:	Water Level
Type of station		
G	:	Gauge (Water Level)
D	:	Discharge (Volume of water passing through a cross section of river per unit time)
S	:	Sediment (suspended sediment load)
Q	:	Water Quality
RF	:	Rainfall
(S)	:	Seasonal
UNITS		
m	:	Meter
mm	:	Milli meter
km	:	Kilometer
s	:	Second
MCM	:	Million cubic meters
MT	:	Metric ton
G	:	Gram



PAIRI SUB BASIN

SITE BARONDA

HISTORY SHEET

Water Year : 2016-2017

Site : Baronda

Code : EMR00A4

State : Chhattisgarh

District : Gariyaband

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Pairi

Sub Tributary :

Sub-Sub Tributary :

Local River : Pairi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Drainage Area : 3225 Sq. Km.

Bank : Right

Latitude : 20°54'45"

Longitude : 81°53'10"

Zero of Gauge (m) : 283 (m.s.l)

01-06-1978 - 01-06-2018

Opening Date

Closing Date

Gauge : 12-07-1977

Discharge : 06-12-1977

Sediment : 29-06-1980

Water Quality : 02-06-1980

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1978-1979	900.0	288.630	16-08-1978	0.049	284.070	05-05-1979
1979-1980	546.2	286.095	02-08-1979	0.015	284.040	06-05-1980
1980-1981	6250	289.330	18-09-1980	0.017	283.930	25-05-1981
1981-1982	1327	286.910	09-08-1981	0.100	284.050	03-04-1982
1982-1983	1069	286.430	13-08-1982	0.032	284.040	09-06-1982
1983-1984	1607	286.670	07-08-1983	0.044	284.165	09-04-1984
1984-1985	1709	286.430	09-08-1984	0.010	284.380	19-03-1985
1985-1986	1087	286.650	07-08-1985	0.007	284.260	21-04-1986
1986-1987	3968	287.500	14-08-1986	0.001	284.100	01-05-1987
1987-1988	267.1	285.450	04-09-1987	0.003	284.200	08-06-1987
1988-1989	205.5	285.400	02-07-1988	0.003	284.155	24-04-1989
1989-1990	219.4	285.370	26-08-1989	0.013	284.115	28-03-1990
1990-1991	3104	287.405	05-09-1990	0.051	284.140	20-04-1991
1991-1992	1806	287.190	30-07-1991	0.075	284.110	13-03-1992
1992-1993	5229	287.560	28-07-1992	0.042	284.115	22-03-1993
1993-1994	1154	286.210	20-08-1993	0.064	284.065	19-03-1994
1994-1995	3795	288.000	30-08-1994	0.140	283.960	30-03-1995
1995-1996	3650	288.620	03-09-1995	0.144	284.010	14-05-1996
1996-1997	784.0	286.190	02-08-1996	0.040	283.910	11-06-1996
1997-1998	4754	288.270	22-08-1997	0.249	284.000	17-03-1998
1998-1999	244.7	285.520	13-09-1998	0.139	284.060	28-02-1999
1999-2000	466.4	285.620	02-09-1999	0.235	283.980	24-01-2000

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2000-2001	452.4	285.750	19-07-2000	0.035	283.850	30-03-2001
2001-2002	6287	288.980	09-07-2001	0.301	284.000	19-04-2002
2002-2003	406.7	285.740	24-08-2002	0.080	283.950	06-06-2002
2003-2004	3923	288.700	29-08-2003	0.179	284.200	17-04-2004
2004-2005	900.0	286.325	22-08-2004	0.080	284.140	20-03-2005
2005-2006	934.8	286.720	14-09-2005	0.162	284.200	24-01-2006
2006-2007	1035	286.730	31-08-2006	0.157	284.240	21-06-2006
2007-2008	6594	288.582	07-08-2007	0.100	284.040	13-01-2008
2008-2009	4278	288.480	18-09-2008	0.142	283.950	01-01-2009
2009-2010	685.4	285.765	28-08-2009	0.130	284.020	31-12-2009
2010-2011	1812	286.255	06-08-2010	0.316	283.870	15-01-2011
2011-2012	1489	287.400	07-09-2011	0.458	283.980	10-12-2011
2012-2013	865.1	286.450	04-08-2012	0.172	283.980	15-12-2012
2013-2014	1881	287.410	31-07-2013	0.815	284.200	30-11-2013
2014-2015	1444	286.950	22-07-2014	0.000	284.980	16-07-2014
2015-2016	700.0	286.470	17-09-2015	0.000	283.000	26-01-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Baronda (EMR00A4)

Division : MD,CWC,Burla

Local River : Pairi

Sub-Division : UMSD,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	283.000	0.000 *	284.320	13.97	284.640	73.03	284.740	66.85	284.970	171.6	284.185	2.960
2	283.000	0.000 *	284.315	14.63	284.570	73.89	284.590	34.92	284.890	142.6 *	284.180	2.942
3	283.000	0.000 *	284.350	17.50 *	286.160	945.6	284.570	34.10	284.790	95.22	284.220	4.570
4	283.000	0.000 *	284.260	12.94	285.030	203.5	284.975	141.2 *	284.830	116.5	284.200	4.226
5	283.000	0.000 *	284.340	18.58	284.785	135.7	284.830	138.7 *	284.693	50.17	284.180	3.449
6	283.000	0.000 *	284.295	12.40 *	286.470	1182	284.875	132.7	284.605	41.74	284.170	3.250 *
7	283.000	0.000 *	284.245	11.02	287.020	1287 *	284.740	60.70	284.620	51.32	284.170	3.145
8	283.000	0.000 *	284.270	15.80	286.150	817.9	284.643	36.27	284.890	143.6	284.160	1.561
9	283.000	0.000 *	284.285	18.02	284.885	180.4	284.670	40.10	284.980	173.5 *	284.160	1.545
10	283.000	0.000 *	284.385	20.50 *	284.860	168.9	286.885	1038	284.950	167.6 *	284.140	1.362
11	283.000	0.000 *	284.403	30.42	284.945	203.1	287.345	1207 *	284.805	108.7 *	284.140	1.360
12	283.000	0.000 *	284.490	53.40	284.798	105.0	286.478	1193	284.690	75.26 *	284.150	1.436
13	283.000	0.000 *	284.443	30.59	284.780	100.0	285.590	380.1 *	284.615	48.29	284.145	1.400 *
14	283.000	0.000 *	284.370	16.44	284.590	74.50 *	284.968	162.9	284.600	44.32	284.160	1.530 *
15	283.000	0.000 *	284.320	16.19	284.510	69.00 *	284.868	133.1	284.575	35.88	284.160	1.533
16	283.000	0.000 *	284.300	10.99	284.455	12.79	284.770	111.4	284.540	19.86 *	284.160	1.561
17	283.000	0.000 *	284.315	15.60 *	284.410	11.97	284.640	62.95	284.575	40.19	284.160	1.559
18	283.000	0.000 *	284.295	10.33	284.425	14.69	284.605	49.50 *	284.565	23.74	284.140	1.401
19	283.000	0.000 *	284.433	24.80	284.405	8.233	284.610	52.70	284.458	5.781	284.120	1.276
20	283.000	0.000 *	284.435	25.03	284.370	4.235	284.868	119.0	284.165	2.126	284.120	1.270 *
21	283.000	0.000 *	284.415	25.12	284.300	3.200 *	284.885	129.2	284.160	2.081	284.115	1.241
22	283.000	0.000 *	284.835	91.97	284.395	9.508	284.795	101.9	284.140	1.912	284.110	1.085
23	283.000	0.000 *	284.695	80.33	284.385	8.272	284.713	52.10	284.140	1.912 *	284.100	0.985
24	283.000	0.000 *	284.660	85.30 *	284.315	3.312	284.705	50.85	284.215	4.572	284.100	0.985
25	283.000	0.000 *	284.568	71.78	284.643	39.91	284.670	40.25 *	284.200	4.149	284.100	1.004
26	283.000	0.000 *	284.640	81.28	284.665	45.68	284.655	39.12	284.175	2.072	284.150	1.553
27	283.000	0.000 *	284.568	74.16	284.700	71.95	284.750	54.16	284.190	3.603	284.170	1.620 *
28	283.000	0.000 *	284.650	79.04	284.740	74.50 *	284.920	133.8	284.178	3.398	284.160	1.559
29	283.000	0.000 *	284.480	47.86	284.505	18.54	284.855	118.3	284.175	3.308	284.100	1.031
30	284.455	33.18	284.995	157.7	284.470	13.32	285.075	200.3	284.485	18.05 *	284.100	1.046
31			284.650	78.20 *	284.440	9.822			284.185	3.043		
Ten-Daily Mean												
I Ten-Daily	283.000	0.000	284.306	15.54	285.457	506.7	284.952	172.3	284.822	115.4	284.176	2.901
II Ten-Daily	283.000	0.000	284.380	23.38	284.569	60.36	285.274	347.2	284.559	40.41	284.146	1.433
III Ten-Daily	283.146	3.318	284.650	79.34	284.505	27.09	284.802	92.00	284.204	4.373	284.121	1.211
Monthly												
Min.	283.000	0.000	284.245	10.33	284.300	3.200	284.570	34.10	284.140	1.912	284.100	0.985
Max.	284.455	33.18	284.995	157.7	287.020	1287	287.345	1207	284.980	173.5	284.220	4.570
Mean	283.048	1.106	284.452	40.71	284.833	192.5	285.009	203.8	284.518	51.8	284.148	1.848

Annual Runoff in MCM = 1300 Annual Runoff in mm = 403

Peak Observed Discharge = 1193 cumecs on 12/09/2016 Corres. Water Level :286.4775 m

Lowest Observed Discharge = 0.243 cumecs on 05/12/2016 Corres. Water Level :283.5 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Baronda (EMR00A4)

Division : MD,CWC,Burla

Local River : Pairi

Sub-Division : UMSD,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	284.100	1.009	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
2	284.080	0.927	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
3	283.950	0.833	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
4	283.700	0.512 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
5	283.500	0.243	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
6	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
7	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
8	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
9	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
10	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
11	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
12	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
13	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
14	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
15	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
16	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
17	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
18	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
19	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
20	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
21	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
22	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
23	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
24	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
25	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
26	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
27	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
28	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
29	283.000	0.000 *	283.000	0.000 *			283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
30	283.000	0.000 *	283.000	0.000 *			283.000	0.000 *	283.000	0.000 *	283.000	0.000 *
31	283.000	0.000 *	283.000	0.000 *			283.000	0.000 *			283.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	283.433	0.352	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000
II Ten-Daily	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000
III Ten-Daily	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000
Monthly												
Min.	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000
Max.	284.100	1.009	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000	283.000	0.000
Mean	283.140	0.114	283.000	0	283.000	0	283.000	0	283.000	0	283.000	0

Peak Computed Discharge = 1287 cumecs on 07/08/2016

Corres. Water Level :287.02 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :283 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

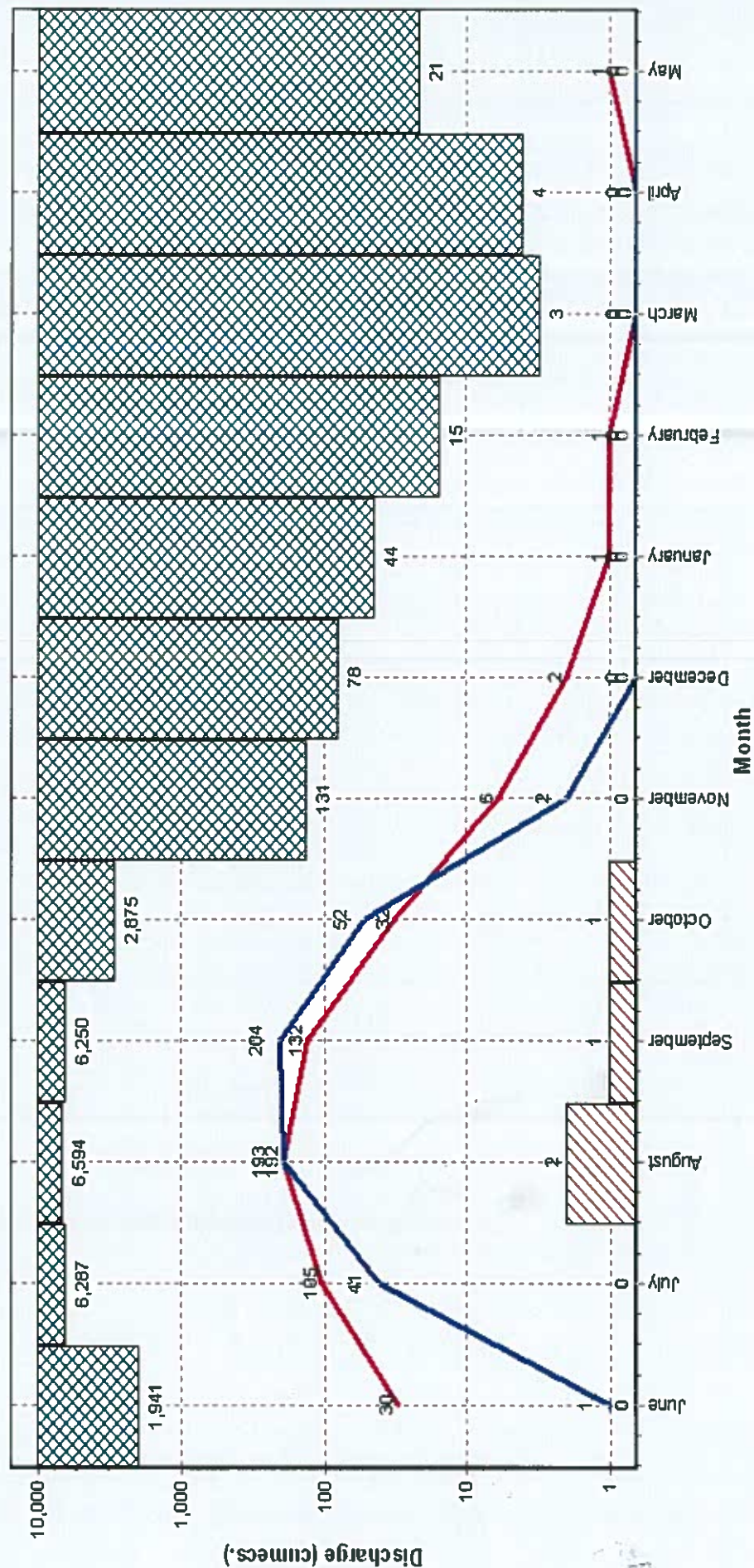
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Data considered : 1978-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Station Name : Baronda (EMR00A4)
Local River : Pairi



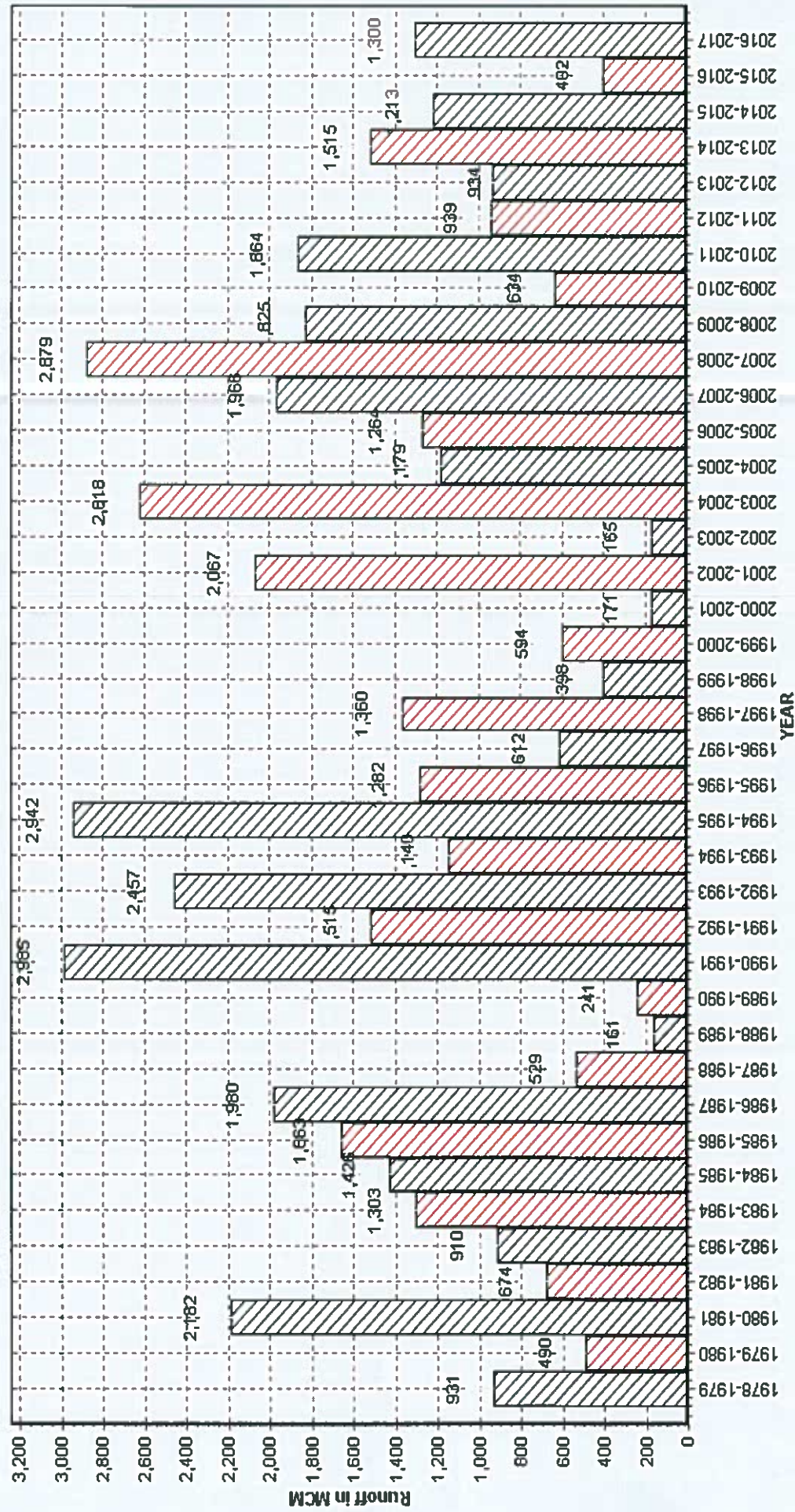
Annual Runoff Values for the period: 1978 - 2017

Station Name : Baronda (EMR00A4)

Local River : Pairi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



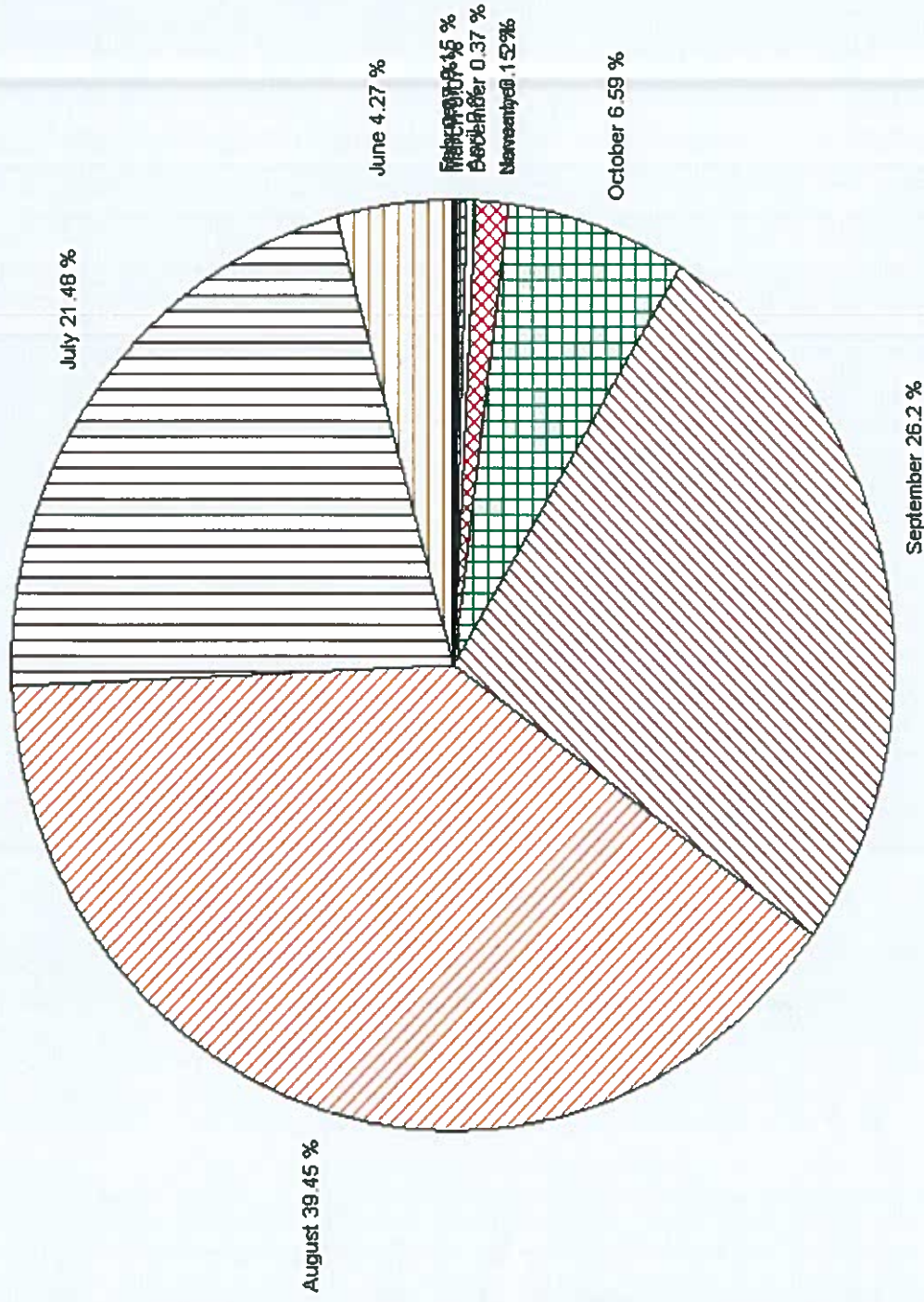
Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1978-2016

Station Name : Baronda (EMR00A4)
Local River : Pairi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

June	4.27 %
July	21.48 %
August	39.45 %
September	26.2 %
October	6.59 %
November	1.2 %
December	0.37 %
January	0.15 %
February	0.15 %
March	0.07 %
April	0 %
May	0.07 %



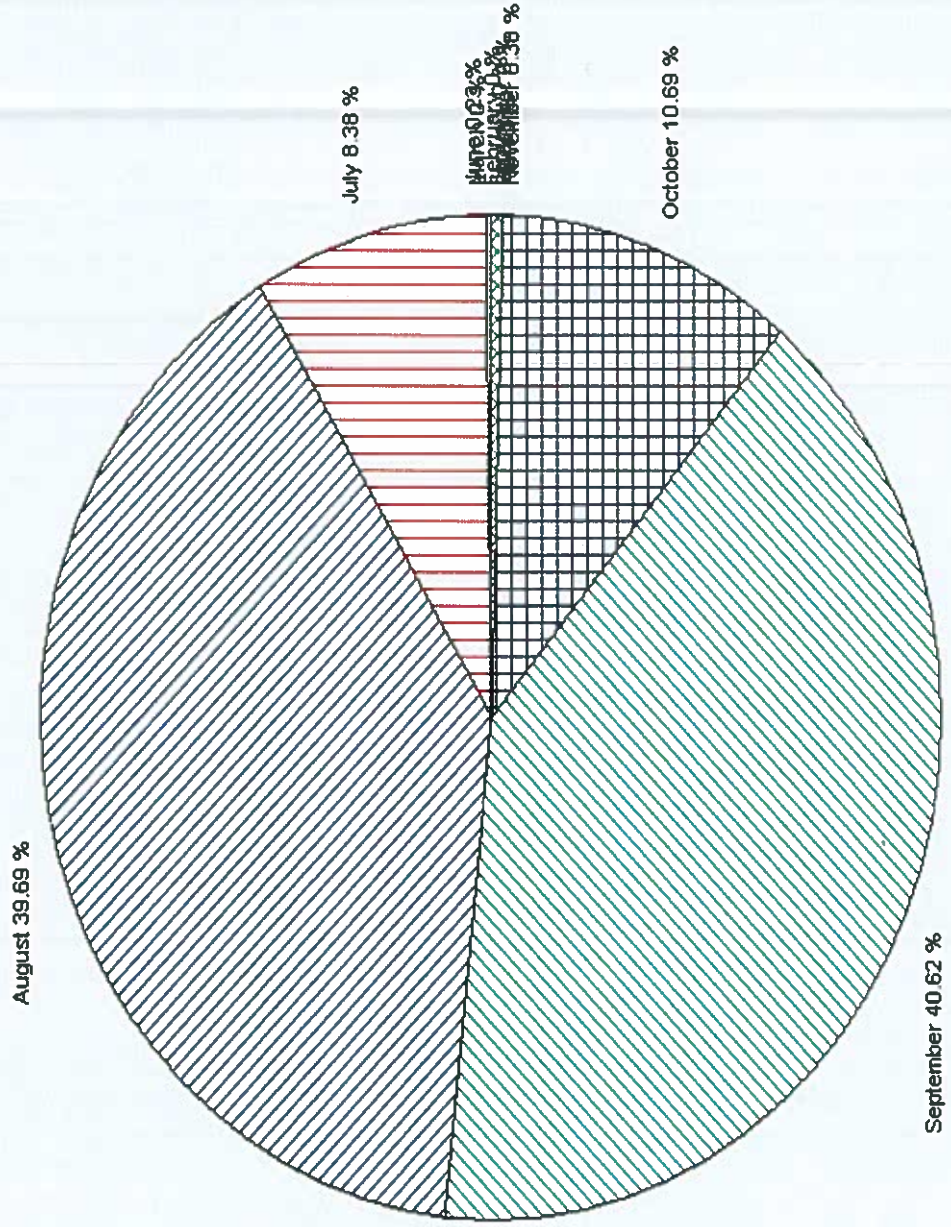
Monthly Runoff for the Year : 2016-2017

Station Name : Baronda (EMR000A4)

Local River : Pairi

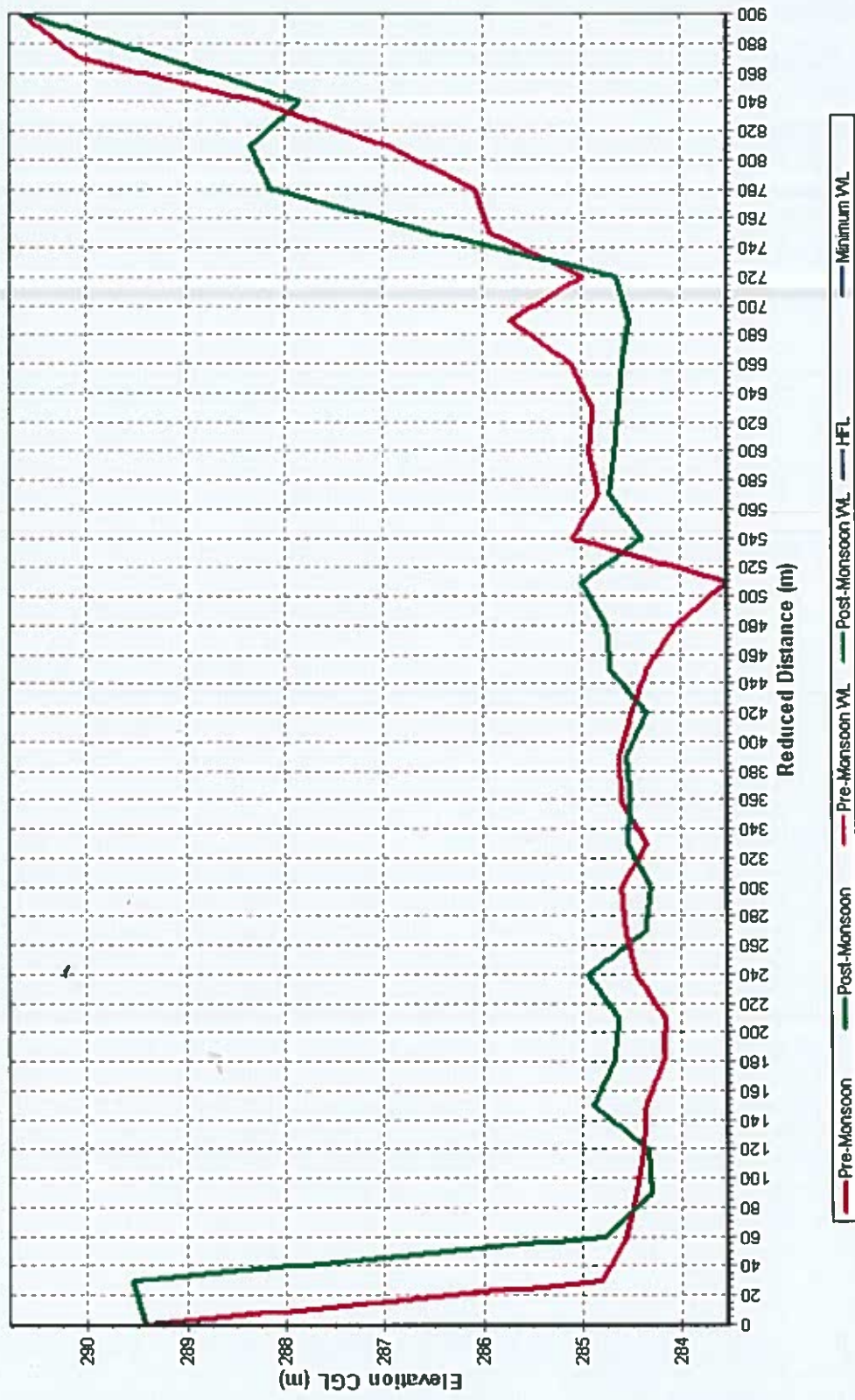
Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



Pre-Monsoon & Post Monsoon X-Section for the Water Year 2016-2017

Station Name : Baronda (EMR00A4)
Local River: Pairi
Division : MD,CWC,Burla
Sub_Division : UMSD,CWC,Raipur



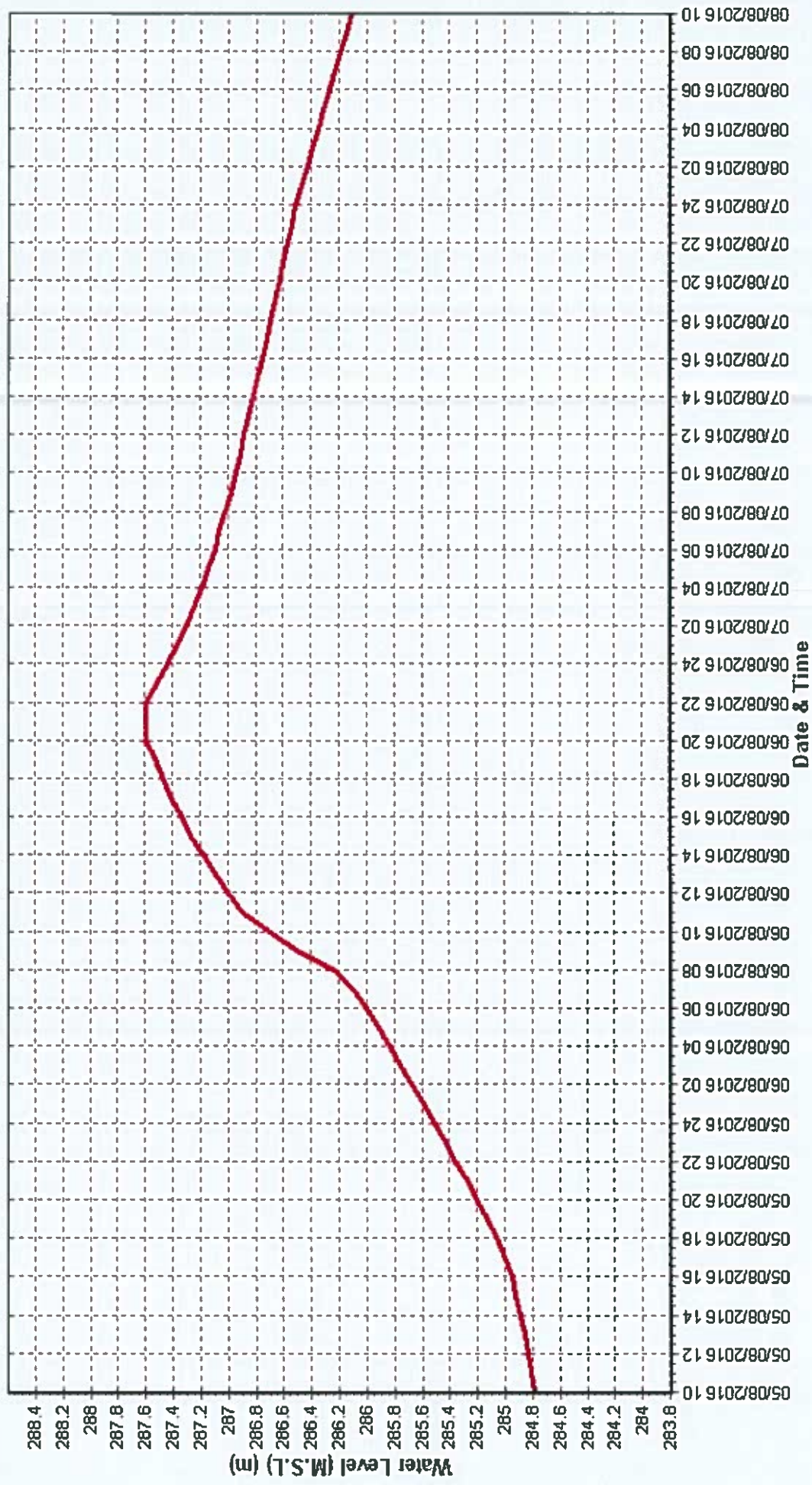
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Baronda (EMR00AA4)

Division : MD,CWC,Burla

Local River : Pairi

Sub-Division : UMSD,CWC,Raipur



Time Span: 72 Hrs

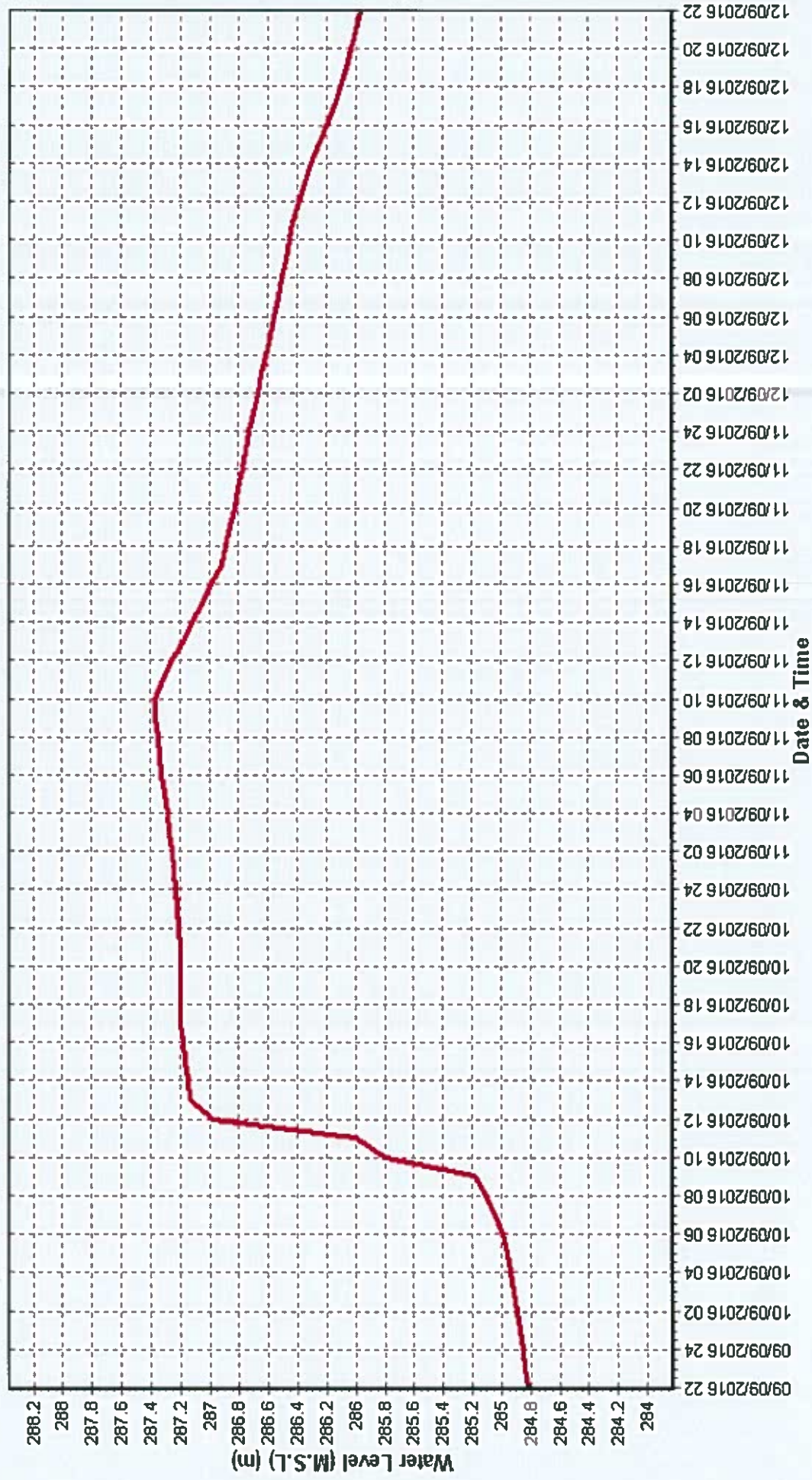
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Baronda (EMR000A4)

Local River : Pairi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

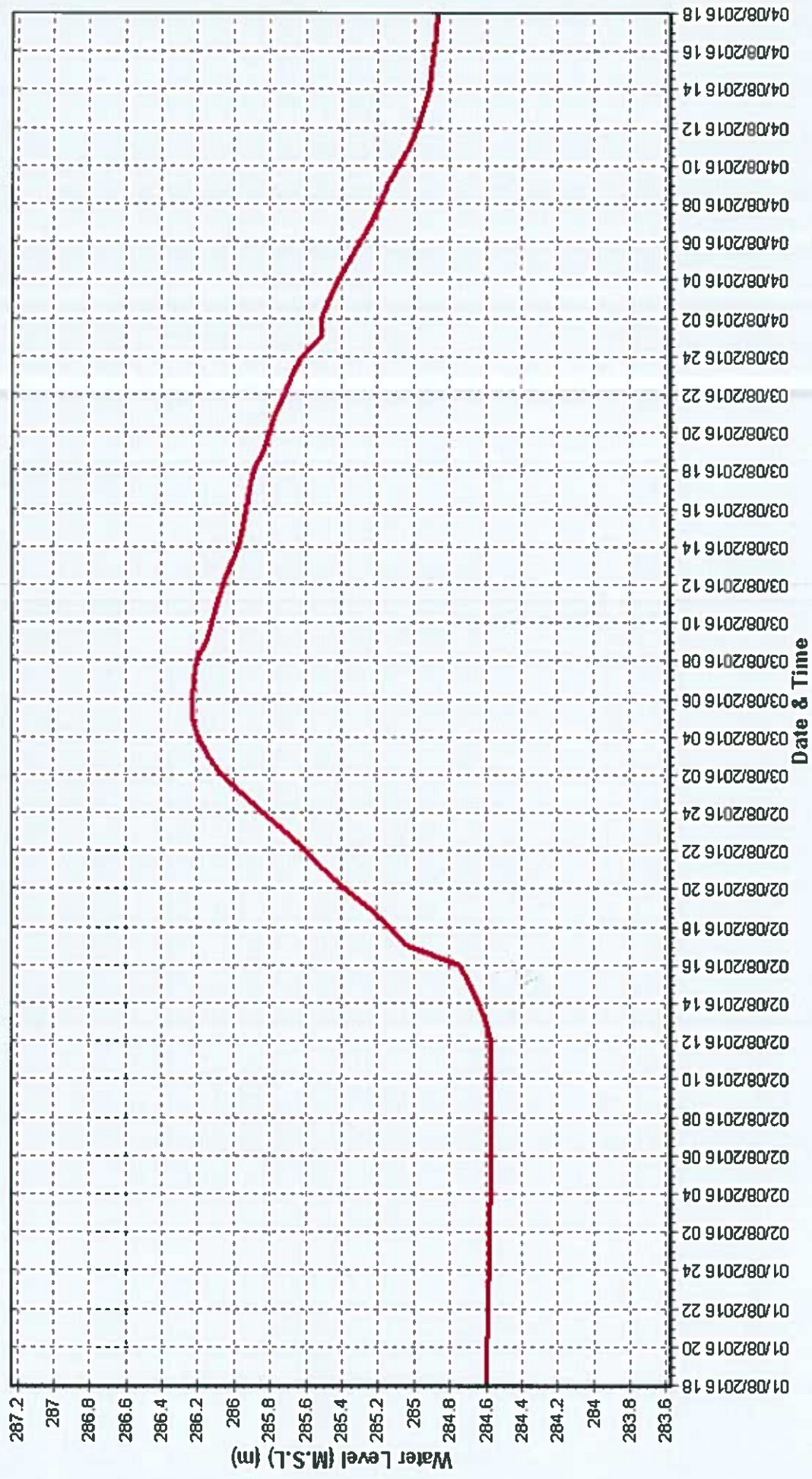


Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

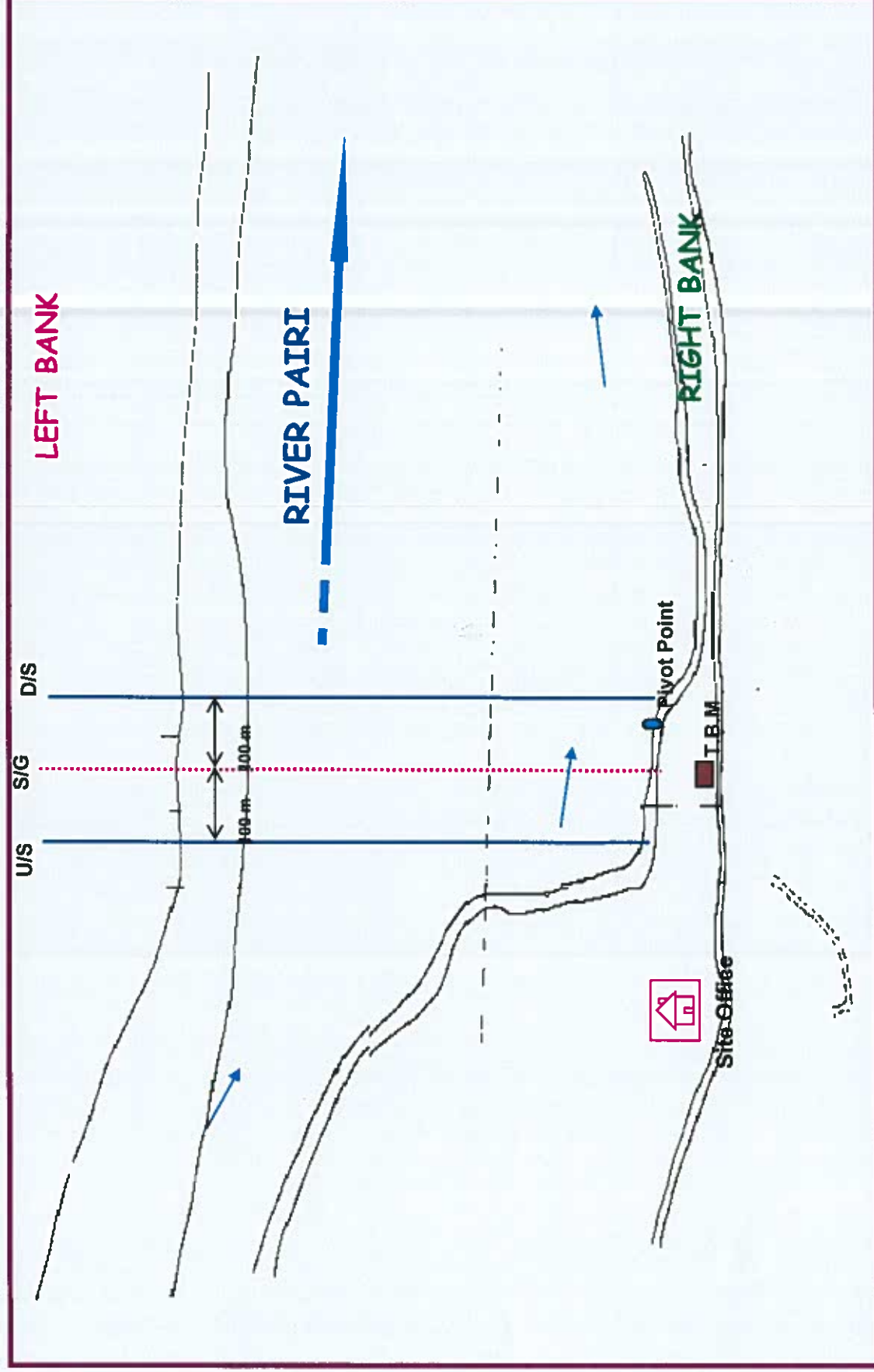
Station Name : Baronda (EMR000A4)

Local River : Pairi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Site : BARONDA Code : EMR00A4 **SITE PLAN** Sub-Division:UMSD CWC Raipur



SECTION -II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Baronda (EMR00A4)
Local River : Pairi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day	Jun				Jul				Aug			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	13.97	0.000	0.000	0.167	0.167	202
2	0.000	0.000	0.000	0.000	0.000	0	14.63	0.000	0.000	0.181	0.181	229
3	0.000	0.000	0.000	0.000	0.000	0	17.50	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	12.94	0.000	0.000	0.220	0.220	246
5	0.000	0.000	0.000	0.000	0.000	0	18.58	0.000	0.000	0.238	0.238	382
6	0.000	0.000	0.000	0.000	0.000	0	12.40	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	11.02	0.000	0.000	0.178	0.178	169
8	0.000	0.000	0.000	0.000	0.000	0	15.80	0.000	0.000	0.252	0.252	344
9	0.000	0.000	0.000	0.000	0.000	0	18.02	0.000	0.000	0.396	0.396	616
10	0.000	0.000	0.000	0.000	0.000	0	20.50	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	30.42	0.000	0.000	0.285	0.285	749
12	0.000	0.000	0.000	0.000	0.000	0	53.40	0.000	0.000	0.146	0.146	674
13	0.000	0.000	0.000	0.000	0.000	0	30.59	0.000	0.000	0.184	0.184	486
14	0.000	0.000	0.000	0.000	0.000	0	16.44	0.000	0.000	0.139	0.139	197
15	0.000	0.000	0.000	0.000	0.000	0	16.19	0.000	0.000	0.221	0.221	309
16	0.000	0.000	0.000	0.000	0.000	0	10.99	0.000	0.000	0.044	0.044	42
17	0.000	0.000	0.000	0.000	0.000	0	15.60	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	10.33	0.000	0.000	0.221	0.221	197
19	0.000	0.000	0.000	0.000	0.000	0	24.80	0.000	0.000	0.187	0.187	401
20	0.000	0.000	0.000	0.000	0.000	0	25.03	0.000	0.000	0.331	0.331	716
21	0.000	0.000	0.000	0.000	0.000	0	25.12	0.000	0.000	0.157	0.157	341
22	0.000	0.000	0.000	0.000	0.000	0	91.97	0.000	0.000	0.264	0.264	2098
23	0.000	0.000	0.000	0.000	0.000	0	80.33	0.000	0.000	0.235	0.235	1631
24	0.000	0.000	0.000	0.000	0.000	0	85.30	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	71.78	0.000	0.000	0.216	0.216	1340
26	0.000	0.000	0.000	0.000	0.000	0	81.28	0.000	0.000	0.021	0.021	147
27	0.000	0.000	0.000	0.000	0.000	0	74.16	0.000	0.000	0.152	0.152	974
28	0.000	0.000	0.000	0.000	0.000	0	79.04	0.000	0.000	0.145	0.145	990
29	0.000	0.000	0.000	0.000	0.000	0	47.86	0.000	0.000	0.020	0.020	83
30	33.18	0.000	0.000	0.000	0.000	0	157.7	0.000	0.000	0.273	0.273	3720
31							78.20	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	15.54	0.000	0.000	0.163	0.163	219
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	23.38	0.000	0.000	0.176	0.176	377
Ten Daily III	3.318	0.000	0.000	0.000	0.000	0	79.34	0.000	0.000	0.135	0.135	1029
Monthly												
Total						0						17283
												67866

Annual Sediment Load (Metric Tonnes) : 181019

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Baronda (EMR00A4)

Local River : Pairi

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	66.85	0.000	0.000	0.348	0.348	2010	171.6	0.000	0.000	0.200	0.200	2965
2	34.92	0.000	0.000	0.314	0.314	947	142.6	0.000	0.000	0.000	0.000	0
3	34.10	0.000	0.000	0.283	0.283	834	95.22	0.000	0.000	0.206	0.206	1695
4	141.2	0.000	0.000	0.000	0.000	0	116.5	0.000	0.000	0.150	0.150	1509
5	138.7	0.000	0.000	0.000	0.000	0	50.17	0.000	0.000	0.148	0.148	641
6	132.7	0.000	0.000	0.236	0.236	2705	41.74	0.000	0.000	0.176	0.176	635
7	60.70	0.000	0.000	0.358	0.358	1878	51.32	0.000	0.000	0.146	0.146	647
8	36.27	0.000	0.000	0.272	0.272	852	143.6	0.000	0.000	0.271	0.271	3362
9	40.10	0.000	0.000	0.299	0.299	1036	173.5	0.000	0.000	0.000	0.000	0
10	1038	0.000	0.000	0.264	0.264	23670	167.6	0.000	0.000	0.000	0.000	0
11	1207	0.000	0.000	0.000	0.000	0	108.7	0.000	0.000	0.000	0.000	0
12	1193	0.000	0.000	0.263	0.263	27117	75.26	0.000	0.000	0.000	0.000	0
13	380.1	0.000	0.000	0.000	0.000	0	48.29	0.000	0.000	0.099	0.099	413
14	162.9	0.000	0.000	0.254	0.254	3576	44.32	0.000	0.000	0.098	0.098	375
15	133.1	0.000	0.000	0.012	0.012	138	35.88	0.000	0.000	0.090	0.090	279
16	111.4	0.000	0.000	0.149	0.149	1434	19.86	0.000	0.000	0.000	0.000	0
17	62.95	0.000	0.000	0.223	0.223	1213	40.19	0.000	0.000	0.019	0.019	66
18	49.50	0.000	0.000	0.000	0.000	0	23.74	0.000	0.000	0.011	0.011	23
19	52.70	0.000	0.000	0.233	0.233	1061	5.781	0.000	0.000	0.120	0.120	60
20	119.0	0.000	0.000	0.127	0.127	1305	2.126	0.000	0.000	0.000	0.000	0
21	129.2	0.000	0.000	0.112	0.112	1250	2.081	0.000	0.000	0.000	0.000	0
22	101.9	0.000	0.000	0.113	0.113	995	1.912	0.000	0.000	0.000	0.000	0
23	52.10	0.000	0.000	0.151	0.151	680	1.912	0.000	0.000	0.000	0.000	0
24	50.85	0.000	0.000	0.129	0.129	567	4.572	0.000	0.000	0.000	0.000	0
25	40.25	0.000	0.000	0.000	0.000	0	4.149	0.000	0.000	0.000	0.000	0
26	39.12	0.000	0.000	0.113	0.113	382	2.072	0.000	0.000	0.000	0.000	0
27	54.16	0.000	0.000	0.182	0.182	852	3.603	0.000	0.000	0.000	0.000	0
28	133.8	0.000	0.000	0.189	0.189	2185	3.398	0.000	0.000	0.000	0.000	0
29	118.3	0.000	0.000	0.280	0.280	2861	3.308	0.000	0.000	0.000	0.000	0
30	200.3	0.000	0.000	0.211	0.211	3652	18.05	0.000	0.000	0.000	0.000	0
31							3.043	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	172.3	0.000	0.000	0.237	0.237	3393	115.4	0.000	0.000	0.130	0.130	1145
Ten Daily II	347.2	0.000	0.000	0.126	0.126	3585	40.41	0.000	0.000	0.044	0.044	122
Ten Daily III	92.00	0.000	0.000	0.148	0.148	1342	4.373	0.000	0.000	0.000	0.000	0
Monthly												
Total						83201						12670

Annual Sediment Load (Metric Tonnes) : 181019

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Baronda (EMR00A4)
Local River : Pairi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day	Dec				Jan				Feb			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.009	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.927	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.833	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.512	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.243	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.352	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly												
Total						0						0

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Baronda (EMR00A4)

Division : MD,CWC,Burla

Local River : Pairi

Sub-Division : UMSD,CWC,Raipur

Day	Mar				Apr				May			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly												
Total						0						0

Annual Sediment Load for period : 1980-2017

Station Name : Baronda (EMR00A4)

Division : MD,CWC,Burla

Local River : Pairi

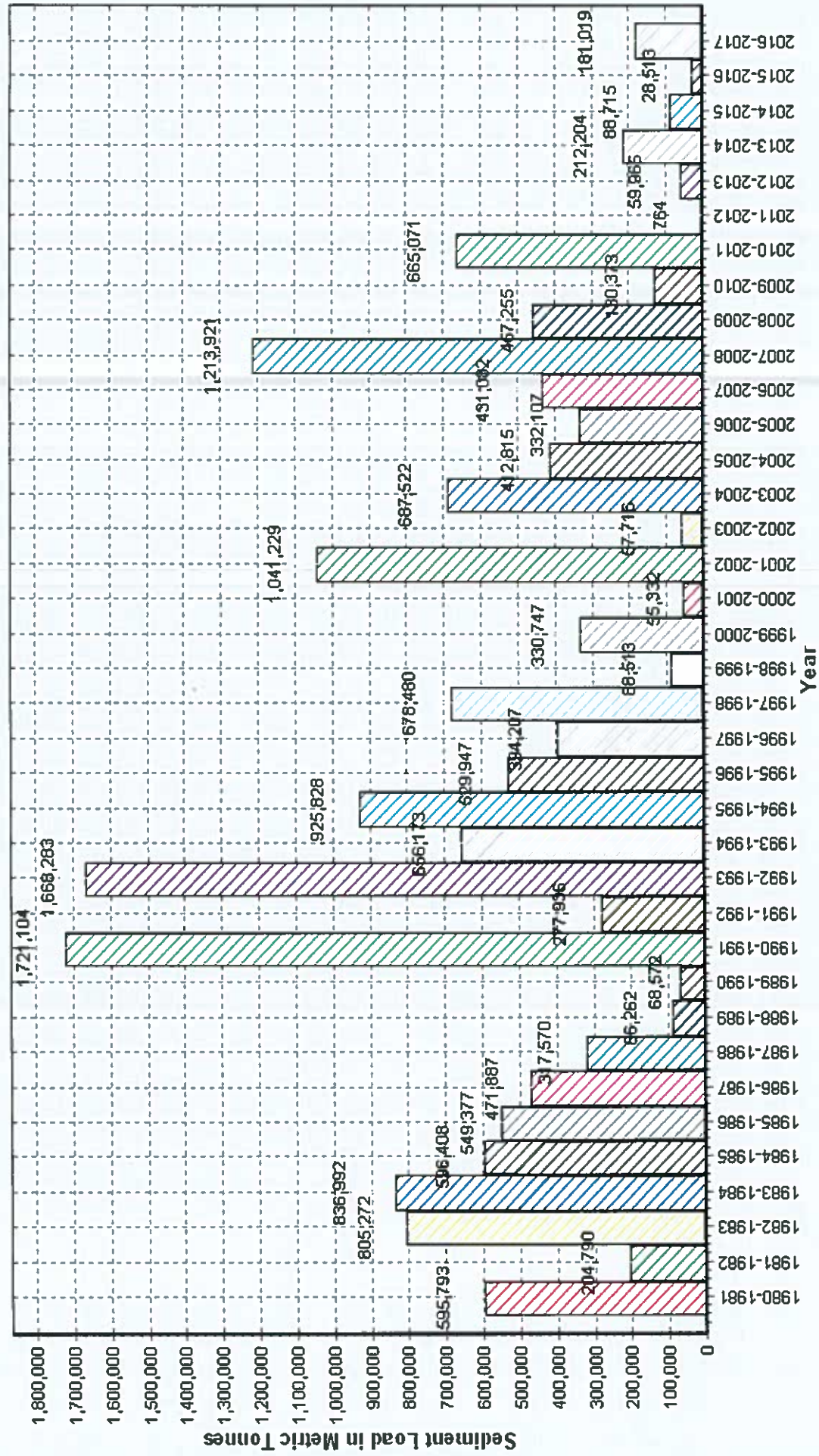
Sub-Division : UMSD,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1980-1981	595793	0	595793	2182
1981-1982	204758	31	204790	674
1982-1983	805169	104	805272	910
1983-1984	836587	405	836992	1303
1984-1985	596408	0	596408	1426
1985-1986	549375	1	549377	1663
1986-1987	471867	20	471887	1980
1987-1988	317512	59	317570	529
1988-1989	86262	0	86262	161
1989-1990	68572	0	68572	241
1990-1991	1721091	12	1721104	2985
1991-1992	277934	2	277936	1515
1992-1993	1668281	2	1668283	2457
1993-1994	656171	2	656173	1140
1994-1995	925730	98	925828	2942
1995-1996	529944	3	529947	1282
1996-1997	394202	4	394207	612
1997-1998	678480	0	678480	1360
1998-1999	88505	8	88513	398
1999-2000	330747	0	330747	594
2000-2001	55332	0	55332	171
2001-2002	1041229	0	1041229	2067
2002-2003	57716	0	57716	165
2003-2004	687469	53	687522	2618
2004-2005	412797	18	412815	1179
2005-2006	332107	0	332107	1264
2006-2007	431082	0	431082	1966
2007-2008	1213921	0	1213921	2879
2008-2009	457255	0	457255	1825
2009-2010	130373	0	130373	634
2010-2011	665071	0	665071	1864
2011-2012	764	0	764	939
2012-2013	59965	0	59965	934
2013-2014	212204	0	212204	1515
2014-2015	88538	177	88715	1213
2015-2016	28513	0	28513	402
2016-2017	181019	0	181019	1300

Annual Sediment Load for the period: 1980-2017

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

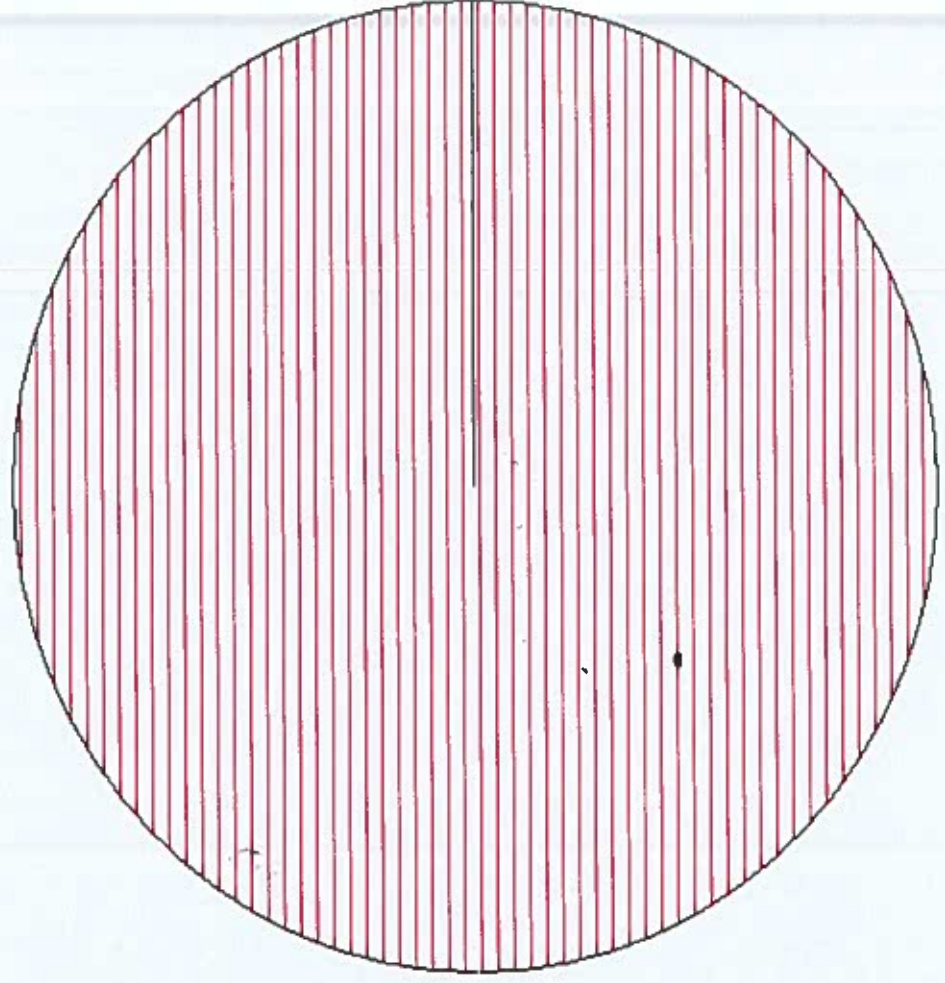
Station Name : Baronda (EMR00A4)
Local River : Pairi



Seasonal Sediment Load for the period : 1980-2016

Station Name : Baronda (EMR00A4)
Local River : Pairi

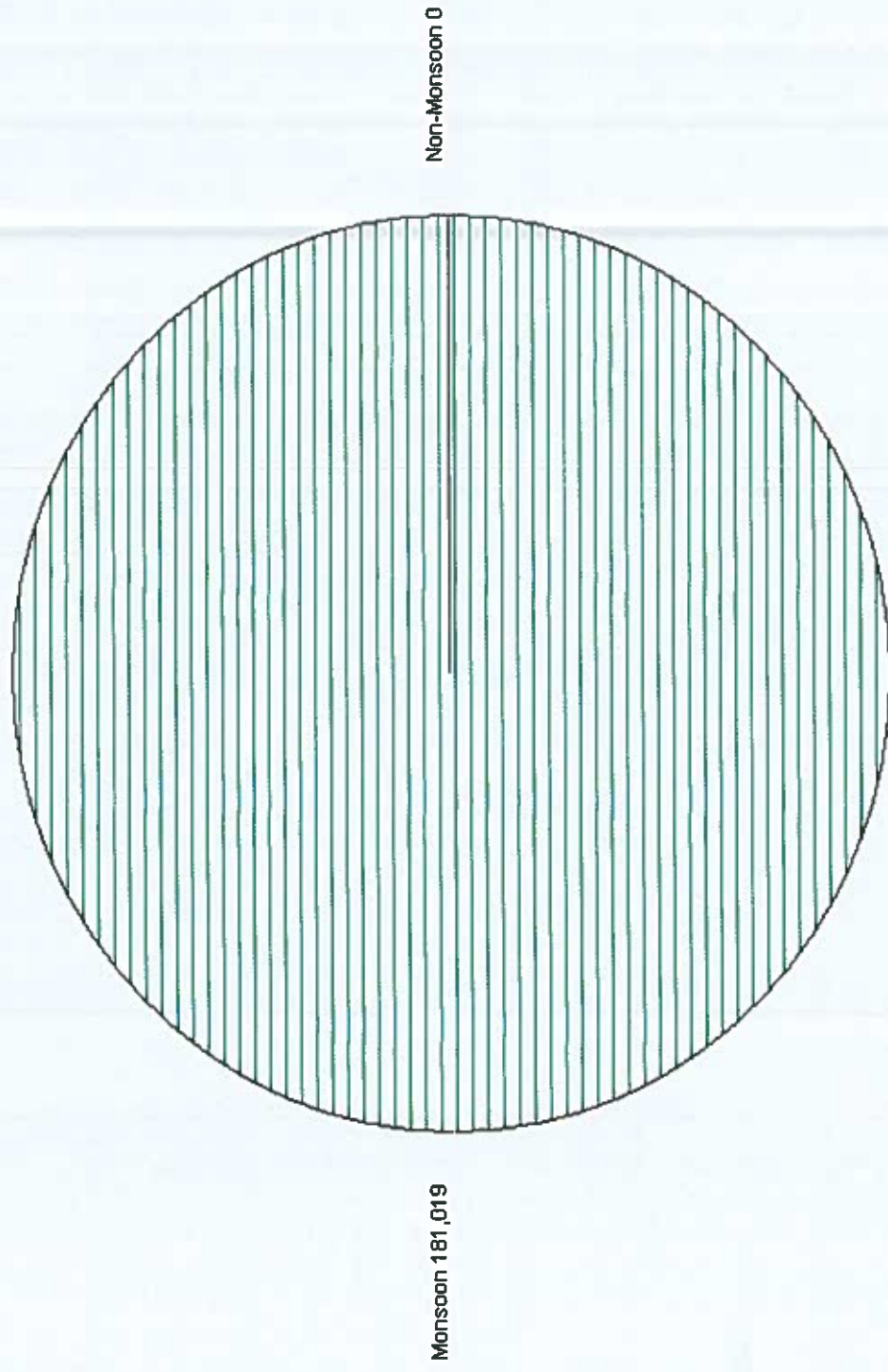
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Seasonal Sediment Load for the Year: 2016-2017

Station Name : Baronda (EMR00A4)
Local River : Pairi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Baronda (EMR000A4)
Local River : Pairi

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

River Water Analysis

S.No	Parameters	01/06/2016	01/07/2016	01/08/2016	01/09/2016	01/10/2016	01/11/2016	01/12/2016	02/01/2017	01/03/2017	01/04/2017	01/05/2017
		A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL											
1	Q (cumec)	0.000	13.97	73.03	66.85	171.6	2.960	1.009	0.000	0.000	0.000	0.000
2	Colour_Cod (-)		Brown	Light Brown	Brown	Brown						
3	EC_FLD (µmho/cm)				217	81						
4	EC_GEN (µmho/cm)		90	153	249	86						
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free					
6	pH_FLD (pH units)				7.9	7.5						
7	pH_GEN (pH units)		7.8	7.2	6.8	7.3						
8	Temp (deg C)		30.0		29.0	29.0						
	CHEMICAL											
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0						
2	ALK-TOT (mgCaCO3/L)		100	96	84	160						
3	Ca (mg/L)		16	18	35	31						
4	Cl (mg/L)		10.0	19.0	16.0	29.0						
5	CO3 (mg/L)		0.0	0.0	0.0	0.0						
6	HCO3 (mg/L)		61	59	51	98						
7	K (mg/L)		11.5	4.0	10.6	8.6						
8	Mg (mg/L)		4.9	2.9	4.9	10.7						
9	Na (mg/L)		12.9	18.7	26.5	11.9						
	BIOLOGICAL/BACTERIOLOGICAL											
1	BOD3-27 (mg/L)		0.2	0.4	1.1	0.4						
2	DO (mg/L)		5.0	4.2	6.7	6.8						
3	DO_SAT% (%)		66		87	88						
	TRACE & TOXIC											
	CHEMICAL INDICES											
1	HAR_Ca (mgCaCO3/L)		40	44	88	77						
2	HAR_Total (mgCaCO3/L)		60	56	108	122						
3	Na% (%)		27	40	32	16						
4	RSC (-)		0.0	0.0	0.0	0.0						
5	SAR (-)		0.7	1.1	1.1	0.5						
	PESTICIDES											

Water Quality Summary for the period : 2016-2017

Station Name : Baronda (EMR00A4)

Division : MD,CWC,Burla

Local River : Pairi

Sub-Division : UMSD,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	1287	0.000	41.10
2	EC_FLD (μmho/cm)	2	217	81	149
3	EC_GEN (μmho/cm)	4	249	86	145
4	pH_FLD (pH units)	2	7.9	7.5	7.7
5	pH_GEN (pH units)	4	7.8	6.8	7.3
6	Temp (deg C)	3	30.0	29.0	29.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	160	84	110
3	Ca (mg/L)	4	35	16	25
4	Cl (mg/L)	4	29.0	10.0	18.5
5	CO3 (mg/L)	4	0.0	0.0	0
6	HCO3 (mg/L)	4	98	51	67
7	K (mg/L)	4	11.5	4.0	8.7
8	Mg (mg/L)	4	10.7	2.9	5.8
9	Na (mg/L)	4	26.5	11.9	17.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	1.1	0.2	0.5
2	DO (mg/L)	4	6.8	4.2	5.7
3	DO_SAT% (%)	3	88	66	81
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	88	40	62
2	HAR_Total (mgCaCO3/L)	4	122	56	87
3	Na% (%)	4	40	16	29
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	1.1	0.5	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Station Name : Baronda (EMR00A4)
Local River : Pairi

River Water

S.No	Parameters	Flood Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	20.88	98.15	39.86	106.3	191.9	152.1	205.7	93.12	37.07	48.66	56.06	288.2	66.08	6.951	65.09
2	EC_FLD (µmho/cm)	108	92	110	95	101	91	243	81	80	96	702	682			149
3	EC_GEN (µmho/cm)	108	92	110	97	101	96	206	80	135	111	115	107	79	93	145
4	pH_FLD (pH units)	7.5	7.8	7.9	7.7	7.4	7.6	7.7	7.9	7.5	7.8	8.3	8.7			7.7
5	pH_GEN (pH units)	7.5	7.8	7.9	7.7	7.4	7.6	7.6	7.8	7.6	7.6	7.9	8.2	7.7	8.2	7.3
6	Temp (deg C)	28.3	30.0	30.8	30.2	27.8	28.4	26.9	28.3	28.0	27.1	27.6	27.0	26.3	26.8	29.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0
2	ALK-TOT (mgCaCO3/L)	70	101	111	50		71	268	55	73	73	78	302	112	116	110
3	B (mg/L)				0.06		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	14	13	17	6		9	15	5	8	9	10	13	12	14	25
5	Cl (mg/L)	5.4	18.3	11.0	10.1		5.3	5.1	3.8	2.8	3.8	6.1	13.3	10.3	13.3	18.5
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
7	F (mg/L)		1.04		0.17		0.07	0.12	0.06	0.33	0.17	0.14				
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	42	62	67	30		43	163	34	44	44	47	62	68	68	67
10	K (mg/L)	4.0			2.1		1.3	0.8	1.0	1.6	1.8	1.1	4.0	2.6	5.7	8.7
11	Mg (mg/L)	2.0	2.3	6.2	2.6		4.7	8.5	3.2	4.3	4.5	5.7	4.4	5.9	9.5	5.8
12	Na (mg/L)	5.2			6.8		12.6	3.7	2.5	5.6	3.8	7.0	5.8	16.3	11.5	17.5
13	NO2+NO3 (mg N/L)			0.11	0.03	0.08	0.15	0.71								
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.03				
15	NO3-N (mgN/L)				0.05	0.07	0.14	0.69								
16	P-Tot (mgP/L)		0.020		0.033		0.010	0.030	0.023	0.012	0.015	0.045				
17	SiO2 (mg/L)				7.2		6.9	13.9	27.5	5.2	8.6	11.4				
18	SO4 (mg/L)	6.8	24.0	4.0	7.2		15.4	6.8	6.0	10.0	13.2	12.3				

Water Quality Seasonal Average for the period: 2002-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Station Name : Baronda (EMR00A4)
Local River : Pairi

River Water

S.No	Parameters	Winter															
		Nov - Feb															
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	
	PHYSICAL																
1	Q (cumec)	1.044	20.47	6.591	2.675	2.879	1.222	2.546	1.279	10.45	1.535	3.090	5.514	2.858	0.523	0.992	
2	EC_FLD (µmho/cm)	121	197	133	105	95	99	126	98	74	98	754					
3	EC_GEN (µmho/cm)	121	197	133	105	95	112	244	104	100	88	127	103	91	91		
4	pH_FLD (pH units)	7.8	7.8	7.8	7.6	8.0	7.9	7.9	8.1	7.9	8.1	8.5					
5	pH_GEN (pH units)	7.8	7.8	7.8	7.6	8.0	7.8	8.2	8.0	8.0	7.9	7.5	8.1	7.8	7.7		
6	Temp (deg C)	21.1	22.5	23.3	24.7	25.0	20.5	22.5	20.7	22.3	21.6	21.1	22.5	18.3	22.0		
	CHEMICAL																
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)	97	192	247	74		79	164	71	73	68	74	116	116	100		
3	B (mg/L)				0.04		0.01	0.00	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	14	11	12	6		7	16	7	7	7	9	16	18	18		
5	Cl (mg/L)	5.0	12.3	7.3	11.1		10.4	9.8	4.8	8.9	2.1	9.6	12.5	14.7	9.0		
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
7	F (mg/L)		0.93	0.41	0.05		0.06	0.09	0.09	0.07	0.14	0.17					
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
9	HCO3 (mg/L)	59	75	150	45		48	93	44	45	41	45	71	71	61		
10	K (mg/L)	3.1		3.9	1.4		1.5	2.2	1.8	1.8	1.6	1.0	11.6	2.2	6.0		
11	Mg (mg/L)	2.1	7.4	4.0	3.4		4.4	10.7	3.9	4.9	4.4	5.4	5.3	9.4	5.8		
12	Na (mg/L)	5.0		8.3	7.9		16.9	12.0	5.5	7.3	4.5	9.1	9.3	15.4	21.2		
13	NO2+NO3 (mg N/L)			0.15	0.06	0.03	0.10	0.53									
14	NO2-N (mgN/L)				0.00	0.01	0.01	0.04	0.01	0.01	0.01	0.01					
15	NO3-N (mgN/L)				0.06	0.03	0.09	0.49									
16	P-Tot (mgP/L)			0.480	0.011		0.017	0.050	0.013	0.033	0.015	0.025					
17	SiO2 (mg/L)				13.0		16.8	10.5	27.7	3.9	4.3	7.1					
18	SO4 (mg/L)	5.5	5.0	8.7	4.7		15.1	19.8	16.3	10.5	9.9	9.6					

Water Quality Seasonal Average for the period: 2002-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Station Name : Baronda (EMR00A4)
Local River : Pairi

River Water

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)		2.141	1.730	1.688											
2	EC_FLD (µmho/cm)		184	80	527		147									
3	EC_GEN (µmho/cm)		184	80	527		165							0.000	0.000	0.000
4	pH_FLD (pH units)		7.9	8.1	7.7		8.2									
5	pH_GEN (pH units)		7.9	8.1	7.7		8.0									
6	Temp (deg C)			29.0	30.0		21.9									
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0	4.6	0.0		0.0									
2	ALK-TOT (mgCaCO3/L)		179	81	353		127									
3	B (mg/L)				0.07		0.01									
4	Ca (mg/L)		15	8	38		10									
5	Cl (mg/L)		11.0	5.0	71.7		25.9									
6	CO3 (mg/L)		0.0	5.5	0.0		0.0									
7	F (mg/L)			0.11	0.12		0.18									
8	Fe (mg/L)				0.2		0.0									
9	HCO3 (mg/L)		109	44	215		77									
10	K (mg/L)			3.3	4.5		2.2									
11	Mg (mg/L)		2.4	4.4	18.4		4.1									
12	Na (mg/L)			9.2	46.2		20.5									
13	NO2+NO3 (mg N/L)			0.10	0.14		0.19									
14	NO2-N (mgN/L)				0.00		0.01									
15	NO3-N (mgN/L)				0.14		0.18									
16	P-Tot (mgP/L)			0.020	0.027		0.025									
17	SiO2 (mg/L)				10.0		13.4									
18	SO4 (mg/L)		2.4	4.2	31.8		16.5									

UPPER MAHANADI SUB-BASIN

SITE RAJIM

HISTORY SHEET

		Water Year : 2016-2017	
Site	: Rajim	Code	: EM000U7
State	: Chhattisgarh	District	: Gariyaband
Basin	: Mahanadi	Independent River	: Mahanadi
Tributary	: -	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Mahanadi
Division	: MD,CWC,Burla	Sub-Division	: UMSD,CWC,Raipur
Drainage Area	: 8760 Sq. Km.	Bank	:
Latitude	: 20°58'00"	Longitude	: 81°52'30"
Zero of Gauge (m)	: 275 (m.s.l)	01/02/1971	- 01/02/2021
	Opening Date	Closing Date	
Gauge	: 01/02/1971		
Discharge	:		
Sediment	: 04/12/1972		
Water Quality	: 01/09/1972		

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1971-1972	754.2	278.340	23/06/1971	0.100	275.995	29/03/1972
1972-1973	1334	278.840	08/07/1972	0.100	276.150	02/04/1973
1973-1974	7601	282.063	08/07/1973	0.070	276.240	30/04/1974
1974-1975	691.0	278.235	18/08/1974	0.001	276.190	29/04/1975
1975-1976	2765	279.760	09/09/1975	0.001	276.400	14/04/1976
1976-1977	9954	282.545	21/07/1976	0.004	276.315	06/04/1977
1977-1978	7100	281.905	13/09/1977	0.215	276.310	10/06/1977
1978-1979	7669	282.663	16/08/1978	0.387	276.450	05/06/1978
1979-1980	808.0	278.515	04/08/1979	0.003	276.320	06/05/1980
1980-1981	8457	281.700	19/09/1980	0.200	276.485	31/05/1981
1981-1982	3425	280.620	14/08/1981	0.080	276.475	04/06/1981
1982-1983	1210	278.920	14/08/1982	0.008	276.195	17/05/1983
1983-1984	1560	278.950	07/08/1983	0.080	276.205	26/05/1984
1984-1985	1679	279.200	09/08/1984	0.036	276.235	22/04/1985
1985-1986	1649	279.280	07/08/1985	0.058	276.225	01/06/1985
1986-1987	4498	280.500	24/06/1986	0.020	276.285	15/05/1987
1987-1988	486.4	278.110	23/07/1987	0.090	276.335	30/05/1988
1988-1989	280.2	277.600	01/08/1988	0.007	276.195	24/04/1989
1989-1990	255.6	277.830	26/08/1989	0.016	276.120	16/04/1990
1990-1991	7449	281.230	23/08/1990	0.052	276.640	14/05/1991
1991-1992	6923	282.570	30/07/1991	0.006	276.595	22/05/1992
1992-1993	6000	281.300	21/08/1992	0.300	276.425	28/03/1993

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1993-1994	1631	279.500	20/08/1993	0.074	276.335	18/03/1994
1994-1995	8017	282.680	30/08/1994	0.534	276.425	08/03/1995
1995-1996	3340	280.400	24/07/1995	0.157	276.260	25/05/1996
1996-1997	3823	279.450	02/08/1996	0.155	276.160	20/05/1997
1997-1998	6094	281.145	22/08/1997	0.500	276.210	15/06/1997
1998-1999	400.0	277.900	13/09/1998	0.239	276.205	08/04/1999
1999-2000	933.9	278.500	31/08/1999	0.587	276.315	19/04/2000
2000-2001	1152	278.760	19/07/2000	0.073	276.200	10/02/2001
2001-2002	7133	282.350	09/07/2001	2.477	276.540	01/05/2002
2002-2003	838.0	278.530	24/08/2002	1.001	276.530	22/01/2003
2003-2004	8449	282.625	29/08/2003	0.264	276.340	30/05/2004
2004-2005	3003	280.400	23/08/2004	0.040	276.140	21/05/2005
2005-2006	2907	280.180	14/09/2005	0.227	276.300	03/04/2006
2006-2007	6790	281.665	31/08/2006	0.275	276.360	08/03/2007
2007-2008	4132	280.530	30/06/2007	0.140	276.500	23/05/2008
2008-2009	4771	280.965	18/09/2008	0.116	276.380	07/02/2009
2009-2010	2257	278.925	27/08/2009	0.645	276.390	02/01/2010
2010-2011	3193	279.350	07/09/2010	0.638	276.300	03/02/2011
2011-2012	3679	279.840	07/09/2011	1.880	276.430	05/12/2011
2012-2013	2405	279.275	04/08/2012	6.486	276.620	04/07/2012
2013-2014	2572	279.775	31/07/2013	8.800	276.390	08/12/2013
2014-2015	4058	280.610	05/08/2014	0.000	275.000	14/04/2015
2015-2016	1161	278.615	21/09/2015	0.000	275.000	26/01/2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Rajim (EM000U7)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : UMSD,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	275.000	0.000 *	275.000	0.000 *	277.025	116.8	277.073	107.8	277.995	694.6	276.530	28.48 *
2	275.000	0.000 *	275.000	0.000 *	276.915	107.5	276.825	54.42	277.750	550.0 *	276.525	28.00 *
3	275.000	0.000 *	275.000	0.000 *	277.920	678.5	276.885	61.65	277.555	593.3	276.525	26.88 *
4	275.000	0.000 *	275.000	0.000 *	277.290	235.4	277.230	302.4 *	277.358	362.8	276.515	25.00 *
5	275.000	0.000 *	275.000	0.000 *	277.245	224.9	277.230	302.5 *	277.278	350.6	276.480	10.96 *
6	275.000	0.000 *	275.000	0.000 *	278.310	812.2	277.238	314.6	277.230	326.8	276.470	10.00 *
7	275.000	0.000 *	275.000	0.000 *	278.560	936.5 *	277.000	122.1	277.025	155.5	276.470	10.28 *
8	275.000	0.000 *	275.000	0.000 *	278.435	928.1	276.820	54.85	277.360	377.3	276.460	9.930 *
9	275.000	0.000 *	275.000	0.000 *	277.915	643.3	276.800	51.67	277.900	650.0 *	276.460	9.900 *
10	275.000	0.000 *	275.000	0.000 *	277.615	537.5	277.305	338.9	277.870	600.0 *	276.470	10.50 *
11	275.000	0.000 *	275.000	0.000 *	277.510	458.8	278.650	1389 *	277.770	560.0 *	276.480	11.45 *
12	275.000	0.000 *	275.000	0.000 *	277.280	331.7	278.225	1248	277.430	500.0 *	276.475	11.21 *
13	275.000	0.000 *	276.890	179.7	277.165	138.1	277.970	979.3 *	277.315	352.2	276.465	10.58 *
14	275.000	0.000 *	276.750	71.63	277.065	122.6 *	277.530	553.4	277.055	161.1	276.450	9.400 *
15	275.000	0.000 *	276.685	64.58	276.670	46.30 *	277.260	335.3	277.040	159.6	276.450	9.340 *
16	275.000	0.000 *	276.730	68.89	276.810	53.49	277.095	107.7	276.920	100.0 *	276.450	9.300 *
17	275.000	0.000 *	276.660	62.50 *	276.720	43.33	276.845	60.07	276.778	82.86	276.460	10.19 *
18	275.000	0.000 *	275.000	0.000 *	276.700	40.82	276.890	64.09 *	276.765	80.81	276.480	11.74 *
19	275.000	0.000 *	275.000	0.000 *	276.690	38.69	276.830	52.90	276.665	68.66	276.470	10.68 *
20	275.000	0.000 *	275.000	0.000 *	276.680	34.46	277.138	272.5	276.665	39.10	276.460	9.920 *
21	275.000	0.000 *	275.000	0.000 *	276.670	32.85 *	277.173	295.5	275.000	0.000 *	276.475	11.51 *
22	275.000	0.000 *	277.300	203.5	275.000	0.000 *	277.123	262.3	275.000	0.000 *	276.470	10.87 *
23	275.000	0.000 *	277.325	213.4	275.000	0.000 *	277.015	116.7	275.000	0.000 *	276.470	10.50 *
24	275.000	0.000 *	277.200	185.5 *	275.000	0.000 *	276.943	105.6	275.000	0.000 *	276.470	10.96 *
25	275.000	0.000 *	277.110	185.2	275.000	0.000 *	276.885	77.16 *	275.000	0.000 *	276.465	10.46 *
26	275.000	0.000 *	277.050	119.3	275.000	0.000 *	276.963	109.9	275.000	0.000 *	276.465	10.43 *
27	275.000	0.000 *	277.075	122.2	277.110	117.4	277.308	370.3	275.000	0.000 *	276.460	10.42 *
28	275.000	0.000 *	277.115	129.1	277.300	126.8 *	277.580	574.2	275.000	0.000 *	276.475	11.38 *
29	275.000	0.000 *	277.010	114.2	276.870	59.64	277.455	505.5	275.000	0.000 *	276.480	11.92 *
30	275.000	0.000 *	277.455	399.0	276.740	42.52	278.525	1028	275.000	0.000 *	276.480	11.00 *
31			277.100	126.8 *	276.720	41.25			275.000	0.000 *		
Ten-Daily Mean												
I Ten-Daily	275.000	0.000	275.000	0.000	277.723	522.1	277.040	171.1	277.532	466.1	276.490	16.99
II Ten-Daily	275.000	0.000	275.871	44.73	276.929	130.8	277.443	506.2	277.040	210.4	276.464	10.38
III Ten-Daily	275.000	0.000	276.976	163.5	276.037	38.23	277.297	344.6	275.000	0.000	276.471	10.95
Monthly												
Min.	275.000	0.000	275.000	0.000	275.000	0.000	276.800	51.67	275.000	0.000	276.450	9.300
Max.	275.000	0.000	277.455	399.0	278.560	936.5	278.650	1389	277.995	694.6	276.530	28.48
Mean	275.000	0	275.982	72.43	276.869	224.2	277.260	340.6	276.475	218.2	276.475	12.77

Annual Runoff in MCM = 2295 Annual Runoff in mm = 262

Peak Observed Discharge = 1248 cumecs on 12/09/2016 Corres. Water Level :278.225 m

Lowest Observed Discharge = 0.000 cumecs on 03/07/2016 Corres. Water Level :275 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Rajim (EM000U7)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : UMSD,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
2	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
3	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
4	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
5	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
6	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
7	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
8	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
9	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
10	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
11	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
12	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
13	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
14	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
15	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
16	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
17	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
18	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
19	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
20	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
21	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
22	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
23	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
24	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
25	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
26	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
27	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
28	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
29	275.000	0.000 *	275.000	0.000 *			275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
30	275.000	0.000 *	275.000	0.000 *			275.000	0.000 *	275.000	0.000 *	275.000	0.000 *
31	275.000	0.000 *	275.000	0.000 *			275.000	0.000 *			275.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000
II Ten-Daily	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000
III Ten-Daily	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000
Monthly												
Min.	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000
Max.	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000	275.000	0.000
Mean	275.000	0	275.000	0	275.000	0	275.000	0	275.000	0	275.000	0

Peak Computed Discharge = 1389 cumecs on 11/09/2016

Corres. Water Level :278.65 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :275 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) In m * :Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

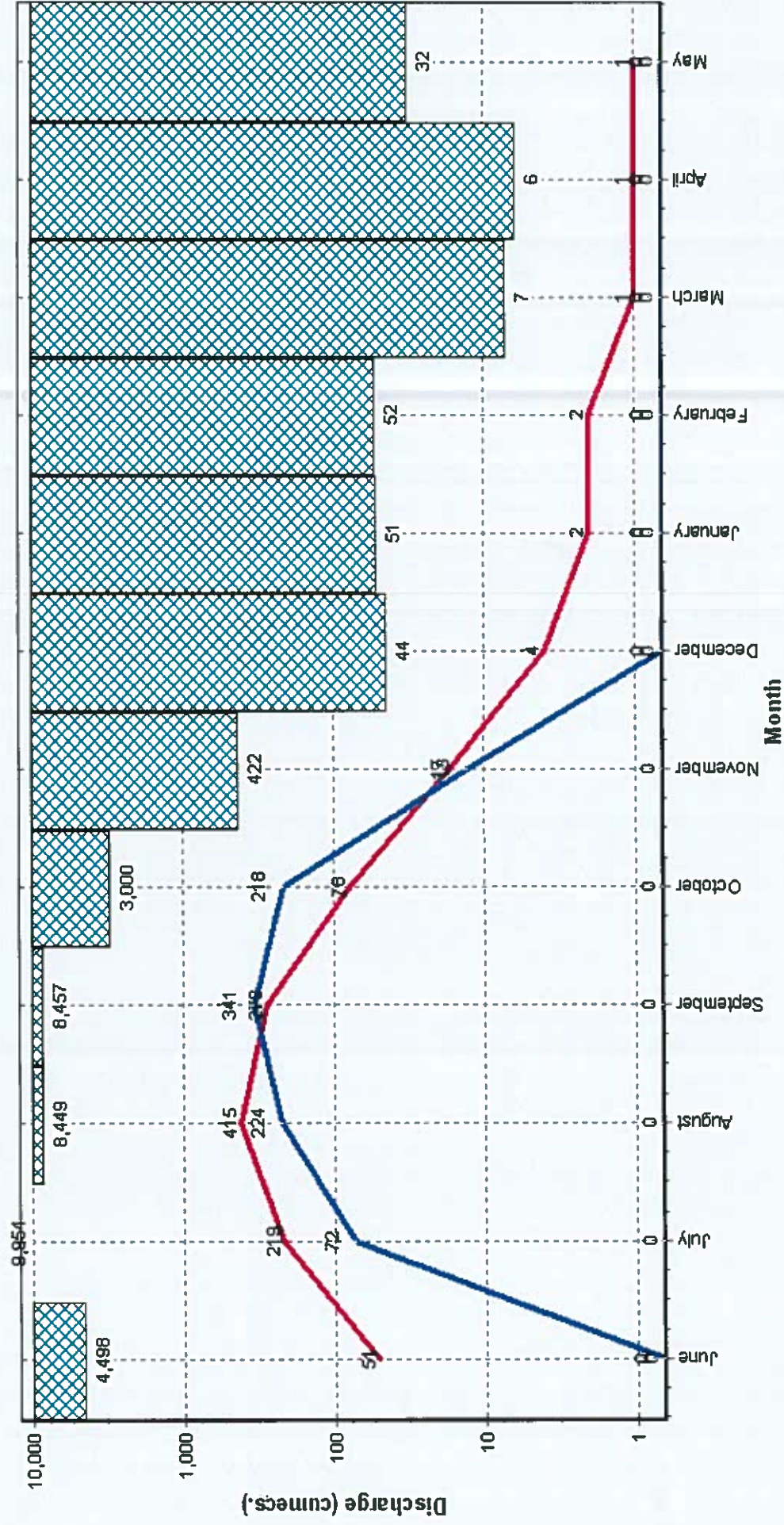
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Data considered : 1971-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

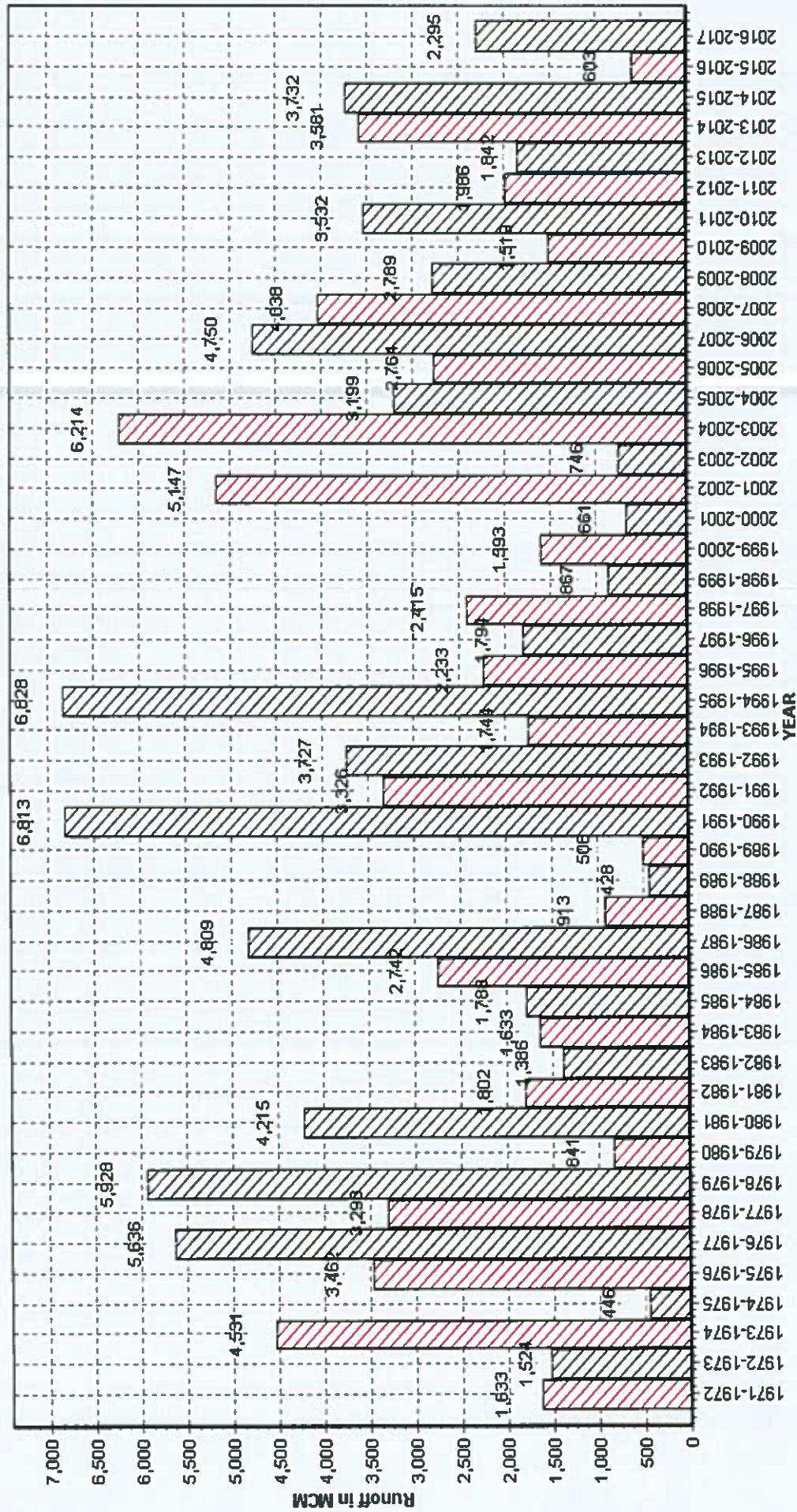


Annual Runoff Values for the period: 1971 - 2017

Station Name : Rajim (EM0000U7)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



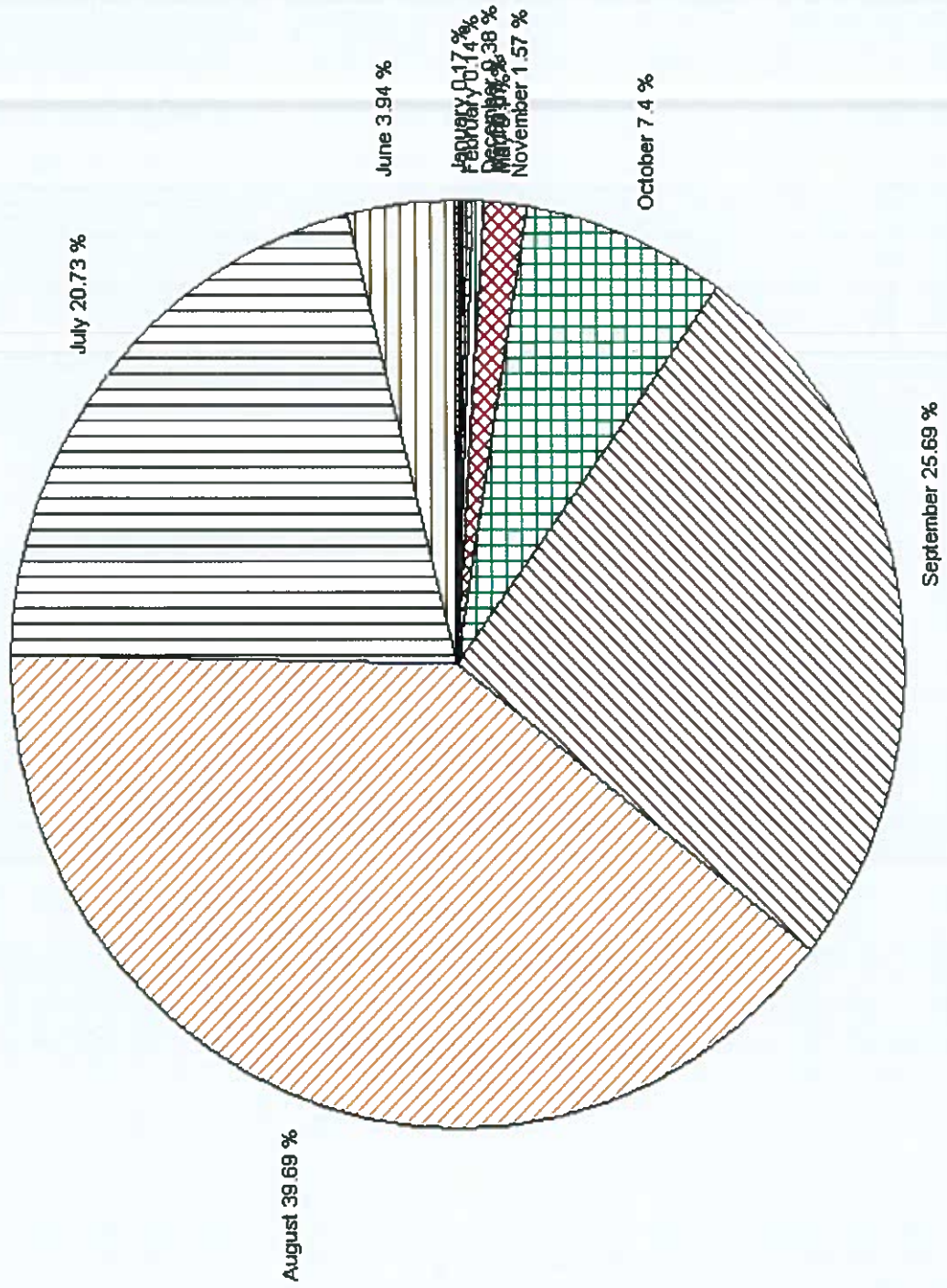
Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1971-2016

Station Name : Rajim (EM000U7)
Local River : Mahanadi

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

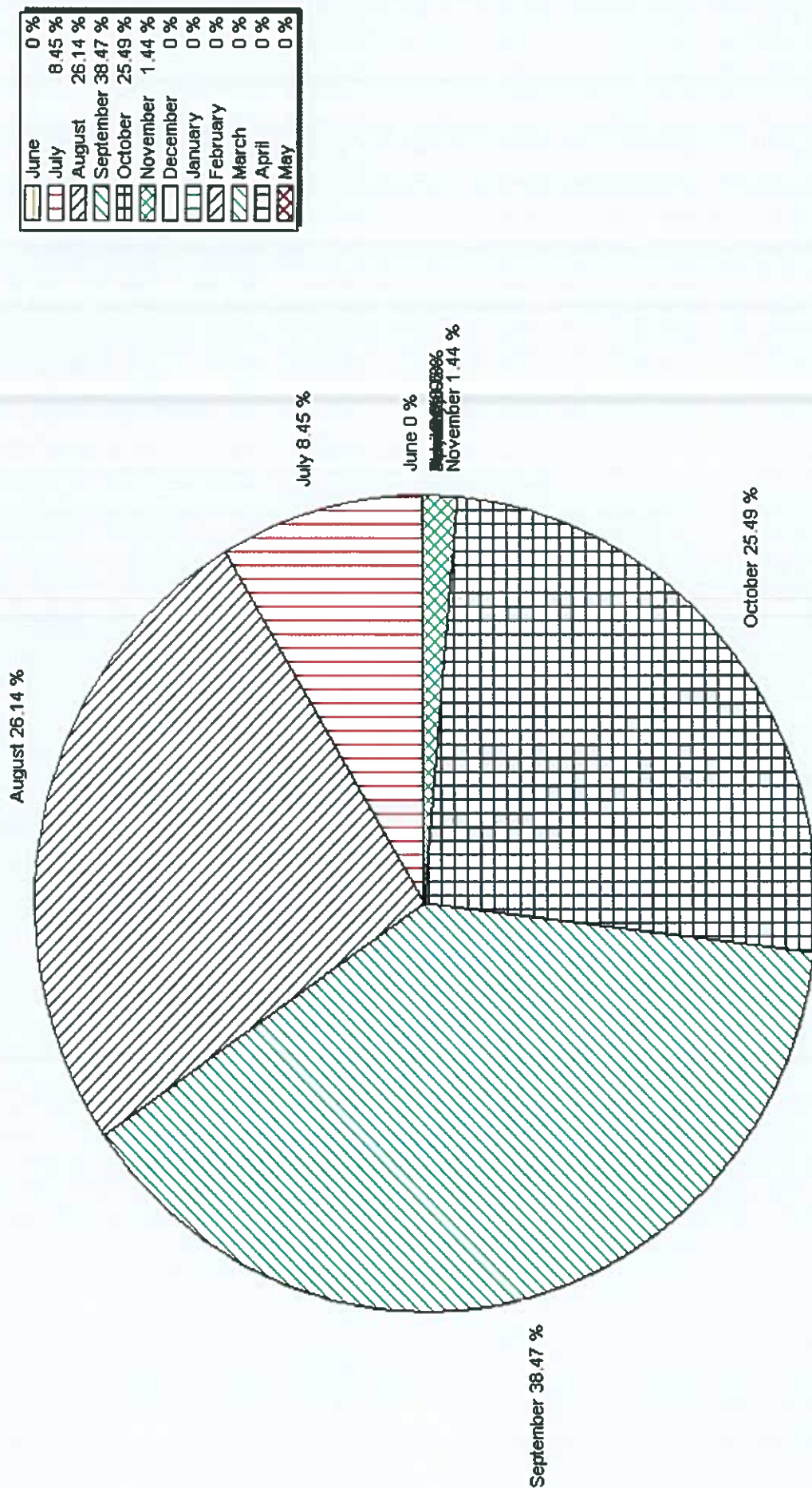
June	3.94 %
July	20.73 %
August	39.69 %
September	25.69 %
October	7.4 %
November	1.57 %
December	0.38 %
January	0.17 %
February	0.14 %
March	0.1 %
April	0.07 %
May	0.1 %



Monthly Runoff for the Year : 2016-2017

Station Name : Rajim (EM0000U7)
Local River : Mahanadi

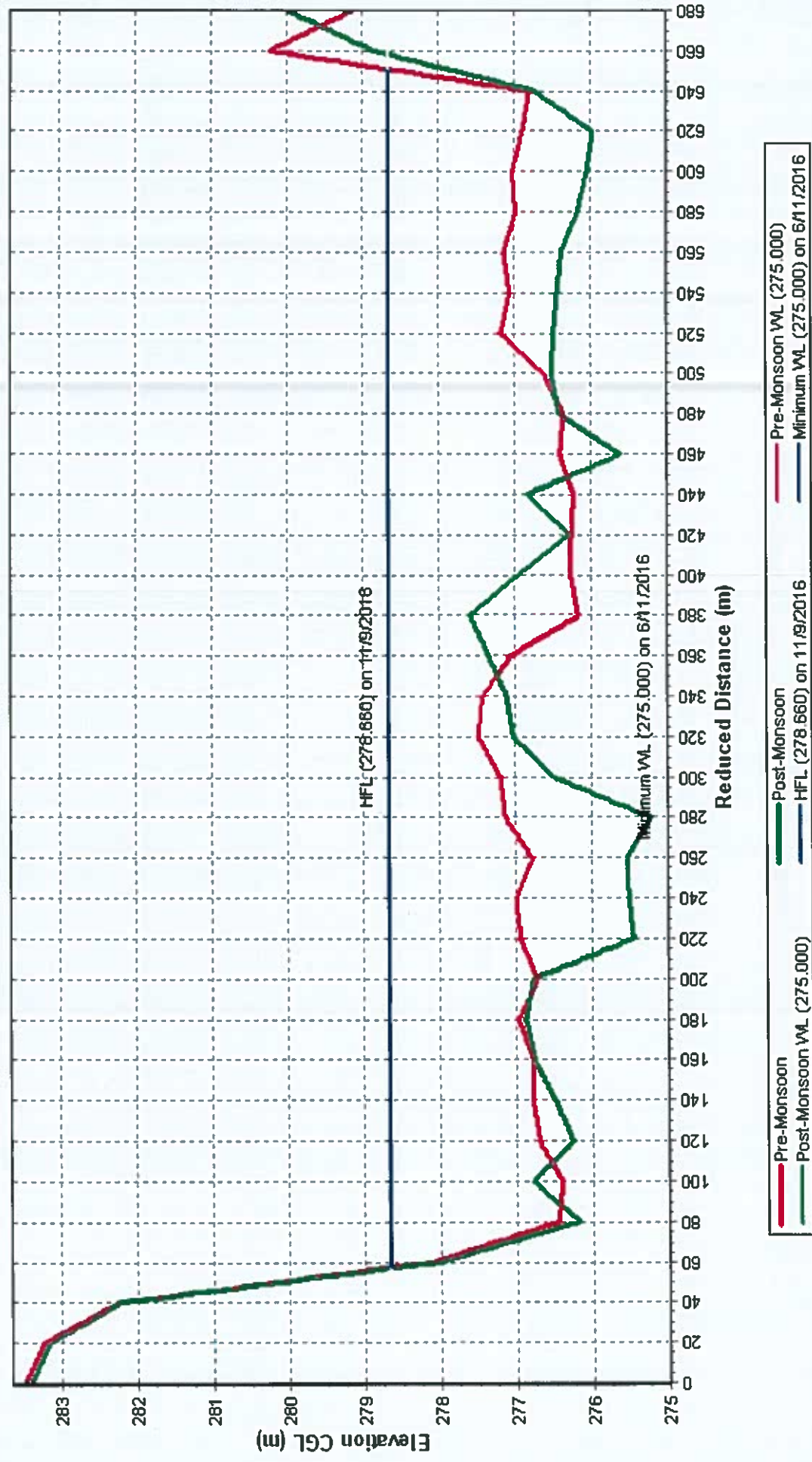
Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

Station Name : Rajim (EM0000U7)
Local River : Mahanadi



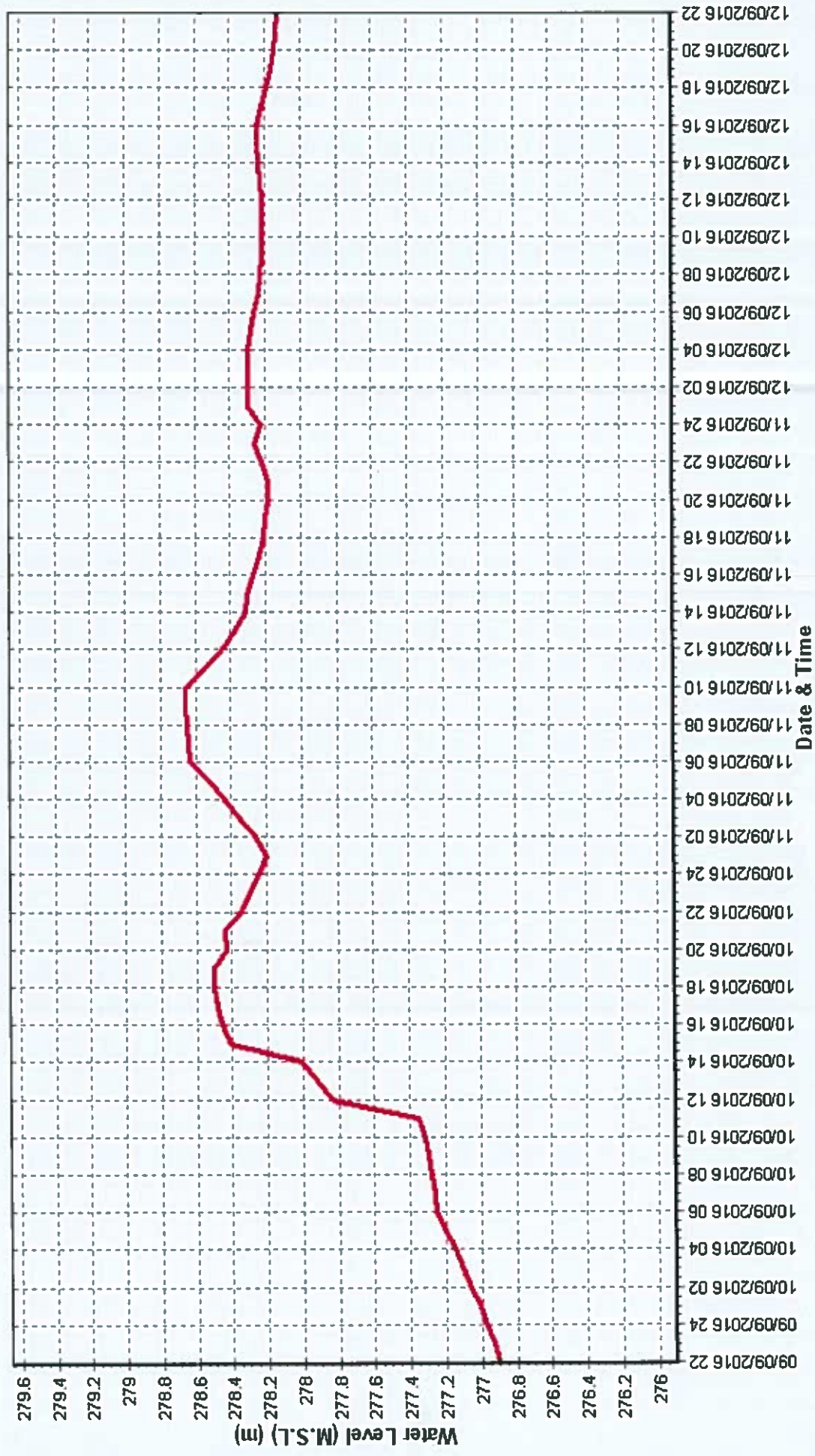
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Rajim (EM0000U7)

Local River : Mahanadi

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur



Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Rajim (EM000U7)
Local River : Mahanadi

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

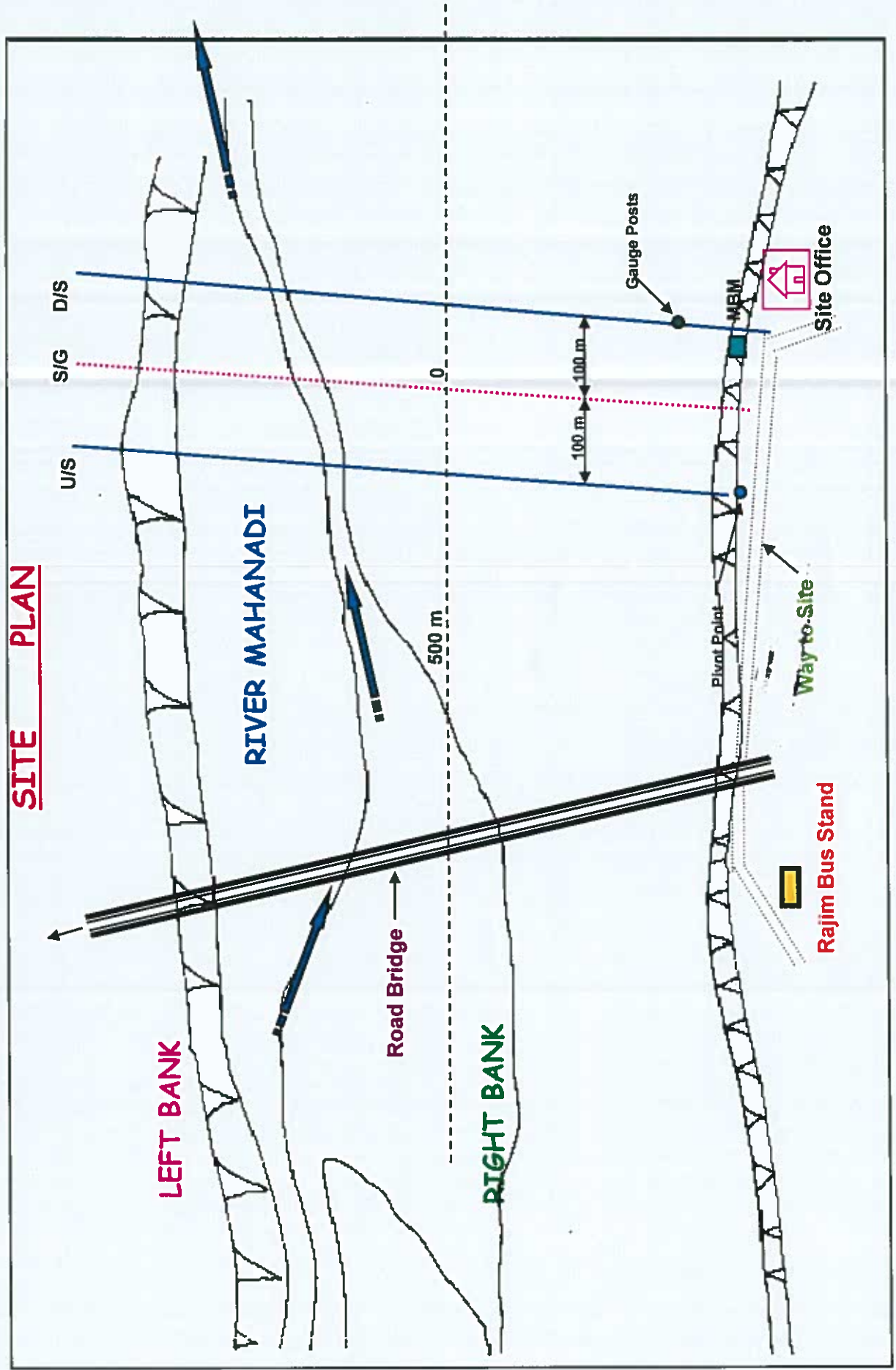


Site : RAJIM

Code : EM000U7

Sub-Division :UMSD Raipur

SITE PLAN



SECTION -II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rajim (EM000U7)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day	Jun					Jul					Aug								
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	116.8	0.000	0.000	0.000	0.083	0.083	839
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	107.5	0.000	0.000	0.000	0.051	0.051	473
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	678.5	0.000	0.000	0.000	0.297	0.297	17435
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	235.4	0.000	0.000	0.000	0.088	0.088	1790
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	224.9	0.000	0.000	0.000	0.136	0.136	2633
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	812.2	0.000	0.000	0.000	0.311	0.311	21825
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	936.5	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	928.1	0.000	0.000	0.000	0.154	0.154	12324
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	643.3	0.000	0.000	0.000	0.146	0.146	8109
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	537.5	0.000	0.000	0.000	0.085	0.085	3952
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	458.8	0.000	0.000	0.000	0.073	0.073	2874
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	331.7	0.000	0.000	0.000	0.099	0.099	2829
13	0.000	0.000	0.000	0.000	0.000	0	179.7	0.000	0.000	0.043	0.043	661	138.1	0.000	0.000	0.000	0.069	0.069	820
14	0.000	0.000	0.000	0.000	0.000	0	71.63	0.000	0.000	0.014	0.014	88	122.6	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	64.58	0.000	0.000	0.015	0.015	81	46.30	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	68.89	0.000	0.000	0.097	0.097	576	53.49	0.000	0.000	0.000	0.021	0.021	98
17	0.000	0.000	0.000	0.000	0.000	0	62.50	0.000	0.000	0.000	0.000	0	43.33	0.000	0.000	0.000	0.070	0.070	263
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	40.82	0.000	0.000	0.000	0.031	0.031	108
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	38.69	0.000	0.000	0.000	0.047	0.047	157
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	34.46	0.000	0.000	0.000	0.013	0.013	38
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	32.85	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	203.5	0.000	0.000	0.064	0.064	1120	0.000	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	213.4	0.000	0.000	0.124	0.124	2277	0.000	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	185.5	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	185.2	0.000	0.000	0.162	0.162	2586	0.000	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	119.3	0.000	0.000	0.191	0.191	1969	0.000	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	122.2	0.000	0.000	0.144	0.144	1523	117.4	0.000	0.000	0.000	0.072	0.072	727
28	0.000	0.000	0.000	0.000	0.000	0	129.1	0.000	0.000	0.195	0.195	2179	126.8	0.000	0.000	0.000	0.108	0.108	554
29	0.000	0.000	0.000	0.000	0.000	0	114.2	0.000	0.000	0.105	0.105	1031	59.64	0.000	0.000	0.000	0.090	0.090	329
30	0.000	0.000	0.000	0.000	0.000	0	399.0	0.000	0.000	0.117	0.117	4023	42.52	0.000	0.000	0.000	0.037	0.037	131
31							126.8	0.000	0.000	0.000	0.000	0	41.25	0.000	0.000	0.000			
Ten Daily Mean																			
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	522.1	0.000	0.000	0.000	0.135	0.135	6938
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	44.73	0.000	0.000	0.017	0.017	141	130.8	0.000	0.000	0.000	0.042	0.042	719
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	163.5	0.000	0.000	0.100	0.100	1519	38.23	0.000	0.000	0.000	0.028	0.028	158
Monthly																			
Total						0						18115							78309

Annual Sediment Load (Metric Tonnes) : 185757

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rajim (EM0000U7)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	107.8	0.000	0.000	0.289	0.289	2693	694.6	0.000	0.000	0.120	0.120	7201
2	54.42	0.000	0.000	0.078	0.078	366	550.0	0.000	0.000	0.000	0.000	0
3	61.65	0.000	0.000	0.052	0.052	275	593.3	0.000	0.000	0.035	0.035	1794
4	302.4	0.000	0.000	0.000	0.000	0	362.8	0.000	0.000	0.040	0.040	1254
5	302.5	0.000	0.000	0.000	0.000	0	350.6	0.000	0.000	0.057	0.057	1733
6	314.6	0.000	0.000	0.112	0.112	3037	326.8	0.000	0.000	0.042	0.042	1177
7	122.1	0.000	0.000	0.059	0.059	617	155.5	0.000	0.000	0.056	0.056	752
8	54.85	0.000	0.000	0.055	0.055	258	377.3	0.000	0.000	0.089	0.089	2908
9	51.67	0.000	0.000	0.038	0.038	170	650.0	0.000	0.000	0.000	0.000	0
10	338.9	0.000	0.000	0.180	0.180	5258	600.0	0.000	0.000	0.000	0.000	0
11	1389	0.000	0.000	0.000	0.000	0	560.0	0.000	0.000	0.000	0.000	0
12	1248	0.000	0.000	0.146	0.146	15698	500.0	0.000	0.000	0.000	0.000	0
13	979.3	0.000	0.000	0.000	0.000	0	352.2	0.000	0.000	0.023	0.023	688
14	553.4	0.000	0.000	0.085	0.085	4045	161.1	0.000	0.000	0.010	0.010	141
15	335.3	0.000	0.000	0.058	0.058	1675	159.6	0.000	0.000	0.035	0.035	483
16	107.7	0.000	0.000	0.044	0.044	408	100.0	0.000	0.000	0.000	0.000	0
17	60.07	0.000	0.000	0.120	0.120	622	82.86	0.000	0.000	0.024	0.024	173
18	64.09	0.000	0.000	0.000	0.000	0	80.81	0.000	0.000	0.014	0.014	99
19	52.90	0.000	0.000	0.026	0.026	117	68.66	0.000	0.000	0.009	0.009	53
20	272.5	0.000	0.000	0.075	0.075	1773	39.10	0.000	0.000	0.020	0.020	67
21	295.5	0.000	0.000	0.103	0.103	2633	0.000	0.000	0.000	0.000	0.000	0
22	262.3	0.000	0.000	0.073	0.073	1645	0.000	0.000	0.000	0.000	0.000	0
23	116.7	0.000	0.000	0.076	0.076	764	0.000	0.000	0.000	0.000	0.000	0
24	105.6	0.000	0.000	0.035	0.035	320	0.000	0.000	0.000	0.000	0.000	0
25	77.16	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	109.9	0.000	0.000	0.067	0.067	632	0.000	0.000	0.000	0.000	0.000	0
27	370.3	0.000	0.000	0.126	0.126	4035	0.000	0.000	0.000	0.000	0.000	0
28	574.2	0.000	0.000	0.103	0.103	5100	0.000	0.000	0.000	0.000	0.000	0
29	505.5	0.000	0.000	0.081	0.081	3516	0.000	0.000	0.000	0.000	0.000	0
30	1028	0.000	0.000	0.167	0.167	14794	0.000	0.000	0.000	0.000	0.000	0
31							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	171.1	0.000	0.000	0.086	0.086	1267	466.1	0.000	0.000	0.044	0.044	1682
Ten Daily II	506.2	0.000	0.000	0.055	0.055	2434	210.4	0.000	0.000	0.013	0.013	170
Ten Daily III	344.6	0.000	0.000	0.083	0.083	3344	0.000	0.000	0.000	0.000	0.000	0
Monthly												
Total						70449						18522
												362

Annual Sediment Load (Metric Tonnes) : 185757

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rajim (EM0000U7)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day	Dec					Jan					Feb				
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
Ten Daily Mean															
Ten Daily I	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
Monthly															
Total					0					0					0

Annual Sediment Load (Metric Tonnes) : 185757

53

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rajim (EM0000U7) Division : MD,CWC,Burla
 Local River : Mahanadi Sub-Division : UMSD,CWC,Raipur

Day		Mar					Apr					May							
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
	1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																			
Ten Daily I		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																			
Total							0						0						0

Annual Sediment Load for period : 1973-2017

Station Name : Rajim (EM000U7)

Division : MD,CWC,Burla

Local River : Mahanadi

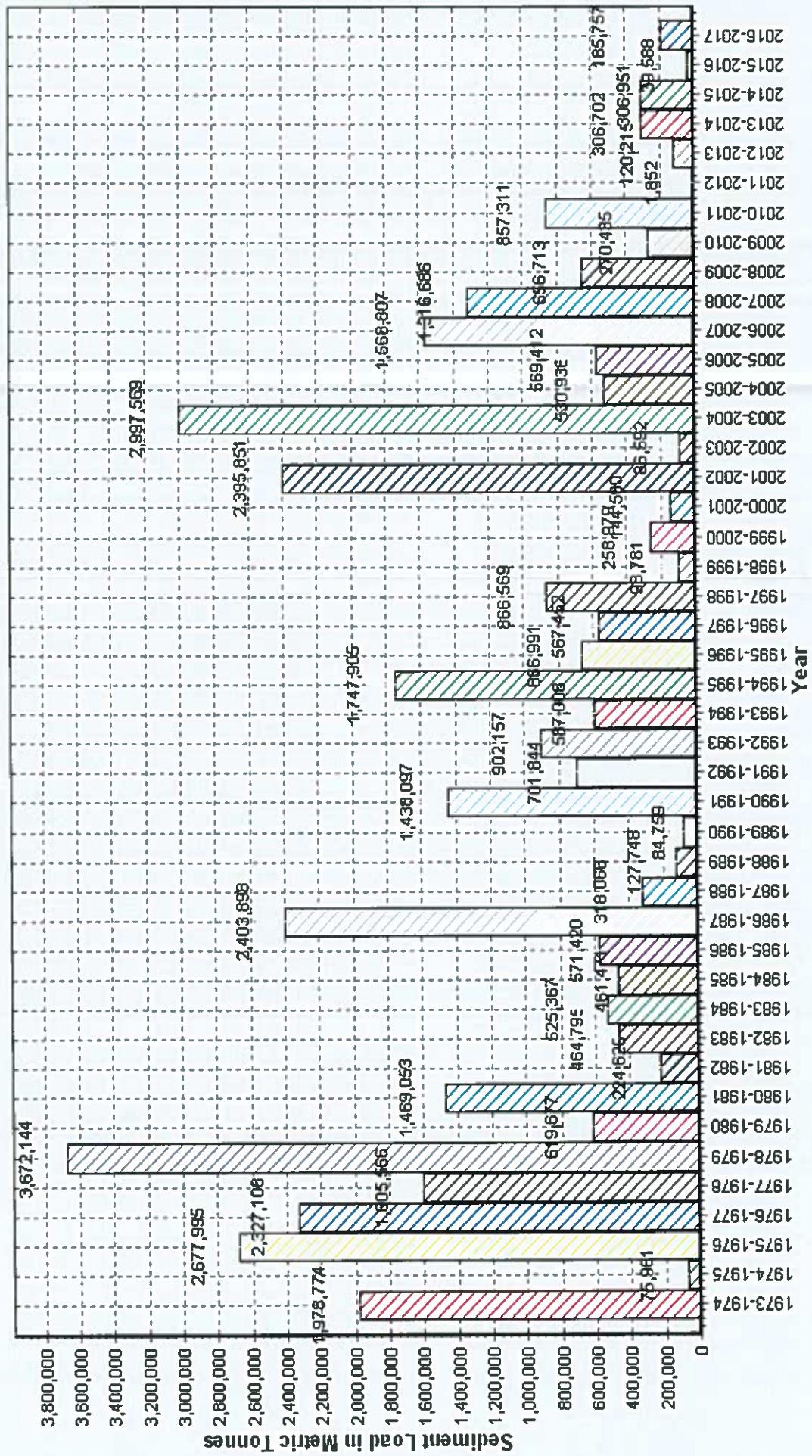
Sub-Division : UMSD,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	1978702	72	1978774	4531
1974-1975	75961	0	75961	446
1975-1976	2677864	131	2677995	3462
1976-1977	2327108	0	2327108	5636
1977-1978	1605507	59	1605566	3293
1978-1979	3672054	90	3672144	5928
1979-1980	619677	0	619677	841
1980-1981	1469016	37	1469053	4215
1981-1982	224369	251	224620	1802
1982-1983	464795	0	464795	1386
1983-1984	525325	42	525367	1633
1984-1985	461471	0	461471	1788
1985-1986	571298	122	571420	2742
1986-1987	2403869	29	2403898	4809
1987-1988	317775	291	318066	913
1988-1989	127748	0	127748	428
1989-1990	84728	31	84759	506
1990-1991	1437770	327	1438097	6813
1991-1992	701842	2	701844	3326
1992-1993	902131	26	902157	3727
1993-1994	586991	16	587008	1744
1994-1995	1747511	394	1747905	6828
1995-1996	666934	57	666991	2233
1996-1997	567450	1	567452	1794
1997-1998	866508	61	866569	2415
1998-1999	98720	61	98781	867
1999-2000	258778	201	258979	1593
2000-2001	144560	0	144560	661
2001-2002	2395681	170	2395851	5147
2002-2003	86580	12	86592	746
2003-2004	2997447	121	2997569	6214
2004-2005	530911	25	530936	3199
2005-2006	569412	0	569412	2764
2006-2007	1568793	14	1568807	4750
2007-2008	1316593	93	1316686	4038
2008-2009	656713	0	656713	2789
2009-2010	270421	14	270435	1519
2010-2011	857183	128	857311	3532
2011-2012	1844	9	1852	1986
2012-2013	120215	0	120215	1842
2013-2014	306684	17	306702	3581
2014-2015	306802	149	306951	3732
2015-2016	39588	0	39588	603
2016-2017	185757	0	185757	2295

Annual Sediment Load for the period: 1973-2017

Station Name : Rajim (EM000U7)
Local River : Mahanadi

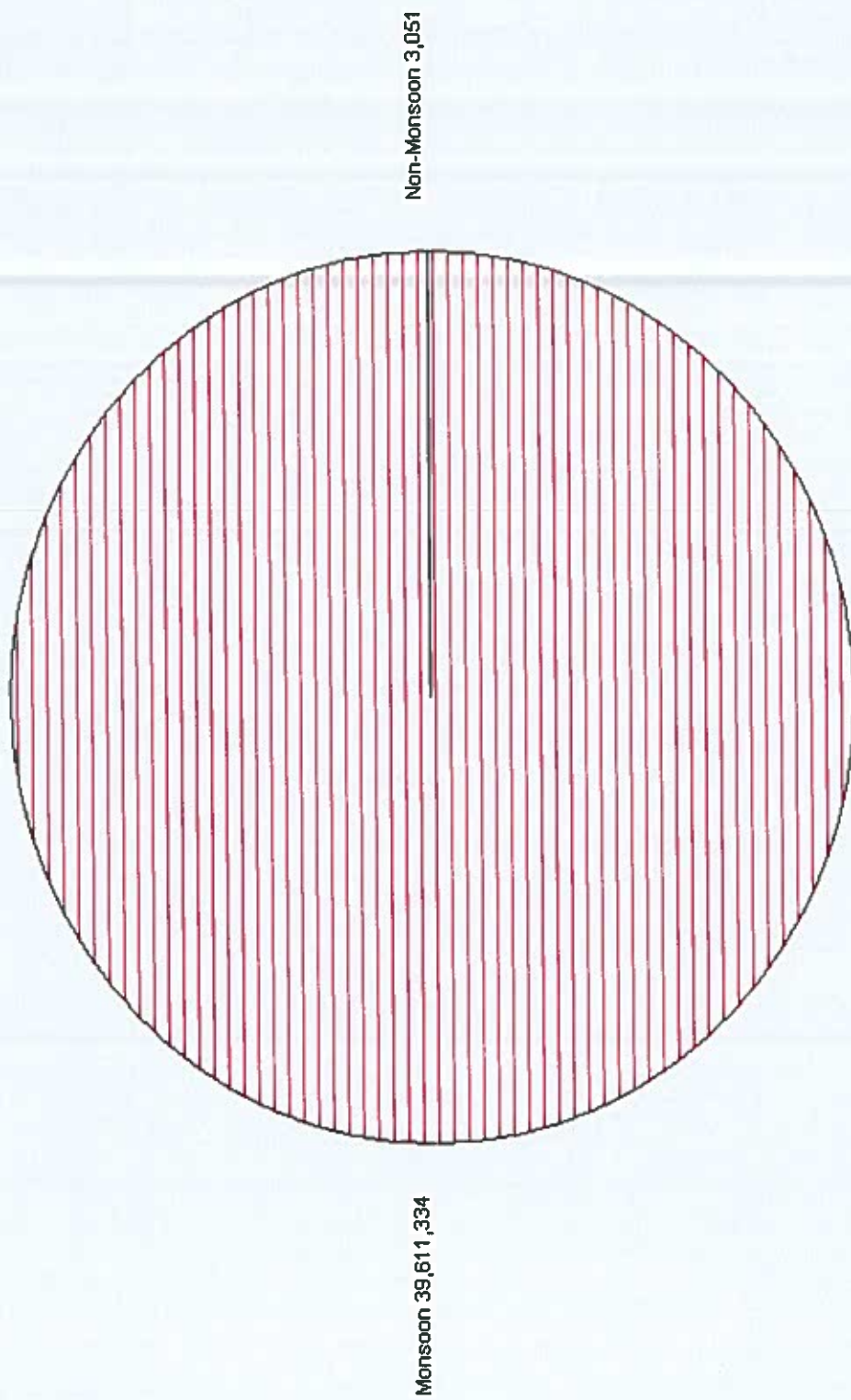
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Seasonal Sediment Load for the period : 1973-2016

Station Name : Rajim (EM000U7)
Local River : Mahanadi

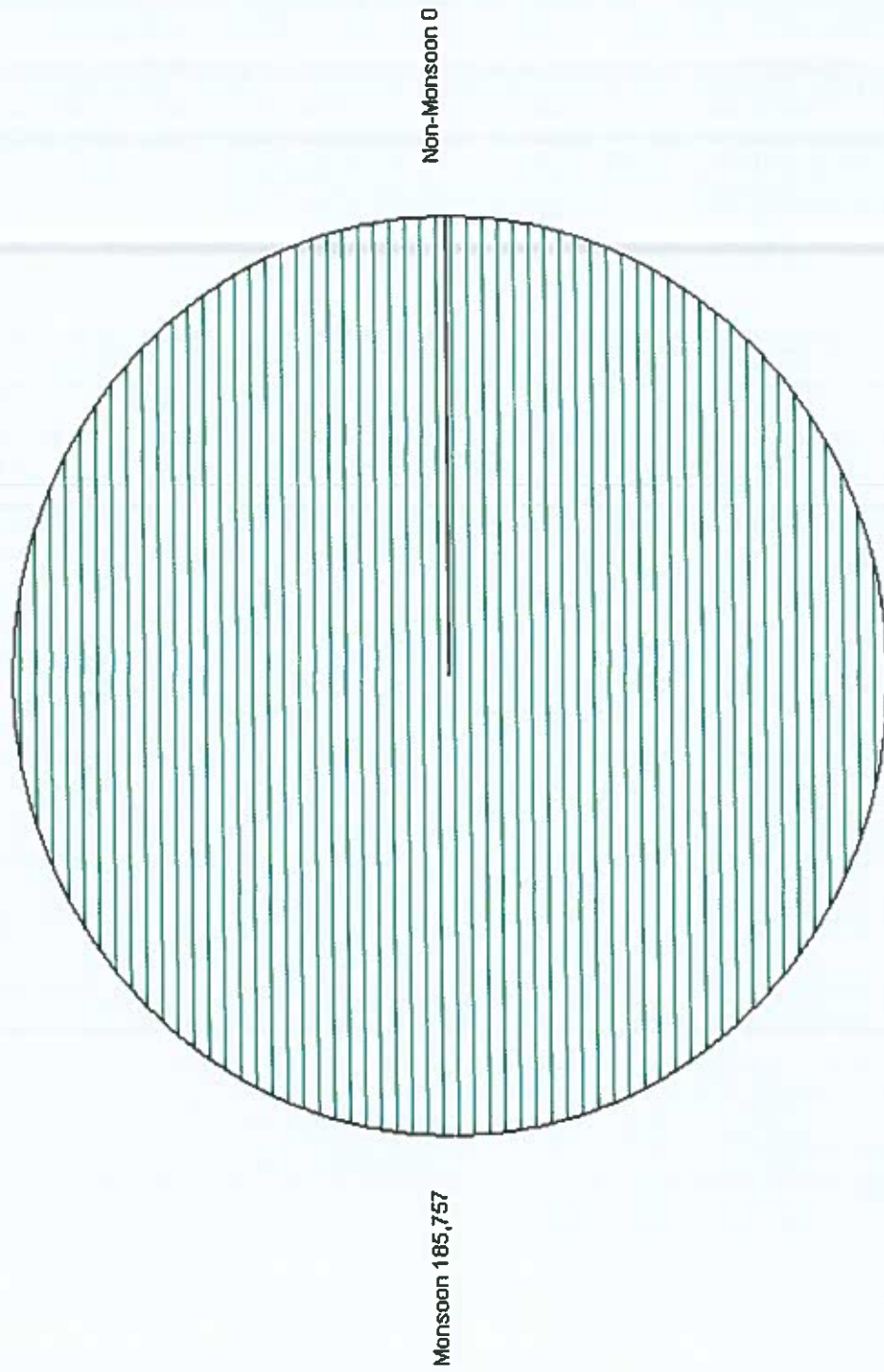
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Seasonal Sediment Load for the Year: 2016-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Station Name : Rajim (EM000U7)
Local River : Mahanadi



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Rajim (EM000U7)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water Analysis

S.No	Parameters	01/06/2016	01/07/2016	01/08/2016	01/09/2016	01/10/2016	01/11/2016	01/12/2016	01/01/2017	01/02/2017	01/03/2017	01/04/2017	01/05/2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	115.8	107.8	694.6	28.48	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)			Light Brown	Clear	Brown							
3	EC_FLD (µmho/cm)				73	60							
4	EC_GEN (µmho/cm)			68	60	82							
5	Odour_Code (-)			odour free	odour free	odour free							
6	pH_FLD (pH units)				8.1	7.5							
7	pH_GEN (pH units)			6.5	7.3	6.9							
8	Temp (deg C)				29.5	26.5							
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0							
2	ALK-TOT (mgCaCO3/L)			136	100	100							
3	Ca (mg/L)			26	16	27							
4	Cl (mg/L)			10.0	17.0	19.0							
5	CO3 (mg/L)			0.0	0.0	0.0							
6	HCO3 (mg/L)			83	61	61							
7	K (mg/L)			5.3	9.3	3.5							
8	Mg (mg/L)			3.9	10.7	13.6							
9	Na (mg/L)			15.4	12.9	12.3							
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			1.2	0.4	0.5							
2	DO (mg/L)			6.4	7.1	6.9							
3	DO_SAT% (%)				92	85							
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			64	40	68							
2	HAR_Total (mgCaCO3/L)			80	85	125							
3	Na% (%)			28	23	17							
4	RSC (-)			0.0	0.0	0.0							
5	SAR (-)			0.7	0.6	0.5							
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Rajim (EM000U7)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Number of Observations	Summary Maximum	Minimum	Mean
PHYSICAL					
1	Q (cumec)	365	1389	0.000	72.77
2	EC_FLD (µmho/cm)	2	73	60	66
3	EC_GEN (µmho/cm)	3	82	60	70
4	pH_FLD (pH units)	2	8.1	7.5	7.8
5	pH_GEN (pH units)	3	7.3	6.5	6.9
6	Temp (deg C)	2	29.5	26.5	28
CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	136	100	112
3	Ca (mg/L)	3	27	16	23
4	Cl (mg/L)	3	19.0	10.0	15.3
5	CO3 (mg/L)	3	0.0	0.0	0
6	HCO3 (mg/L)	3	83	61	68
7	K (mg/L)	3	9.3	3.5	6
8	Mg (mg/L)	3	13.6	3.9	9.4
9	Na (mg/L)	3	15.4	12.3	13.5
BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	3	1.2	0.4	0.7
2	DO (mg/L)	3	7.1	6.4	6.8
3	DO_SAT% (%)	2	92	85	89
TRACE & TOXIC					
CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	3	68	40	57
2	HAR_Total (mgCaCO3/L)	3	125	80	97
3	Na% (%)	3	28	17	23
4	RSC (-)	3	0.0	0.0	0
5	SAR (-)	3	0.7	0.5	0.6
PESTICIDES					

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rajim (EM0000U7)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Flood Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	74.15	264.9	144.5	265.6	525.2	261.6	347.1	195.7	62.72	183.6	135.6	749.5	120.1	0.000	183.8
2	EC_FLD (µmho/cm)	116	98	142	113	135	90	222								66
3	EC_GEN (µmho/cm)	116	98	142	113	135	92	215	111	130	116	119	91	104	158	70
4	pH_FLD (pH units)	7.9	8.0	7.7	7.6	7.5	7.3	7.2	7.3	6.7	7.3			6.2		7.8
5	pH_GEN (pH units)	7.9	8.0	7.7	7.6	7.5	7.5	7.5	7.9	7.5	7.3	7.6	8.1	7.7	7.9	6.9
6	Temp (deg C)	27.1	31.3	30.8	30.2	26.8	26.9	25.6	28.0	26.8	26.8	25.6	26.4	27.7	28.0	28.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	1.2	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	84	267	137	73		55	156	76	94	80	85	83	131	148	112
3	B (mg/L)				0.05	0.01	0.01	0.01	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	17	15	26	11		6	18	7	11	9	10	12	12	24	23
5	Cl (mg/L)	7.2	22.0	15.8	10.3		1.4	5.6	4.1	4.5	5.4	10.5	12.8	10.0	12.0	15.3
6	CO3 (mg/L)	1.4	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)		1.18		0.18		0.09	0.35	0.13	0.43	0.17	0.17				
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	50	163	103	44		34	95	47	57	49	52	51	80	90	68
10	K (mg/L)	3.6			1.8	0.1	1.4	1.4	1.9	1.8	1.9	1.1	3.3	2.8	3.2	6.0
11	Mg (mg/L)	2.3	3.4	7.5	14.4		1.9	8.9	4.5	5.8	4.9	5.8	2.7	7.5	5.8	9.4
12	Na (mg/L)	3.4			6.1		2.5	5.8	3.8	7.2	4.0	3.7	3.9	16.8	8.4	13.5
13	NO2+NO3 (mg N/L)			0.05	0.07	0.06	0.07	0.23								
14	NO2-N (mgN/L)				0.00	0.00	0.04	0.05	0.01	0.01	0.02	0.03				
15	NO3-N (mgN/L)				0.07	0.06	0.03	0.18								
16	P-Tot (mgP/L)				0.003	0.044	0.010	0.017	0.010	0.015	0.012	0.045				
17	SiO2 (mg/L)				8.0	15.5	5.6	11.2	11.5	6.9	12.5	11.8				
18	SO4 (mg/L)	6.8	20.7	3.2	6.8		5.7	9.0	8.5	11.8	14.0	15.2				

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

Local River : Mahanadi

[illegible]

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rajim (EM0000U7)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Winter																
		Nov - Feb																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	8.743	70.16	22.24	4.598	7.283	6.198	4.084	2.851	9.084	11.71	35.80	48.21	11.09	0.000	7.120		
2	EC_FLD (µmho/cm)	199	114	115	174	129	210		171									
3	EC_GEN (µmho/cm)	199	114	115	174	129	180	203	199	178	134	160	122	133				
4	pH_FLD (pH units)	7.8	7.9	7.5	7.0	7.6	7.2		7.4	6.5	7.1			6.3				
5	pH_GEN (pH units)	7.8	7.9	7.5	7.0	7.6	7.6	8.0	7.6	7.5	7.5	7.7	8.0	8.0				
6	Temp (deg C)	20.8	22.5	23.3	24.8	20.9	18.8	19.3	19.3	20.8	22.8	22.5	21.3	22.5				
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	1.3	0.0	0.0	0.0		0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0				
2	ALK-TOT (mgCaCO3/L)	154	108	101	121		141	138	146	92	98	102	108	139				
3	B (mg/L)				0.06	0.01	0.01	0.01	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	23	14	9	12		15	13	20	15	10	15	17	21				
5	Cl (mg/L)	6.0	11.0	5.0	24.4		8.4	18.2	9.7	11.0	6.2	10.8	12.5	13.7				
6	CO3 (mg/L)	1.5	0.0	0.0	0.0		0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0				
7	F (mg/L)		0.69	0.30	0.09	0.09	0.25	0.32	0.07	0.26	0.17	0.28						
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
9	HCO3 (mg/L)	92	63	62	74		86	78	89	56	60	62	66	85				
10	K (mg/L)	4.7		2.2	4.8		2.1	4.6	3.6	2.9	1.4	1.1	12.3	2.9				
11	Mg (mg/L)	4.7	5.0	5.3	5.2		10.7	6.7	11.3	8.0	5.6	6.8	1.5	12.3				
12	Na (mg/L)	5.1		7.2	11.4		9.0	15.1	5.7	8.5	5.4	5.4	9.9	14.2				
13	NO2+NO3 (mg N/L)			0.58	0.06	0.06	0.11	0.55										
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.01	0.11	0.01	0.01						
15	NO3-N (mgN/L)				0.05	0.05	0.10	0.54										
16	P-Tot (mgP/L)			0.030	0.010	0.037	0.015	0.020	0.017	0.045	0.030	0.030						
17	SiO2 (mg/L)				19.3	12.8	18.8	13.9	15.9	9.0	5.9	8.4						
18	SO4 (mg/L)	2.7	6.9	12.7	6.8		11.2	15.6	17.3	16.2	12.9	10.4						

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rajim (EM0000U7)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.4	0.7	1.6	2.8	0.6	1.3	1.8	2.6	0.8	0.9	1.2	0.4	1.7		
2	COD (mg/L)					23.5	23.0	19.0	28.0	19.0	20.0	16.0				
3	DO (mg/L)	7.4	6.5	8.2	8.7	7.0	6.8	5.4	5.2	6.5	7.9	8.0	8.5	8.7		
4	DO_SAT% (%)	82	86	97	104	79	73	59	56	73	91	92	96	101		
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	58	36	24	30		37	33	50	37	26	38	42	53		
2	HAR_Total (mgCaCO3/L)	77	57	45	51		82	60	97	71	49	66	48	105		
3	Na% (%)	11		32	29		20	35	11	18	19	15	24	22		
4	RSC (-)	0.1		0.2	0.2		0.1	0.3	0.0	0.0	0.0	0.0	0.2	0.0		
5	SAR (-)	0.2		0.6	0.7		0.5	0.9	0.2	0.4	0.3	0.3	0.6	0.6		
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rajim (EM0000U7)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Summer																
		Mar - May																
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
	PHYSICAL																	
1	Q (cumec)	2.273	4.093	1.831	0.950	0.693	2.644							0.000	0.000	0.000		
2	EC_FLD (µmho/cm)	340	219	161	160	284	214											
3	EC_GEN (µmho/cm)	340	219	161	160	284	256			260								
4	pH_FLD (pH units)	7.7	8.0	7.6	7.2	7.7	7.0											
5	pH_GEN (pH units)	7.7	8.0	7.6	7.2	7.7	7.5			7.8								
6	Temp (deg C)	22.0	29.0	30.3	30.5	24.3	24.2			22.0								
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0			0.0								
2	ALK-TOT (mgCaCO3/L)	177	207	93	117		135			325								
3	B (mg/L)				0.08		0.01			0.00								
4	Ca (mg/L)	30	30	19	14		18			20								
5	Cl (mg/L)		21.5	12.0	18.7		28.5			24.6								
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0			0.0								
7	F (mg/L)			0.38	0.05	0.14	0.15			0.11								
8	Fe (mg/L)				0.0	0.0	0.1			0.1								
9	HCO3 (mg/L)	108	126	57	72		82			198								
10	K (mg/L)			2.8	3.5		2.1			3.8								
11	Mg (mg/L)	2.9	9.4	7.4	5.0		9.2			11.2								
12	Na (mg/L)			8.3	11.2		18.7			20.3								
13	NO2+NO3 (mg N/L)			0.13	0.09	0.06	0.32											
14	NO2-N (mgN/L)				0.00	0.00	0.01			0.04								
15	NO3-N (mgN/L)				0.08	0.06	0.31											
16	P-Tot (mgP/L)			0.013	0.033	1.200	0.030			0.050								
17	SiO2 (mg/L)				14.3	20.1	16.4			11.2								
18	SO4 (mg/L)		2.6	8.9	3.4		6.8			22.4								

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rajim (EM0000U7)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Summer Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.5	0.7	0.8	1.4	0.6	2.7			1.0						
2	COD (mg/L)					29.7	25.3			20.0						
3	DO (mg/L)	8.1	7.1	6.2	4.5	5.3	5.6			4.8						
4	DO_SAT% (%)	92	93	79	60	63	67			55						
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	75	76	47	36		45			50						
2	HAR_Total (mgCaCO3/L)	87	114	77	57		83			97						
3	Na% (%)			19	32		32			30						
4	RSC (-)	0.0	0.2	0.0	0.1		0.0			1.3						
5	SAR (-)			0.4	0.7		0.9			0.9						
	PESTICIDES															

SITE SEORINARAYAN

HISTORY SHEET

Water Year : 2016-2017

Site : Seorinarayan

Code : EM000R6

State : Chhattisgarh

District : Janjgir-champa

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Mahanadi

Sub Tributary :

Sub-Sub Tributary :

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

Drainage Area : 48050 Sq. Km.

Bank :

Latitude : 21°43'00"

Longitude : 82°35'30"

Zero of Gauge (m) : 209.5 (m.s.l)

01/06/2015

Opening Date

Closing Date

Gauge : 01/06/1985

Discharge : 09/12/1985

Sediment : 11/02/2013

Water Quality : 01/06/2015

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1986-1987	10705	220.985	28/06/1986	5.000	212.090	01/06/1986
1987-1988	3813	216.730	23/07/1987	5.380	212.075	17/05/1988
1988-1989	3927	217.070	05/08/1988	0.190	211.925	26/05/1989
1989-1990	1584	215.840	02/09/1989	1.688	212.045	14/06/1989
1990-1991	13400	221.170	15/09/1990	5.178	212.215	31/05/1991
1991-1992	11206	220.360	31/07/1991	1.187	211.945	29/05/1992
1992-1993	16203	221.775	21/08/1992	0.733	211.970	25/05/1993
1993-1994	10354	219.500	20/08/1993	0.750	211.870	30/05/1994
1994-1995	18960	222.740	11/07/1994	1.290	211.900	01/06/1994
1995-1996	17967	221.780	25/07/1995	3.337	211.740	19/06/1995
1996-1997	7504	218.200	03/08/1996	0.791	211.730	29/05/1997
1997-1998	13470	220.990	23/08/1997	0.407	211.675	10/06/1997
1998-1999	9356	219.020	14/09/1998	3.600	211.910	13/06/1998
1999-2000	5188	217.930	01/09/1999	5.045	211.900	11/06/1999
2000-2001	4156	217.130	20/07/2000	0.124	211.865	03/05/2001
2001-2002	15166	221.470	10/07/2001	0.086	211.885	21/05/2002
2002-2003	3061	216.405	12/09/2002	0.081	211.930	10/06/2002
2003-2004	22800	224.310	30/08/2003	2.963	212.105	31/05/2004
2004-2005	6536	218.400	24/08/2004	1.248	212.125	29/05/2005
2005-2006	12831	220.650	15/09/2005	1.199	212.230	19/05/2006
2006-2007	13796	220.955	14/08/2006	0.961	212.445	31/05/2007
2007-2008	13869	221.390	01/07/2007	0.835	212.425	05/06/2007

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2008-2009	13646	221.385	20/09/2008	0.390	212.060	31/05/2009
2009-2010	12907	221.530	22/07/2009	0.075	211.960	22/05/2010
2010-2011	8740	219.205	26/07/2010	0.059	211.955	14/06/2010
2011-2012	17799	223.115	08/09/2011	0.281	211.790	30/05/2012
2012-2013	11282	220.120	05/08/2012	0.142	211.745	14/06/2012
2013-2014	12474	220.800	01/08/2013	0.850	212.050	04/06/2013
2014-2015	17490	221.820	06/08/2014	3.100	213.710	05/04/2015
2015-2016	3343	217.000	22/09/2015	0.000	213.765	28/04/2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Seorinarayan (EM000R6)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	213.760	0.677	213.755	1.311	214.700	555.9	214.503	373.2	217.200	2989	214.210	238.1
2	213.750	0.678	213.765	1.349	214.713	571.7	214.422	368.4	217.050	2700 *	214.110	211.2
3	213.750	0.627	213.795	2.500 *	214.595	501.7	214.528	504.1	216.310	2314	214.050	220.9
4	213.750	0.587	213.810	12.08	214.900	694.4	214.540	400.0 *	215.370	1655	214.050	223.3
5	213.730	0.000 *	213.805	16.03	214.780	623.8	214.578	551.4	215.155	867.4	214.030	215.1
6	213.710	0.000 *	213.825	20.00 *	215.048	800.4	214.735	677.5	215.045	785.8	214.060	120.0 *
7	213.705	0.000	213.915	38.29	216.650	3000 *	214.660	624.4	214.953	714.2	214.080	188.9
8	213.705	0.000 *	213.970	106.3	217.740	6552	214.593	487.7	214.930	734.3	214.080	180.6
9	213.700	0.000 *	213.950	74.06	216.360	1261	214.460	455.3	215.020	800.0 *	214.080	173.2
10	213.710	0.000 *	213.995	100.0 *	215.460	738.8	214.505	655.0	215.620	1300 *	214.070	174.8
11	213.715	0.000 *	214.025	172.6	215.125	635.4	214.690	600.0 *	216.580	2200 *	214.040	112.7
12	213.705	0.000 *	214.190	194.3	215.150	667.7	215.620	1300 *	216.200	1800 *	214.020	107.8
13	213.705	0.000 *	214.190	195.2	214.960	605.3	216.183	1954	215.380	1620	214.000	90.00 *
14	213.710	0.000	214.340	359.2	214.865	750.0 *	217.040	1822	214.950	1227	213.970	75.00 *
15	213.710	0.000 *	214.390	399.3	214.660	605.0 *	215.805	1514	214.795	737.9	213.950	54.28
16	213.715	0.000 *	214.400	403.0	214.510	647.9	215.363	1206	214.675	500.0 *	213.950	52.74
17	213.720	0.000 *	214.280	280.0 *	214.360	531.7	215.035	979.4	214.598	563.4	214.000	110.2
18	213.710	0.000 *	214.315	306.2	214.330	495.0	214.740	700.0 *	214.540	546.1	214.030	127.6
20	213.735	0.000 *	214.340	331.1	214.333	414.6	214.560	701.5	214.265	369.6	213.990	85.00 *
21	213.730	0.000	214.350	310.6	214.280	515.0 *	214.560	701.8	214.280	327.9	213.960	70.27
22	213.725	0.000 *	214.335	321.3	214.230	338.1	214.685	736.5	214.260	288.1	213.930	66.35
23	213.720	0.000 *	214.350	370.3	214.168	175.4	214.645	718.0	214.250	350.0 *	213.925	66.08
24	213.730	1.714	214.940	734.1	214.123	153.7	214.610	693.1	214.270	311.6	213.925	66.06
25	213.735	1.776	214.865	622.7	214.105	144.7	214.560	550.0 *	214.250	296.5	213.930	66.24
26	213.720	1.000 *	214.803	623.4	214.110	144.0	214.540	669.0	214.230	237.4	213.950	71.83
27	213.730	1.122	214.720	586.5	214.158	165.9	215.110	1040	214.230	236.7	213.960	72.00 *
28	213.740	1.331	214.765	591.9	214.200	435.0 *	216.545	1675	214.095	124.9	213.940	69.39
29	213.740	1.465	214.653	539.8	214.545	499.6	216.825	1762	214.070	121.2	213.930	66.31
30	213.750	1.320	214.533	382.8	214.615	541.6	216.730	1742	214.070	200.0 *	213.920	65.39
31			214.530	410.0 *	214.410	349.6			214.170	180.5		
Ten-Daily Mean												
I Ten-Daily	213.727	0.257	213.858	37.19	215.495	1530	214.552	509.7	215.665	1486	214.082	194.6
II Ten-Daily	213.716	0.000	214.271	292.9	214.666	588.4	215.363	1162	215.035	995.5	213.998	93.39
III Ten-Daily	213.732	0.973	214.622	499.4	214.267	314.8	215.281	1029	214.198	243.2	213.937	67.99
Monthly												
Min.	213.700	0.000	213.755	1.311	214.105	144.0	214.421	368.4	214.070	121.2	213.920	52.74
Max.	213.760	1.776	214.940	734.1	217.740	6552	217.040	1954	217.200	2989	214.210	238.1
Mean	213.725	0.41	214.263	283.7	214.792	795	215.066	900.3	214.941	886.7	214.005	118.7

Annual Runoff in MCM = 8057 Annual Runoff in mm = 168

Peak Observed Discharge = 6552 cumecs on 08/08/2016 Corres. Water Level :217.74 m

Lowest Observed Discharge = 0.000 cumecs on 07/06/2016 Corres. Water Level :213.705 m

Stage-Discharge Data for the period 2016 - 2017

Station Name : Seorinarayan (EM000R6)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	213.920	65.84	213.840	11.00 *	213.820	2.069	213.795	2.800	213.805	0.000	213.790	0.498
2	213.910	52.33	213.835	20.44	213.820	2.102	213.795	2.748	213.800	3.000	213.765	0.322
3	213.910	52.10	213.830	20.98	213.810	1.960	213.790	2.306	213.800	3.024	213.765	0.409
4	213.905	47.00 *	213.830	20.25	213.805	2.003	213.790	2.249	213.790	1.977	213.770	0.446
5	213.900	40.50	213.840	27.76	213.805	2.100 *	213.785	2.200 *	213.790	1.975	213.770	0.429
6	213.900	41.39	213.865	15.65	213.805	1.818	213.800	3.030	213.790	1.960	213.770	0.376
7	213.900	41.00	213.850	15.37	213.805	1.810	213.800	2.982	213.790	1.882	213.765	0.301 *
8	213.895	44.01	213.850	16.00 *	213.800	1.835	213.805	3.223	213.790	1.857	213.760	0.219
9	213.895	43.99	213.845	10.35	213.800	1.786	213.810	3.329	213.780	1.820	213.760	0.210
10	213.895	43.92	213.840	10.49	213.800	1.780	213.810	3.388	213.770	0.513	213.760	0.200 *
11	213.890	43.00 *	213.840	7.322	213.800	1.693	213.805	3.224	213.770	0.519	213.760	0.212
12	213.890	43.50 *	213.830	7.045	213.800	0.900 *	213.815	3.500 *	213.770	0.471	213.770	0.256
13	213.890	43.74	213.830	5.104	213.800	2.290	213.820	3.640 *	213.760	0.426	213.770	0.242
14	213.890	40.24	213.830	4.515	213.800	2.628	213.820	3.644	213.760	0.420 *	213.760	0.200 *
15	213.890	43.04	213.820	4.000 *	213.820	2.636	213.820	3.650	213.760	0.385	213.760	0.236
16	213.885	42.91	213.840	2.749	213.815	2.578	213.840	6.192	213.770	0.770 *	213.765	0.252
17	213.890	40.32	213.830	2.728	213.840	3.270	213.840	6.245	213.780	0.958	213.770	0.947
18	213.895	45.00 *	213.830	2.619	213.850	3.608	213.850	6.511	213.775	0.933	213.780	1.253
20	213.880	42.38	213.870	12.16	213.840	5.516	213.850	6.588	213.775	0.868	213.790	1.583
21	213.860	23.11	213.860	11.50	213.840	5.448	213.845	6.311	213.785	1.323	213.790	1.582 *
22	213.860	23.11	213.850	15.80 *	213.830	5.315	213.840	6.324	213.785	1.281	213.785	1.507
23	213.850	22.83	213.840	11.12	213.830	5.376	213.840	6.359	213.785	1.280 *	213.785	1.523
24	213.850	22.53	213.830	10.78	213.820	3.103	213.835	6.284	213.780	1.211	213.785	1.298
25	213.850	27.00 *	213.820	10.58	213.810	2.746	213.835	6.248	213.780	1.189	213.780	1.241
26	213.835	21.87	213.810	1.500 *	213.800	3.700 *	213.825	3.800 *	213.790	1.341	213.780	1.259
27	213.830	20.75	213.810	1.339	213.800	2.342	213.810	3.299	213.785	1.349	213.785	1.308
28	213.830	20.57	213.810	1.226	213.795	1.814	213.810	3.208	213.785	1.380	213.790	1.582 *
29	213.860	31.25	213.810	1.400 *			213.810	3.135	213.790	1.385	213.785	1.619
30	213.855	30.53	213.810	2.106			213.810	3.136	213.790	1.380 *	213.780	1.548
31	213.845	26.94	213.810	2.120			213.805	3.134			213.770	0.870
Ten-Daily Mean												
I Ten-Daily	213.903	47.21	213.842	16.83	213.807	1.926	213.798	2.825	213.790	1.801	213.768	0.341
II Ten-Daily	213.889	42.70	213.837	6.015	213.821	2.962	213.831	4.970	213.770	0.673	213.772	0.745
III Ten-Daily	213.848	24.59	213.824	6.316	213.816	3.730	213.824	4.658	213.786	1.312	213.783	1.394
Monthly												
Min.	213.830	20.57	213.810	1.226	213.795	0.900	213.785	2.200	213.760	0.000	213.760	0.200
Max.	213.920	65.84	213.870	27.76	213.850	5.516	213.850	6.588	213.805	3.024	213.790	2.272
Mean	213.879	37.73	213.834	9.61	213.814	2.812	213.818	4.168	213.782	1.262	213.774	0.845

Peak Computed Discharge = 3000 cumecs on 07/08/2016

Corres. Water Level :216.65 m

Lowest Computed Discharge = 0.000 cumecs on 05/06/2016

Corres. Water Level :213.73 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

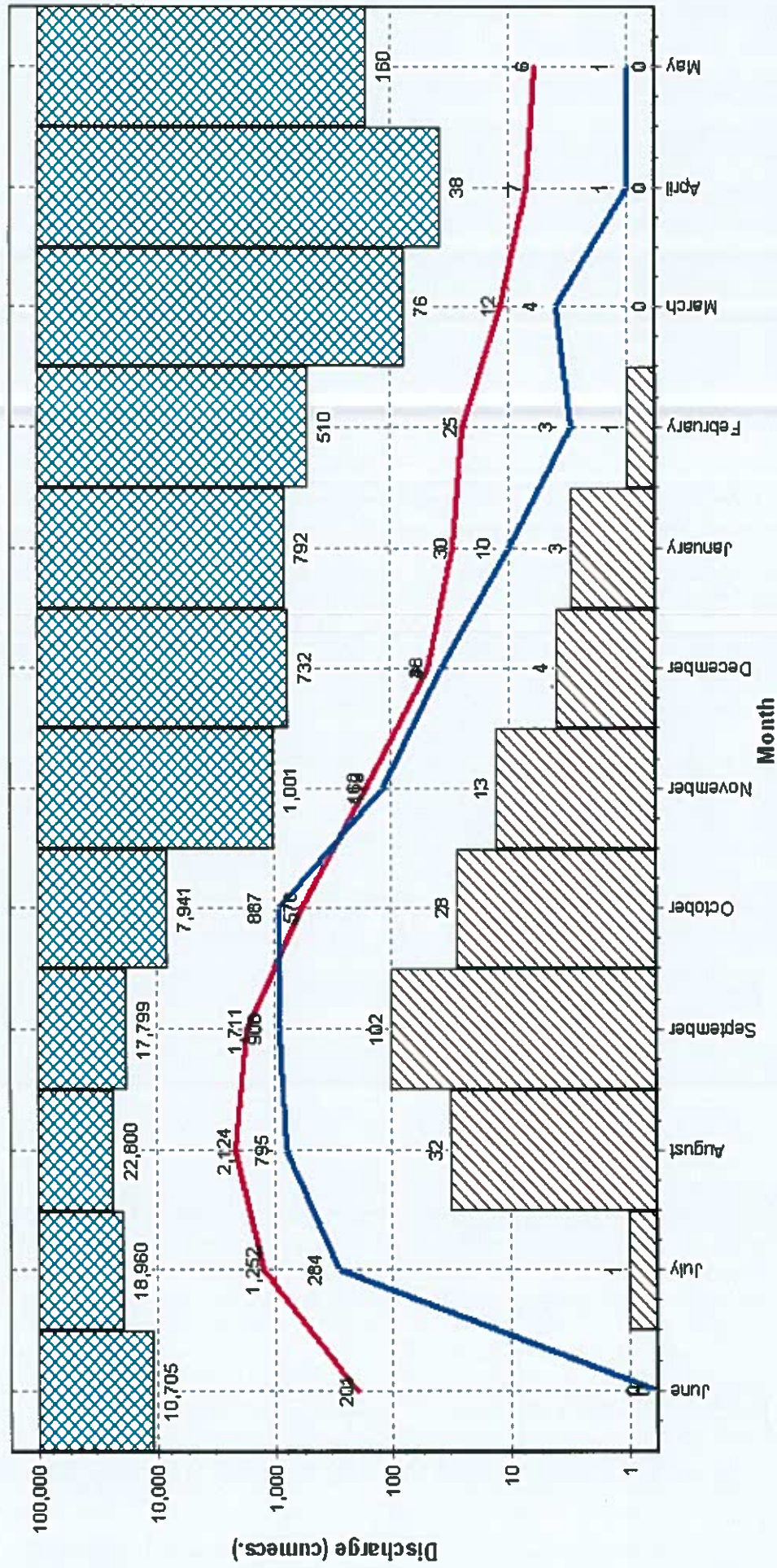
Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Data considered : 1986-2017

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

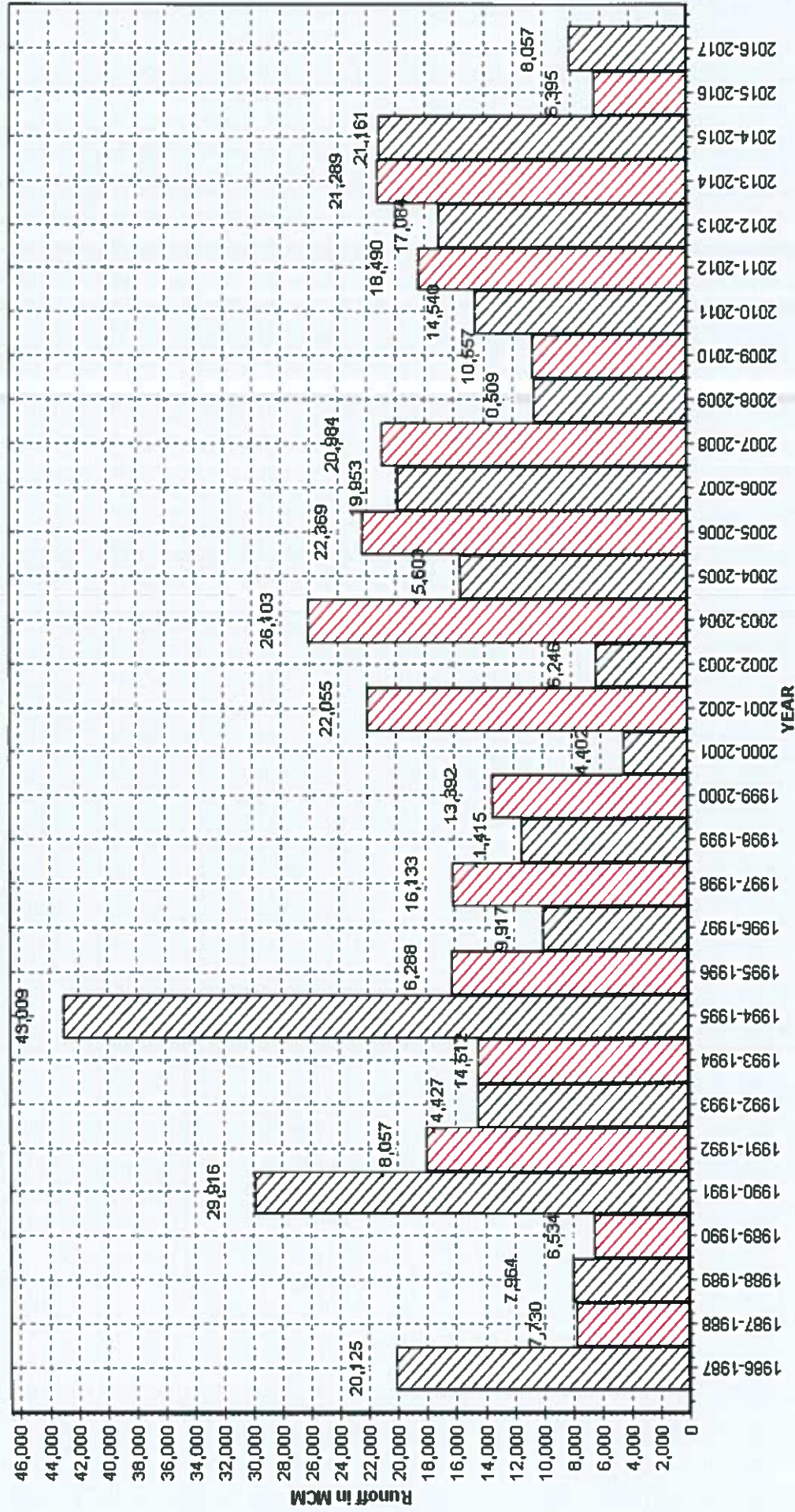


Annual Runoff Values for the period: 1986 - 2017

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1986-2016

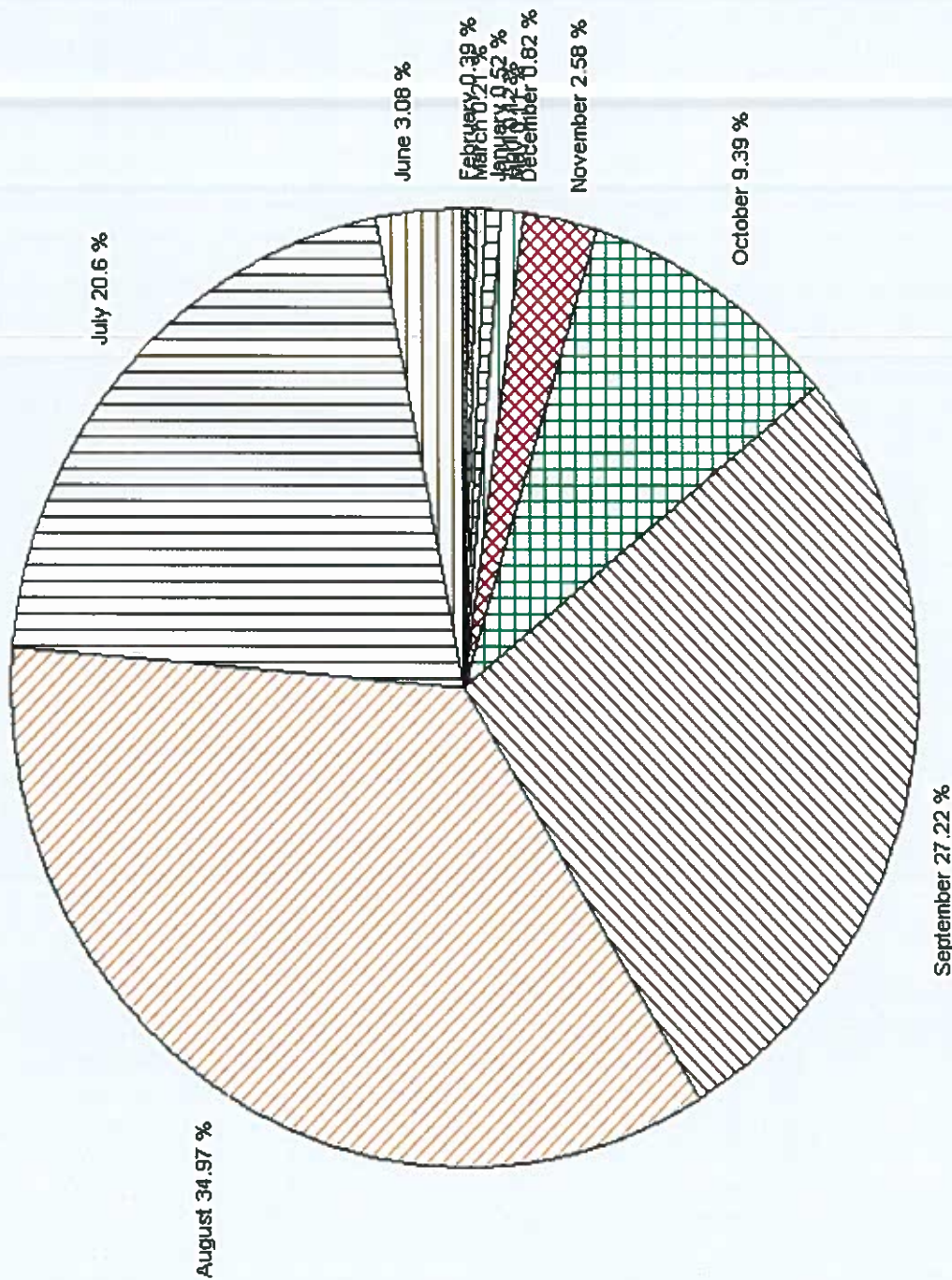
Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

June	3.08 %
July	20.6 %
August	34.97 %
September	27.22 %
October	9.39 %
November	2.58 %
December	0.82 %
January	0.52 %
February	0.39 %
March	0.21 %
April	0.12 %
May	0.11 %



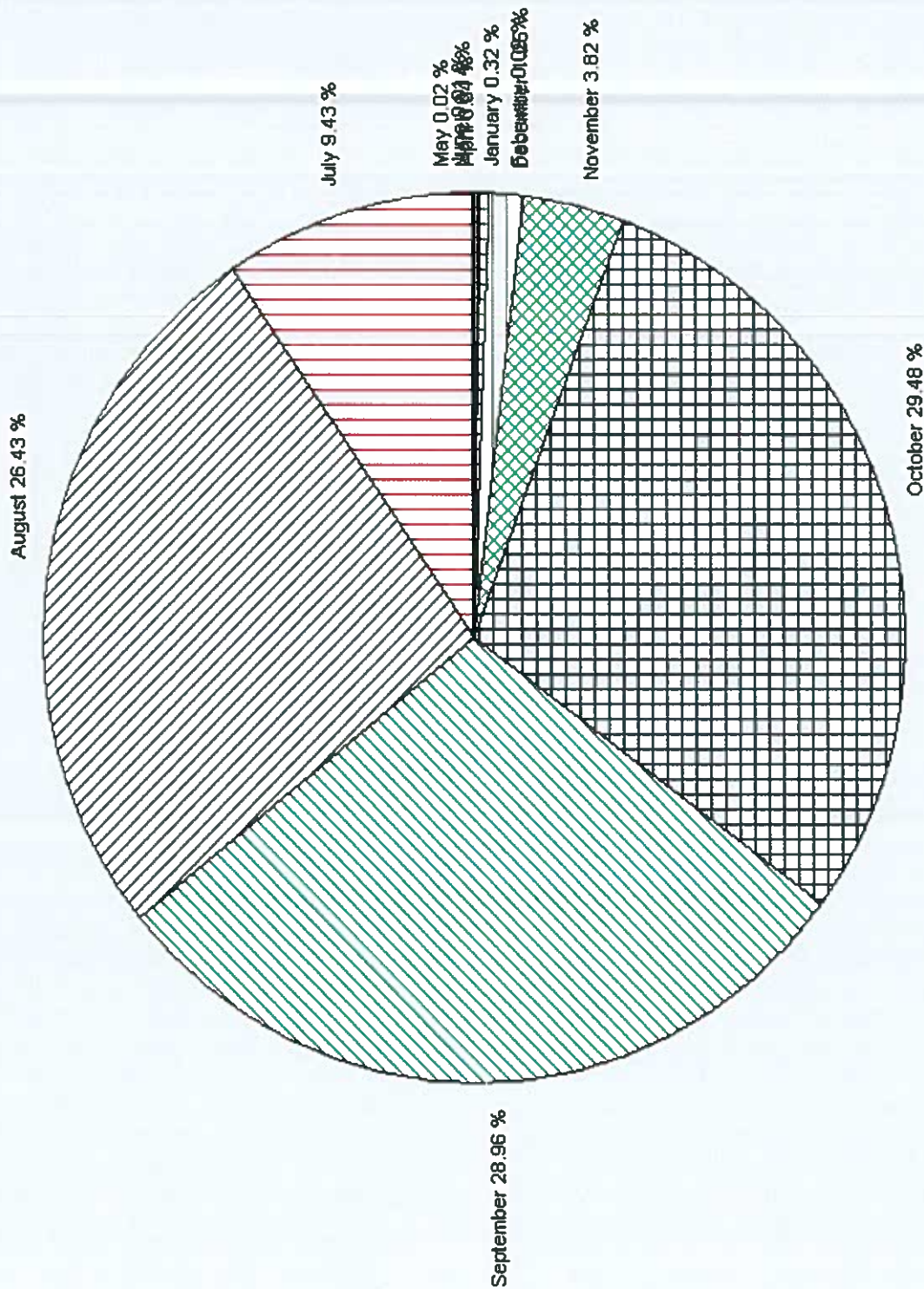
Monthly Runoff for the Year : 2016-2017

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

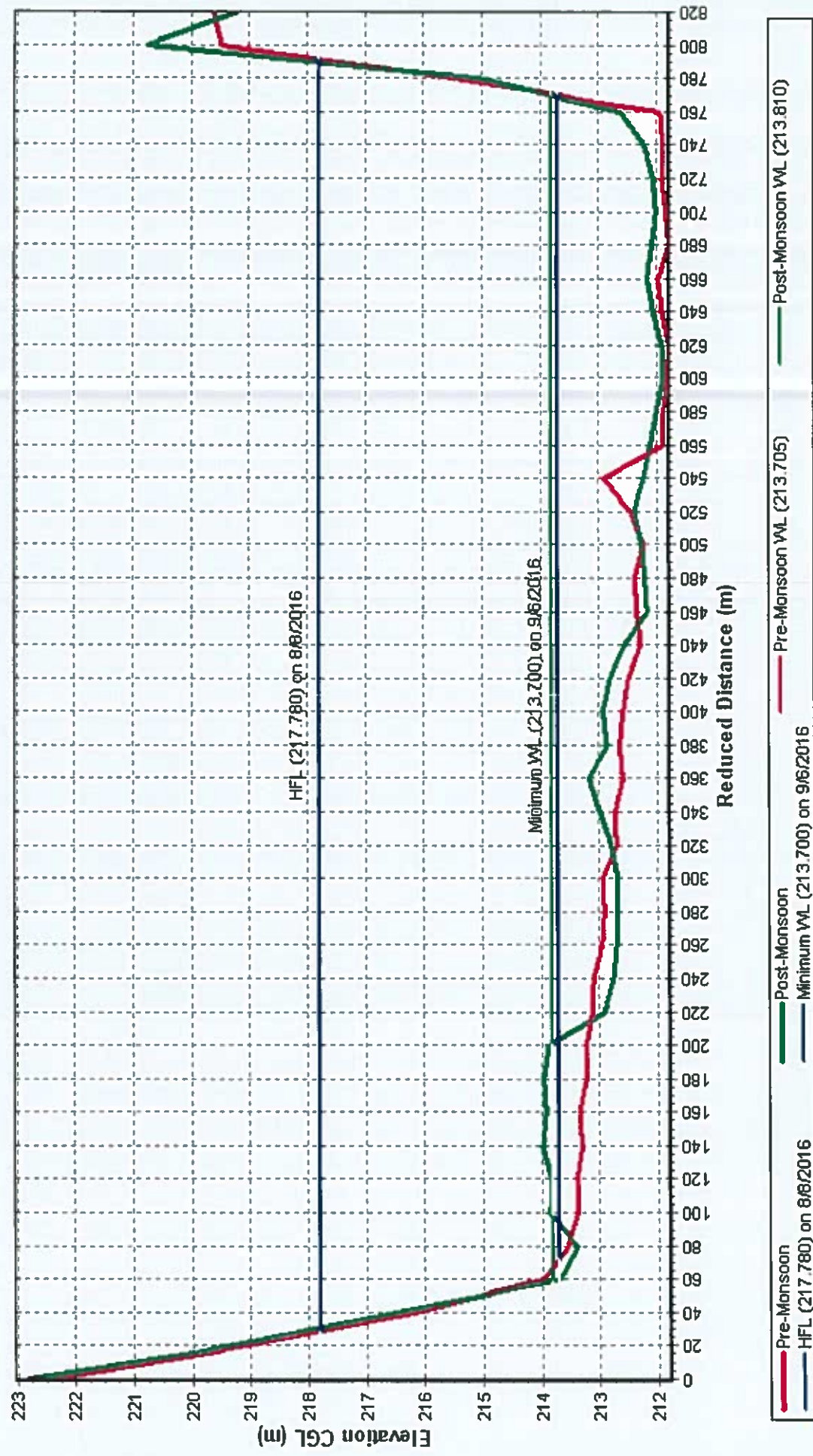


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

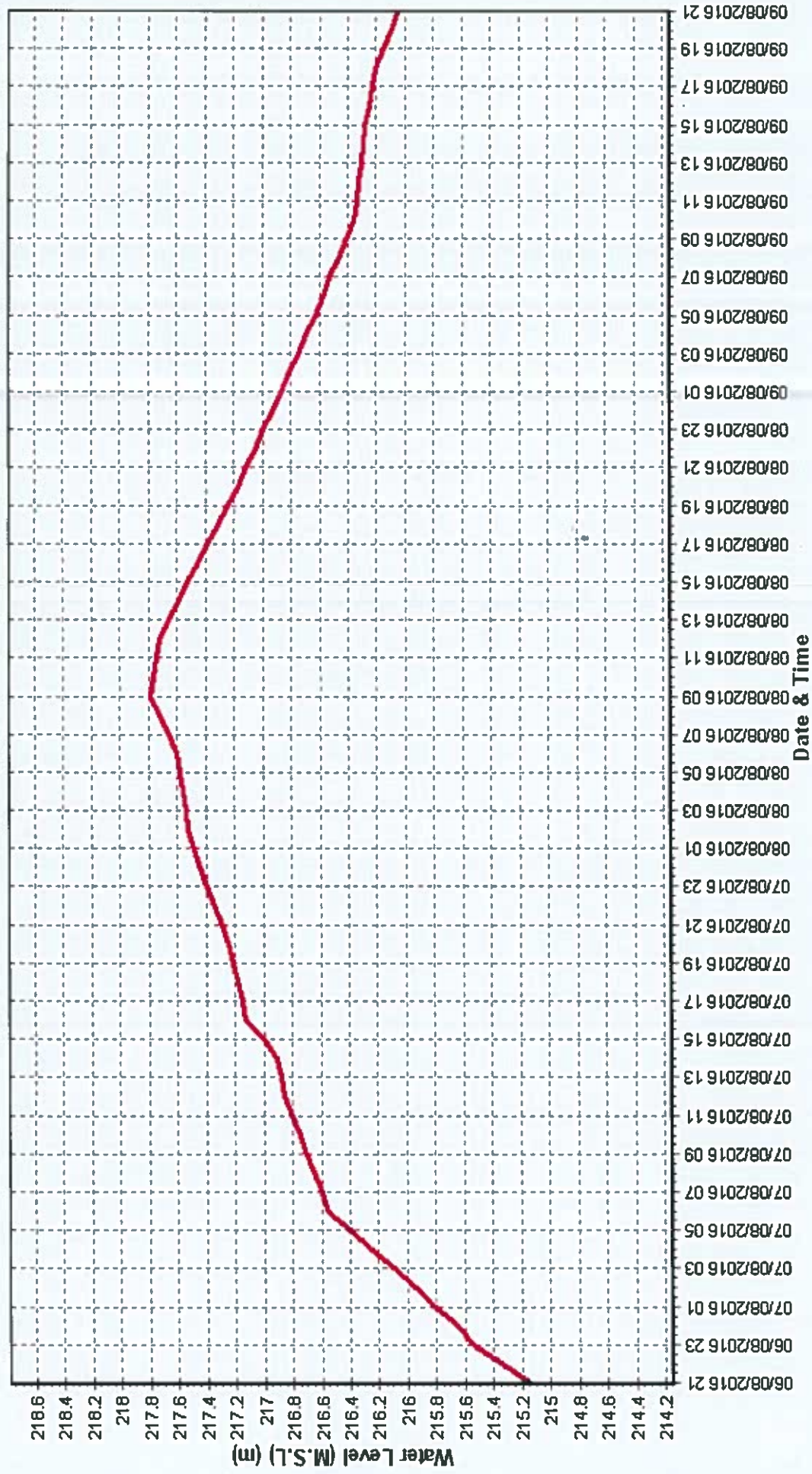


Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

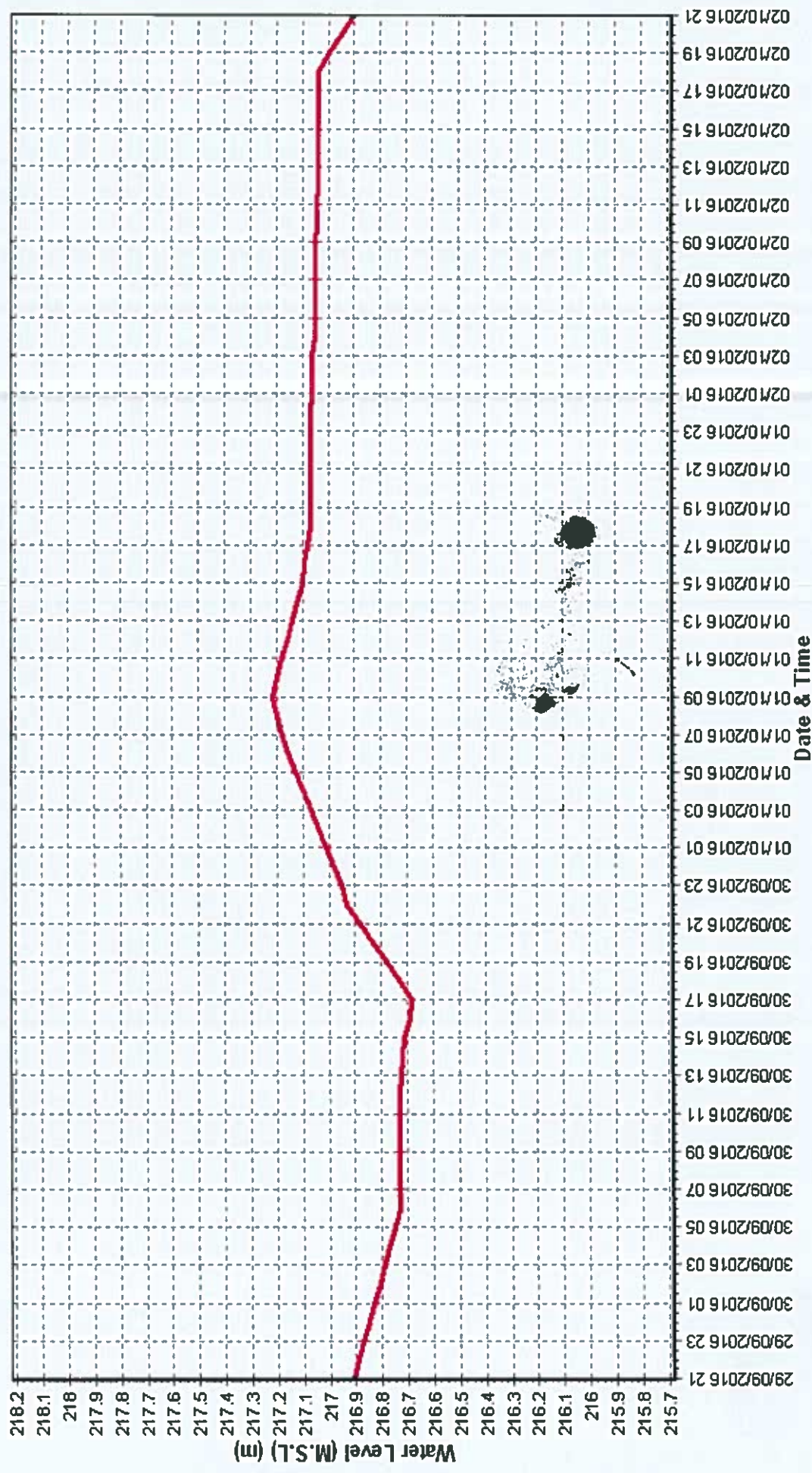
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Seorinarayan (EM0000R6)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



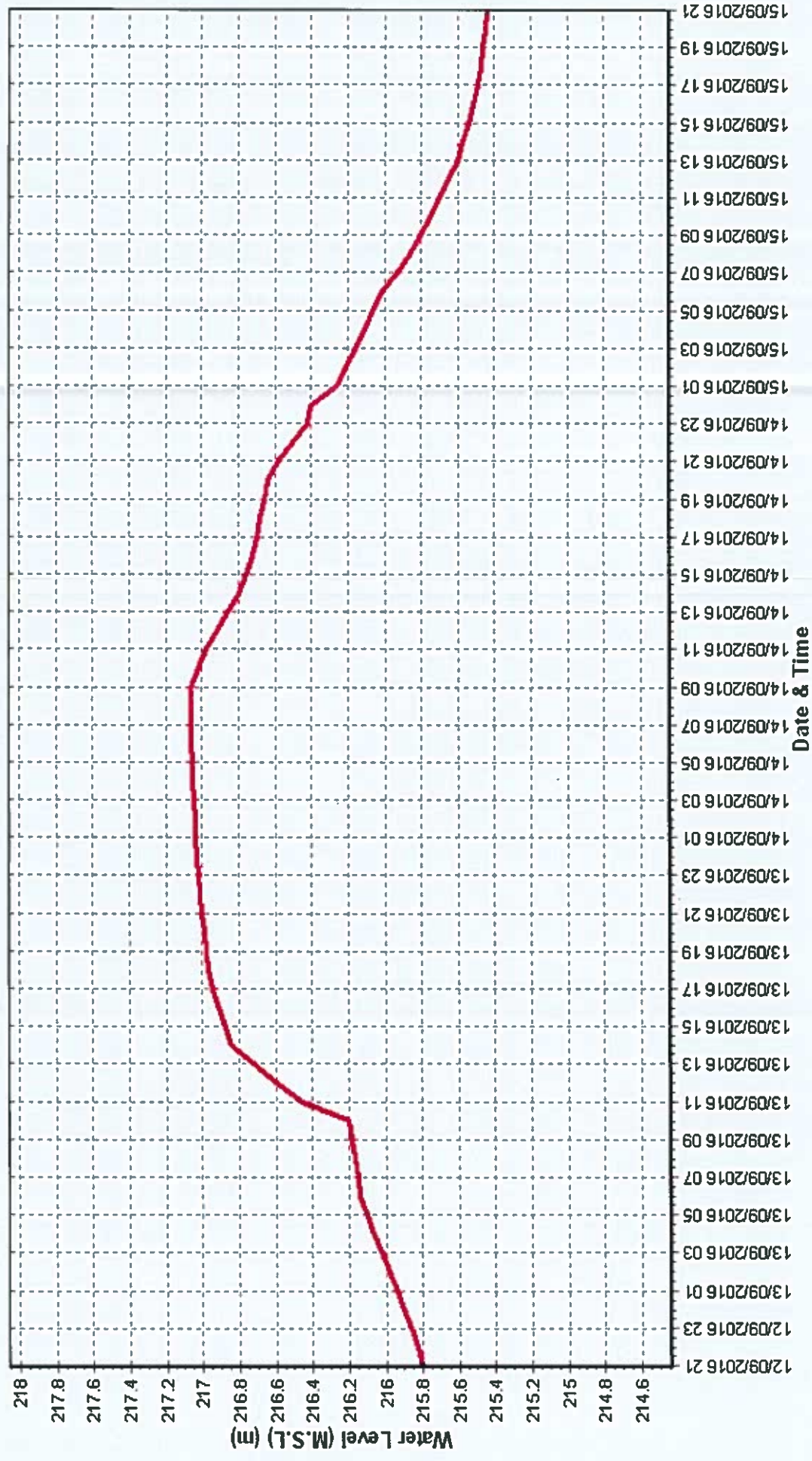
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Seorinarayan (EM000R6)

Local River : Mahanadi

Division : MD,CWC,Burla

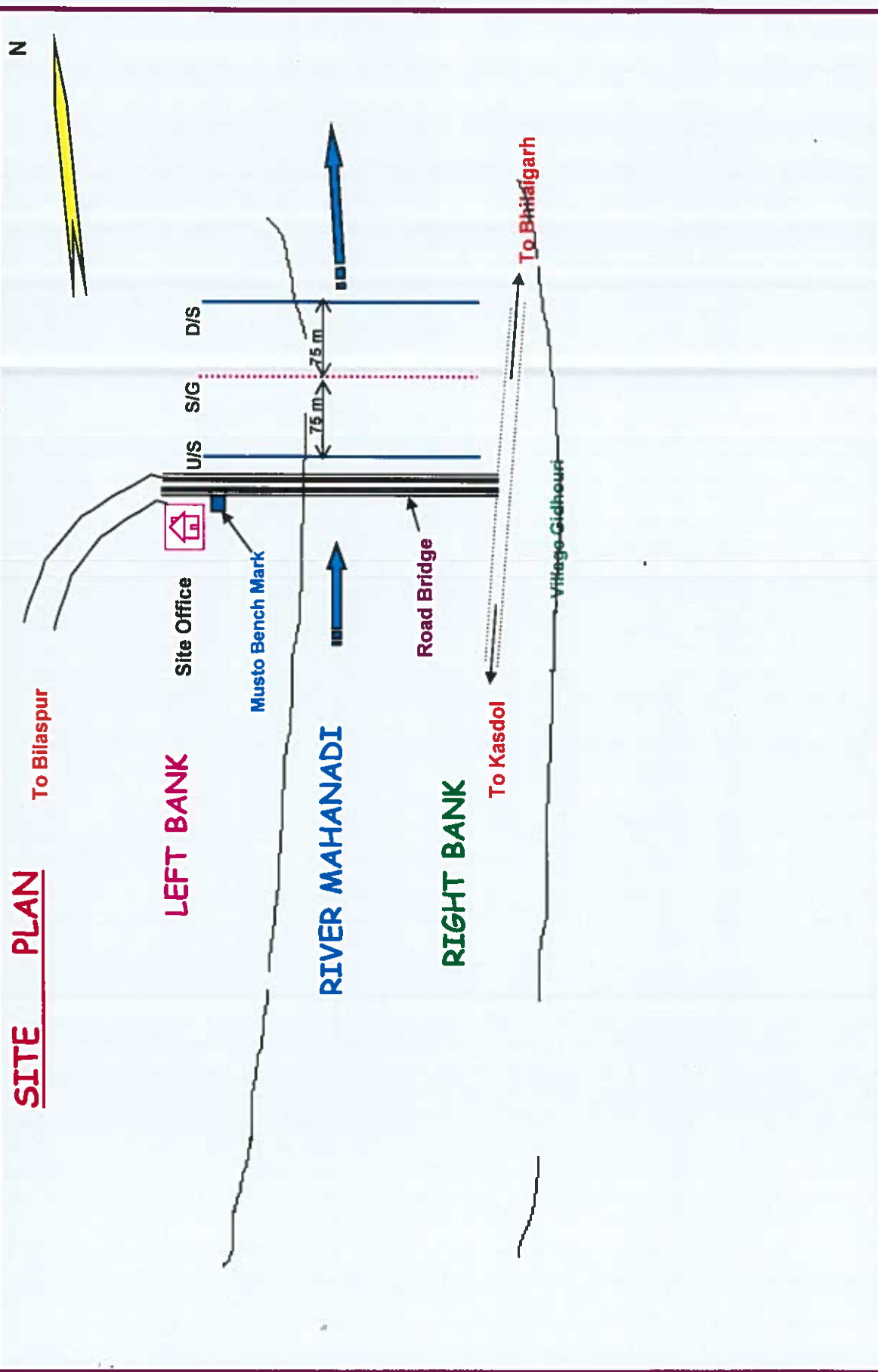
Sub-Division : MMSD I,CWC,Raipur



**Site-
Seorinarayan.**

Code : EM000R6

SITE PLAN



SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

Day	Jun				Jul				Aug			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.677	0.000	0.000	0.000	0.000	0	1.311	0.000	0.000	0.013	0.013	1
2	0.678	0.000	0.000	0.000	0.000	0	1.349	0.000	0.000	0.018	0.018	2
3	0.627	0.000	0.000	0.000	0.000	0	2.500	0.000	0.000	0.000	0.000	0
4	0.587	0.000	0.000	0.000	0.000	0	12.08	0.000	0.000	0.033	0.033	34
5	0.000	0.000	0.000	0.000	0.000	0	16.03	0.000	0.000	0.018	0.018	24
6	0.000	0.000	0.000	0.000	0.000	0	20.00	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	38.29	0.000	0.000	0.018	0.018	58
8	0.000	0.000	0.000	0.000	0.000	0	106.3	0.000	0.000	0.013	0.013	115
9	0.000	0.000	0.000	0.000	0.000	0	74.06	0.000	0.000	0.028	0.028	176
10	0.000	0.000	0.000	0.000	0.000	0	100.0	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	172.6	0.000	0.000	0.023	0.023	335
12	0.000	0.000	0.000	0.000	0.000	0	194.3	0.000	0.000	0.020	0.020	336
13	0.000	0.000	0.000	0.000	0.000	0	195.2	0.000	0.000	0.023	0.023	379
14	0.000	0.000	0.000	0.000	0.000	0	359.2	0.000	0.000	0.023	0.023	726
15	0.000	0.000	0.000	0.000	0.000	0	399.3	0.000	0.000	0.029	0.029	990
16	0.000	0.000	0.000	0.000	0.000	0	403.0	0.000	0.000	0.019	0.019	669
17	0.000	0.000	0.000	0.000	0.000	0	280.0	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	288.5	0.000	0.000	0.028	0.028	685
20	0.000	0.000	0.000	0.000	0.000	0	331.1	0.000	0.000	0.089	0.089	2546
21	0.000	0.000	0.000	0.000	0.000	0	310.6	0.000	0.000	0.019	0.019	504
22	0.000	0.000	0.000	0.000	0.000	0	321.3	0.000	0.000	0.035	0.035	972
23	0.000	0.000	0.000	0.000	0.000	0	370.3	0.000	0.000	0.058	0.058	1859
24	1.714	0.000	0.000	0.000	0.000	0	734.1	0.000	0.000	0.000	0.000	0
25	1.776	0.000	0.000	0.000	0.000	0	622.7	0.000	0.000	0.077	0.077	4137
26	1.000	0.000	0.000	0.000	0.000	0	623.4	0.000	0.000	0.064	0.064	3452
27	1.122	0.000	0.000	0.000	0.000	0	586.5	0.000	0.000	0.121	0.121	6106
28	1.331	0.000	0.000	0.000	0.000	0	591.9	0.000	0.000	0.112	0.112	5728
29	1.465	0.000	0.000	0.000	0.000	0	539.8	0.000	0.000	0.109	0.109	5060
30	1.320	0.000	0.000	0.000	0.000	0	382.8	0.000	0.000	0.172	0.172	5682
31							410.0	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.257	0.000	0.000	0.000	0.000	0	37.19	0.000	0.000	0.014	0.014	41
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	292.9	0.000	0.000	0.028	0.028	727
Ten Daily III	0.973	0.000	0.000	0.000	0.000	0	499.4	0.000	0.000	0.070	0.070	3046
Monthly												
Total						0						41176
												420791

Annual Sediment Load (Metric Tonnes) : 972932

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	373.2	0.000	0.000	0.029	0.029	938	2989	0.000	0.000	0.197	0.197	50795
2	368.4	0.000	0.000	0.021	0.021	652	2700	0.000	0.000	0.000	0.000	0
3	504.1	0.000	0.000	0.026	0.026	1111	2314	0.000	0.000	0.172	0.172	34346
4	400.0	0.000	0.000	0.000	0.000	0	1655	0.000	0.000	0.097	0.097	13925
5	551.4	0.000	0.000	0.024	0.024	1139	867.4	0.000	0.000	0.058	0.058	4354
6	677.5	0.000	0.000	0.027	0.027	1604	785.8	0.000	0.000	0.042	0.042	2845
7	624.4	0.000	0.000	0.027	0.027	1430	714.2	0.000	0.000	0.049	0.049	3036
8	487.7	0.000	0.000	0.055	0.055	2305	734.3	0.000	0.000	0.020	0.020	1263
9	455.3	0.000	0.000	0.056	0.056	2183	800.0	0.000	0.000	0.000	0.000	0
10	655.0	0.000	0.000	0.040	0.040	2281	1300	0.000	0.000	0.000	0.000	0
11	600.0	0.000	0.000	0.000	0.000	0	2200	0.000	0.000	0.000	0.000	0
12	1300	0.000	0.000	0.000	0.000	0	1800	0.000	0.000	0.000	0.000	0
13	1954	0.000	0.000	0.577	0.577	97427	1620	0.000	0.000	0.155	0.155	21741
14	1822	0.000	0.000	0.616	0.616	96977	1227	0.000	0.000	0.045	0.045	4803
15	1514	0.000	0.000	0.141	0.141	18447	737.9	0.000	0.000	0.033	0.033	2123
16	1206	0.000	0.000	0.079	0.079	8188	500.0	0.000	0.000	0.000	0.000	0
17	979.4	0.000	0.000	0.086	0.086	7252	563.4	0.000	0.000	0.030	0.030	1455
18	700.0	0.000	0.000	0.000	0.000	0	546.1	0.000	0.000	0.024	0.024	1128
20	701.5	0.000	0.000	0.050	0.050	3012	369.6	0.000	0.000	0.022	0.022	709
21	701.8	0.000	0.000	0.062	0.062	3729	327.9	0.000	0.000	0.020	0.020	555
22	736.5	0.000	0.000	0.043	0.043	2717	288.1	0.000	0.000	0.025	0.025	630
23	718.0	0.000	0.000	0.034	0.034	2115	350.0	0.000	0.000	0.000	0.000	0
24	693.1	0.000	0.000	0.050	0.050	3018	311.6	0.000	0.000	0.013	0.013	345
25	550.0	0.000	0.000	0.000	0.000	0	296.5	0.000	0.000	0.025	0.025	635
26	669.0	0.000	0.000	0.050	0.050	2913	237.4	0.000	0.000	0.025	0.025	519
27	1040	0.000	0.000	0.123	0.123	11050	236.7	0.000	0.000	0.028	0.028	577
28	1675	0.000	0.000	0.197	0.197	28563	124.9	0.000	0.000	0.013	0.013	138
29	1762	0.000	0.000	0.200	0.200	30413	121.2	0.000	0.000	0.020	0.020	205
30	1742	0.000	0.000	0.205	0.205	30914	200.0	0.000	0.000	0.000	0.000	0
31							180.5	0.000	0.000	0.024	0.024	379
Ten Daily Mean												
Ten Daily I	509.7	0.000	0.000	0.030	0.030	1364	1486	0.000	0.000	0.064	0.064	11056
Ten Daily II	1162	0.000	0.000	0.159	0.159	23472	995.5	0.000	0.000	0.033	0.033	3262
Ten Daily III	1029	0.000	0.000	0.096	0.096	11543	243.2	0.000	0.000	0.018	0.018	362
Monthly												
Total						363798						147167
												0

Annual Sediment Load (Metric Tonnes) : 972932

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day	Dec				Jan				Feb			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	65.84	0.000	0.000	0.000	0.000	0	11.00	0.000	0.000	0.000	0.000	0
2	52.33	0.000	0.000	0.000	0.000	0	20.44	0.000	0.000	0.000	0.000	0
3	52.10	0.000	0.000	0.000	0.000	0	20.98	0.000	0.000	0.000	0.000	0
4	47.00	0.000	0.000	0.000	0.000	0	20.25	0.000	0.000	0.000	0.000	0
5	40.50	0.000	0.000	0.000	0.000	0	27.76	0.000	0.000	0.000	0.000	0
6	41.39	0.000	0.000	0.000	0.000	0	15.65	0.000	0.000	0.000	0.000	0
7	41.00	0.000	0.000	0.000	0.000	0	15.37	0.000	0.000	0.000	0.000	0
8	44.01	0.000	0.000	0.000	0.000	0	16.00	0.000	0.000	0.000	0.000	0
9	43.99	0.000	0.000	0.000	0.000	0	10.35	0.000	0.000	0.000	0.000	0
10	43.92	0.000	0.000	0.000	0.000	0	10.49	0.000	0.000	0.000	0.000	0
11	43.00	0.000	0.000	0.000	0.000	0	7.322	0.000	0.000	0.000	0.000	0
12	43.50	0.000	0.000	0.000	0.000	0	7.045	0.000	0.000	0.000	0.000	0
13	43.74	0.000	0.000	0.000	0.000	0	5.104	0.000	0.000	0.000	0.000	0
14	40.24	0.000	0.000	0.000	0.000	0	4.515	0.000	0.000	0.000	0.000	0
15	43.04	0.000	0.000	0.000	0.000	0	4.000	0.000	0.000	0.000	0.000	0
16	42.91	0.000	0.000	0.000	0.000	0	2.749	0.000	0.000	0.000	0.000	0
17	40.32	0.000	0.000	0.000	0.000	0	2.728	0.000	0.000	0.000	0.000	0
18	45.00	0.000	0.000	0.000	0.000	0	2.619	0.000	0.000	0.000	0.000	0
20	42.38	0.000	0.000	0.000	0.000	0	12.16	0.000	0.000	0.000	0.000	0
21	23.11	0.000	0.000	0.000	0.000	0	11.50	0.000	0.000	0.000	0.000	0
22	23.11	0.000	0.000	0.000	0.000	0	15.80	0.000	0.000	0.000	0.000	0
23	22.83	0.000	0.000	0.000	0.000	0	11.12	0.000	0.000	0.000	0.000	0
24	22.53	0.000	0.000	0.000	0.000	0	10.78	0.000	0.000	0.000	0.000	0
25	27.00	0.000	0.000	0.000	0.000	0	10.58	0.000	0.000	0.000	0.000	0
26	21.87	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
27	20.75	0.000	0.000	0.000	0.000	0	1.339	0.000	0.000	0.000	0.000	0
28	20.57	0.000	0.000	0.000	0.000	0	1.226	0.000	0.000	0.000	0.000	0
29	31.25	0.000	0.000	0.000	0.000	0	1.400	0.000	0.000	0.000	0.000	0
30	30.53	0.000	0.000	0.000	0.000	0	2.106	0.000	0.000	0.000	0.000	0
31	26.94	0.000	0.000	0.000	0.000	0	2.120	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	47.21	0.000	0.000	0.000	0.000	0	16.83	0.000	0.000	0.000	0.000	0
Ten Daily II	42.70	0.000	0.000	0.000	0.000	0	6.015	0.000	0.000	0.000	0.000	0
Ten Daily III	24.59	0.000	0.000	0.000	0.000	0	6.316	0.000	0.000	0.000	0.000	0
Monthly Total						0						0

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day	Mar					Apr					May							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	2.800	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.498	0.000	0.000	0.000	0.000	0
2	2.748	0.000	0.000	0.000	0.000	0	3.000	0.000	0.000	0.000	0.000	0	0.322	0.000	0.000	0.000	0.000	0
3	2.306	0.000	0.000	0.000	0.000	0	3.024	0.000	0.000	0.000	0.000	0	0.409	0.000	0.000	0.000	0.000	0
4	2.249	0.000	0.000	0.000	0.000	0	1.977	0.000	0.000	0.000	0.000	0	0.446	0.000	0.000	0.000	0.000	0
5	2.200	0.000	0.000	0.000	0.000	0	1.975	0.000	0.000	0.000	0.000	0	0.429	0.000	0.000	0.000	0.000	0
6	3.030	0.000	0.000	0.000	0.000	0	1.960	0.000	0.000	0.000	0.000	0	0.376	0.000	0.000	0.000	0.000	0
7	2.982	0.000	0.000	0.000	0.000	0	1.882	0.000	0.000	0.000	0.000	0	0.301	0.000	0.000	0.000	0.000	0
8	3.223	0.000	0.000	0.000	0.000	0	1.857	0.000	0.000	0.000	0.000	0	0.219	0.000	0.000	0.000	0.000	0
9	3.329	0.000	0.000	0.000	0.000	0	1.820	0.000	0.000	0.000	0.000	0	0.210	0.000	0.000	0.000	0.000	0
10	3.388	0.000	0.000	0.000	0.000	0	0.513	0.000	0.000	0.000	0.000	0	0.200	0.000	0.000	0.000	0.000	0
11	3.224	0.000	0.000	0.000	0.000	0	0.519	0.000	0.000	0.000	0.000	0	0.212	0.000	0.000	0.000	0.000	0
12	3.500	0.000	0.000	0.000	0.000	0	0.471	0.000	0.000	0.000	0.000	0	0.256	0.000	0.000	0.000	0.000	0
13	3.640	0.000	0.000	0.000	0.000	0	0.426	0.000	0.000	0.000	0.000	0	0.242	0.000	0.000	0.000	0.000	0
14	3.644	0.000	0.000	0.000	0.000	0	0.420	0.000	0.000	0.000	0.000	0	0.200	0.000	0.000	0.000	0.000	0
15	3.650	0.000	0.000	0.000	0.000	0	0.385	0.000	0.000	0.000	0.000	0	0.236	0.000	0.000	0.000	0.000	0
16	6.192	0.000	0.000	0.000	0.000	0	0.770	0.000	0.000	0.000	0.000	0	0.252	0.000	0.000	0.000	0.000	0
17	6.245	0.000	0.000	0.000	0.000	0	0.958	0.000	0.000	0.000	0.000	0	0.947	0.000	0.000	0.000	0.000	0
18	6.511	0.000	0.000	0.000	0.000	0	0.933	0.000	0.000	0.000	0.000	0	1.253	0.000	0.000	0.000	0.000	0
20	6.588	0.000	0.000	0.000	0.000	0	0.868	0.000	0.000	0.000	0.000	0	1.583	0.000	0.000	0.000	0.000	0
21	6.311	0.000	0.000	0.000	0.000	0	1.323	0.000	0.000	0.000	0.000	0	1.582	0.000	0.000	0.000	0.000	0
22	6.324	0.000	0.000	0.000	0.000	0	1.281	0.000	0.000	0.000	0.000	0	1.507	0.000	0.000	0.000	0.000	0
23	6.359	0.000	0.000	0.000	0.000	0	1.280	0.000	0.000	0.000	0.000	0	1.523	0.000	0.000	0.000	0.000	0
24	6.284	0.000	0.000	0.000	0.000	0	1.211	0.000	0.000	0.000	0.000	0	1.298	0.000	0.000	0.000	0.000	0
25	6.248	0.000	0.000	0.000	0.000	0	1.189	0.000	0.000	0.000	0.000	0	1.241	0.000	0.000	0.000	0.000	0
26	3.800	0.000	0.000	0.000	0.000	0	1.341	0.000	0.000	0.000	0.000	0	1.259	0.000	0.000	0.000	0.000	0
27	3.299	0.000	0.000	0.000	0.000	0	1.349	0.000	0.000	0.000	0.000	0	1.308	0.000	0.000	0.000	0.000	0
28	3.208	0.000	0.000	0.000	0.000	0	1.380	0.000	0.000	0.000	0.000	0	1.582	0.000	0.000	0.000	0.000	0
29	3.135	0.000	0.000	0.000	0.000	0	1.385	0.000	0.000	0.000	0.000	0	1.619	0.000	0.000	0.000	0.000	0
30	3.136	0.000	0.000	0.000	0.000	0	1.380	0.000	0.000	0.000	0.000	0	1.548	0.000	0.000	0.000	0.000	0
31	3.134	0.000	0.000	0.000	0.000	0							0.870	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	2.825	0.000	0.000	0.000	0.000	0	1.801	0.000	0.000	0.000	0.000	0	0.341	0.000	0.000	0.000	0.000	0
Ten Daily II	4.970	0.000	0.000	0.000	0.000	0	0.673	0.000	0.000	0.000	0.000	0	0.745	0.000	0.000	0.000	0.000	0
Ten Daily III	4.658	0.000	0.000	0.000	0.000	0	1.312	0.000	0.000	0.000	0.000	0	1.394	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 972932

Annual Sediment Load for period : 2013-2017

Station Name : Seorinarayan (EM000R6)

Division : MD,CWC,Burla

Local River : Mahanadi

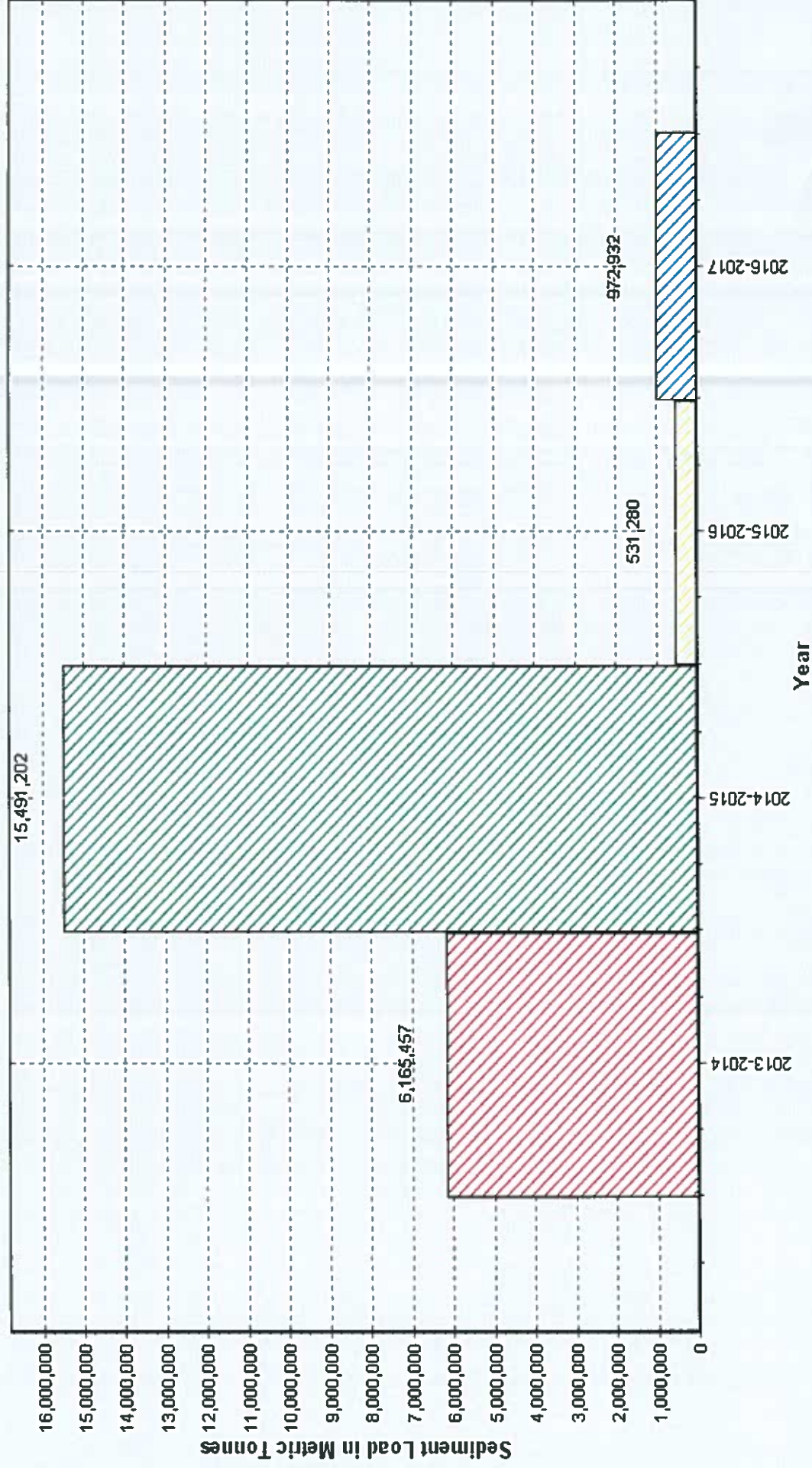
Sub-Division : MMSD I,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2013-2014	6165457	0	6165457	21289
2014-2015	15490976	226	15491202	21161
2015-2016	531162	118	531280	6395
2016-2017	972932	0	972932	8057

Annual Sediment Load for the period: 2013-2017

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

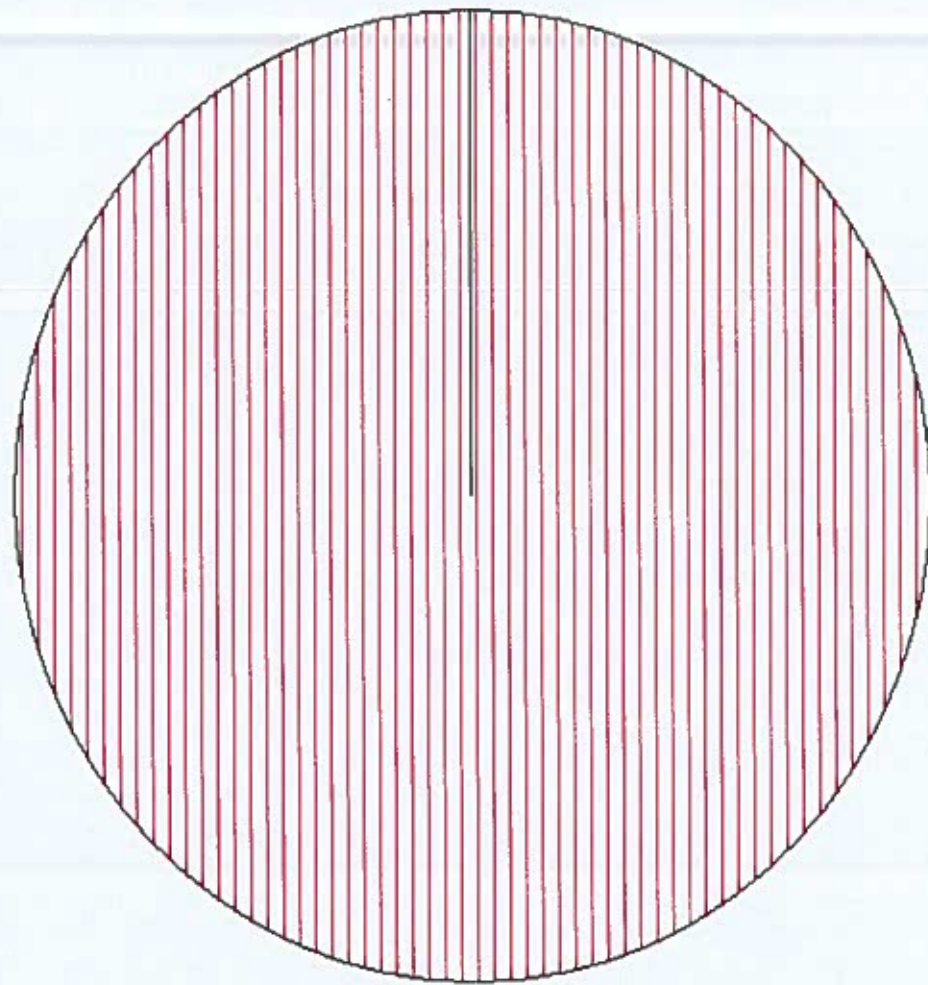
Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



Seasonal Sediment Load for the period : 2013-2016

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



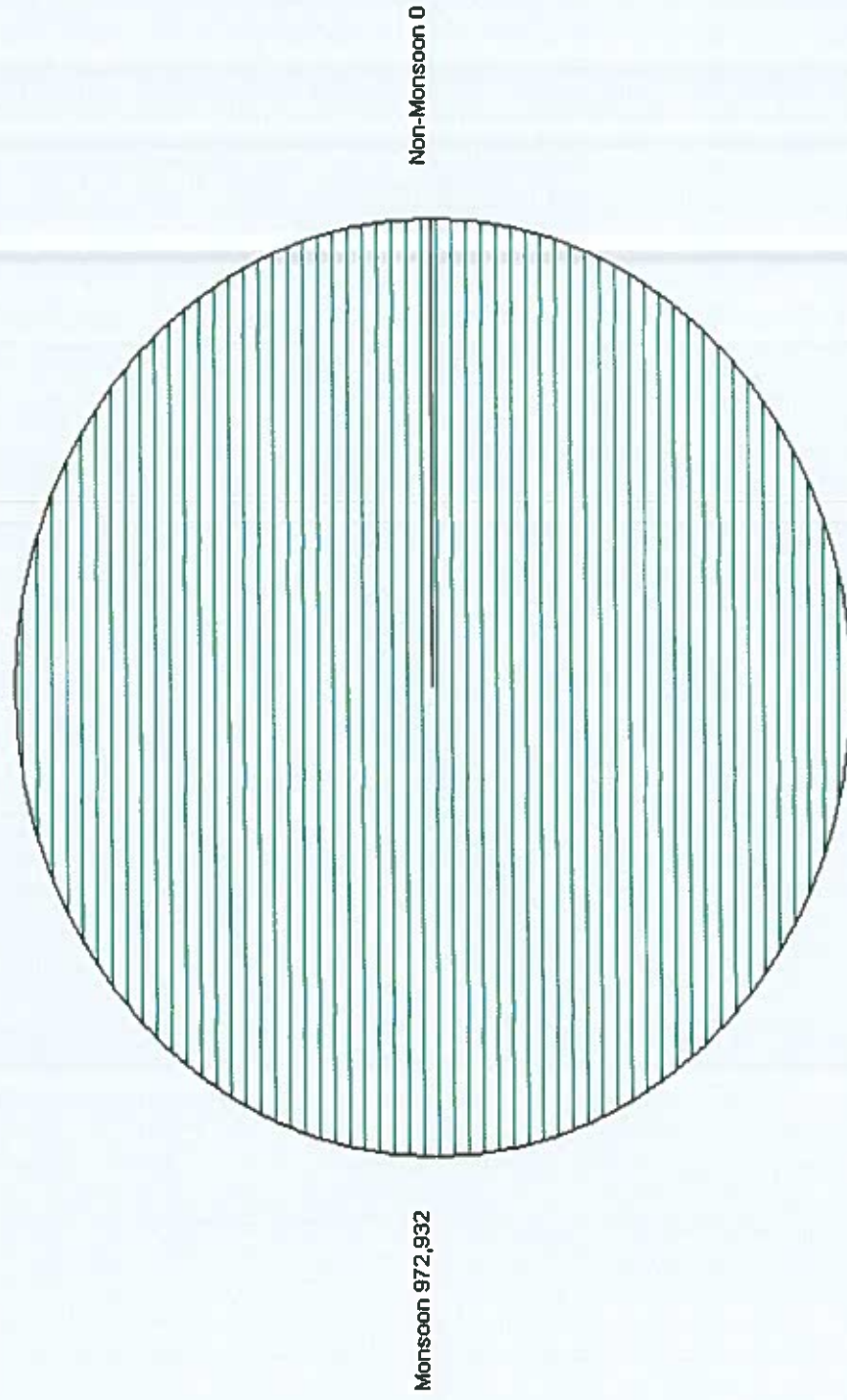
Monsoon 22,187,594

Non-Monsoon 344

Seasonal Sediment Load for the Year: 2016-2017

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Seorinarayan (EM000R6)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

River Water Analysis

S.No	Parameters	01/06/2016	01/07/2016	01/08/2016	01/09/2016	01/10/2016	01/11/2016	01/12/2016	02/01/2017	01/02/2017	01/03/2017	01/04/2017	01/05/2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.677	1.311	555.9	373.2	2989	238.1	65.84	20.44	2.069	2.800	0.000	0.498
2	Colour_Cod (-)	Clear	Clear	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	525	420	206	303	648	335	293	314	275	361	419	457
4	EC_GEN (µmho/cm)	410	352	174	256	320	283	275	280	265	348	317	386
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	9.7	9.8	7.8	8.6	7.2	8.7	8.7	8.7	8.3	8.4	9.3	9.6
7	pH_GEN (pH units)	8.4	8.8	7.4	8.0	7.5	8.5	8.4	8.7	8.5	8.5	8.1	8.3
8	Temp (deg C)	30.0	31.0	29.6	30.4	27.5	26.7	22.5	19.5	19.0	22.5	29.0	32.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	208	200	204	200	200	200	200	172	188	144	208	220
3	Ca (mg/L)	29	26	29	26	26	26	29	26	14	26	50	26
4	Cl (mg/L)	65.0	26.0	23.0	27.0	20.0	29.0	24.0	28.0	55.0	66.0	62.0	63.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	127	122	124	122	122	122	122	105	115	88	127	134
7	K (mg/L)	30.3	18.7	13.3	18.6	12.9	14.0	11.6	9.8	10.9	14.5	15.8	16.5
8	Mg (mg/L)	69.9	64.9	22.5	35.6			1.0	2.9	9.7	2.9	7.8	30.1
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.2	1.7	1.3	0.8	1.2	0.9	1.1	0.8	1.0	2.1	1.6	1.0
2	DO (mg/L)	6.1	7.2	6.9	6.5	9.2	6.8	7.2	7.2	8.1	8.1	6.9	5.2
3	DO_SAT% (%)	81	97	90	86	116	84	82	78	87	93	90	71
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	72	64	72	64	64	64	72	64	36	64	124	64
2	HAR_Total (mgCaCO3/L)	173	76	113	76	76	76	76	76	77	76	157	190
3	Na% (%)	42	59	28	44	44	47	43	43	46	51	39	31
4	RSC (-)	0.0	0.5	0.0	0.5	0.5	0.5	0.5	0.2	0.4	0.0	0.0	0.0
5	SAR (-)	2.3	3.2	0.9	1.8	1.7	1.9	1.6	1.6	1.7	2.3	1.8	1.4
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Seorinarayan (EM000R6)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	6552	0.000	255.5
2	EC_FLD ($\mu\text{mho/cm}$)	12	648	206	380
3	EC_GEN ($\mu\text{mho/cm}$)	12	410	174	306
4	pH_FLD (pH units)	12	9.8	7.2	8.7
5	pH_GEN (pH units)	12	8.8	7.4	8.2
6	Temp (deg C)	12	32.0	19.0	26.6
	CHEMICAL				
1	Alk-Phen (mgCaCO ₃ /L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO ₃ /L)	12	220	144	195
3	Ca (mg/L)	12	50	14	28
4	Cl (mg/L)	12	66.0	20.0	40.7
5	CO ₃ (mg/L)	12	0.0	0.0	0
6	HCO ₃ (mg/L)	12	134	88	119
7	K (mg/L)	12	30.3	9.8	15.6
8	Mg (mg/L)	12	30.1	1.0	8.3
9	Na (mg/L)	12	69.9	22.5	41.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD ₃₋₂₇ (mg/L)	12	9.2	5.2	7.1
3	DO_SAT% (%)	12	116	71	88
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO ₃ /L)	12	124	36	69
2	HAR_Total (mgCaCO ₃ /L)	12	190	76	104
3	Na% (%)	12	59	28	43
4	RSC (-)	12	0.5	0.0	0.2
5	SAR (-)	12	3.2	0.9	1.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2015-2017

Station Name : Seorinarayan (EM000R6)

Division : MD,CWC,Burla

Local River : Mahanadi

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2015	2016	2015-2016	2016-2017	2016	2017
	PHYSICAL						
1	Q (cumec)	266.9	784.0	53.10	81.62	0.859	1.099
2	EC_FLD ($\mu\text{mho/cm}$)	160	420	165	304	210	412
3	EC_GEN ($\mu\text{mho/cm}$)	281	302	339	276	402	350
4	pH_FLD (pH units)	8.1	8.6	8.6	8.6	9.2	9.1
5	pH_GEN (pH units)	8.0	8.0	8.3	8.5	8.5	8.3
6	Temp (deg C)	30.0	29.7	23.2	21.9	28.7	27.8
	CHEMICAL						
1	Alk-Phen (mgCaCO ₃ /L)	6.8	0.0	1.5	0.0	4.0	0.0
2	ALK-TOT (mgCaCO ₃ /L)	205	202	236	190	200	191
3	Ca (mg/L)	32	27	32	24	32	34
4	Cl (mg/L)	24.0	32.2	28.3	34.0	40.0	63.7
5	CO ₃ (mg/L)	8.2	0.0	1.8	0.0	4.8	0.0
6	HCO ₃ (mg/L)	117	123	142	116	117	116
7	K (mg/L)	8.2	18.8	8.1	11.6	17.0	15.6
8	Mg (mg/L)	28.4	45.2	34.5	34.0		
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD ₃₋₂₇ (mg/L)	0.9	1.2	1.4	1.0	1.0	1.6
2	DO (mg/L)	6.1	7.2	8.2	7.3	5.9	6.7
3	DO_SAT% (%)	76	94	95	83	76	85
	TRACE & TOXIC						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO ₃ /L)	79	67	80	59	79	84
2	HAR_Total (mgCaCO ₃ /L)	124	103	154	76	154	141
3	Na% (%)	31	43	32	45	37	40
4	RSC (-)	0.1	0.3	0.0	0.4	0.0	0.0
5	SAR (-)	1.2	2.0	1.2	1.7	1.9	1.8
	PESTICIDES						

SITE BASANTPUR

HISTORY SHEET

Water Year : 2016-2017

Site : Basantpur

Code : EM000R2

State : Chhattisgarh

District : Janjgir-champa

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Mahanadi

Sub Tributary :

Sub-Sub Tributary :

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I, CWC, Raipur

Drainage Area : 57780 Sq. Km.

Bank :

Latitude : 21°43'18"

Longitude : 82°47'27"

Zero of Gauge (m) : 206 (m.s.l)

01/01/1971 - 31/12/2025

Opening Date

Closing Date

Gauge : 01/02/1971

Discharge : 11/05/1971

Sediment : 01/09/1972

Water Quality : 01/09/1972

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1971-1972	17875	202.630	29/07/1971	3.500	208.205	21/05/1972
1972-1973	9552	215.292	13/09/1972	1.900	208.270	29/05/1973
1973-1974	15431	216.380	15/07/1973	1.900	208.265	01/06/1973
1974-1975	15388	216.400	18/08/1974	0.965	207.850	22/05/1975
1975-1976	21162	216.870	21/08/1975	1.227	207.875	17/06/1975
1976-1977	26191	218.020	15/08/1976	2.000	208.110	23/06/1976
1977-1978	14631	216.500	08/08/1977	4.326	208.460	10/06/1977
1978-1979	17665	217.190	29/08/1978	4.308	208.480	07/06/1978
1979-1980	12516	216.250	10/08/1979	1.428	208.375	30/05/1980
1980-1981	26874	219.320	20/09/1980	1.430	208.360	03/06/1980
1981-1982	12309	215.580	23/08/1981	6.860	208.145	01/06/1981
1982-1983	9624	215.450	31/08/1982	6.500	208.265	08/05/1983
1983-1984	8366	214.670	09/09/1983	5.000	208.405	12/06/1983
1984-1985	10075	215.575	10/08/1984	5.800	208.460	31/05/1985
1985-1986	11094	215.680	13/09/1985	5.200	208.440	01/06/1985
1986-1987	18512	217.670	28/06/1986	6.500	208.760	09/06/1986
1987-1988	8568	213.900	15/09/1987	7.000	208.455	07/06/1987
1988-1989	6001	213.785	05/08/1988	2.920	208.470	31/05/1989
1989-1990	2441	212.150	04/07/1989	2.800	208.475	05/06/1989
1990-1991	14915	216.970	15/09/1990	39.76	208.760	25/05/1991
1991-1992	14236	216.420	24/08/1991	4.000	208.605	31/05/1992
1992-1993	17201	217.190	22/08/1992	3.810	208.595	01/06/1992

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1993-1994	11006	215.400	21/08/1993	9.444	208.530	04/06/1993
1994-1995	17661	218.230	11/07/1994	31.40	208.760	14/04/1995
1995-1996	15619	217.040	25/07/1995	23.50	208.655	22/05/1996
1996-1997	6300	214.080	03/08/1996	14.61	208.570	18/05/1997
1997-1998	12324	216.540	23/08/1997	17.55	208.630	10/06/1997
1998-1999	8789	215.200	15/09/1998	29.09	208.540	10/05/1999
1999-2000	7234	214.200	10/08/1999	28.19	208.740	13/05/2000
2000-2001	5134	213.170	21/07/2000	26.02	208.765	07/03/2001
2001-2002	15685	216.890	10/07/2001	25.52	208.740	11/06/2001
2002-2003	3402	212.690	12/09/2002	15.00	208.700	04/05/2003
2003-2004	33088	219.310	30/08/2003	9.000	208.600	15/06/2003
2004-2005	7891	214.780	24/08/2004	23.69	208.590	06/05/2005
2005-2006	11521	216.300	15/09/2005	23.83	208.415	10/05/2006
2006-2007	14920	217.015	14/08/2006	28.00	208.560	04/06/2006
2007-2008	12200	216.450	01/07/2007	7.760	208.600	19/05/2008
2008-2009	16827	217.540	20/09/2008	7.657	208.445	04/06/2008
2009-2010	16117	216.985	22/07/2009	2.630	208.610	26/04/2010
2010-2011	9138	214.580	09/09/2010	3.450	208.580	01/06/2010
2011-2012	23366	219.050	09/09/2011	2.267	208.070	29/05/2012
2012-2013	8825	215.920	05/08/2012	2.285	208.050	13/06/2012
2013-2014	12021	216.050	01/08/2013	3.837	207.930	04/06/2013
2014-2015	19935	218.150	06/08/2014	9.127	207.970	06/06/2014
2015-2016	4282	212.800	22/09/2015	1.267	207.500	05/05/2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	207.740	10.63	207.925	25.80	209.750	730.6	209.420	650.8	213.030	5481	209.280	248.6
2	207.750	10.82	208.055	37.19	209.600	678.2	209.520	722.3	212.500	3800 *	209.250	232.6
3	207.750	11.04	208.150	55.00 *	209.280	580.1	209.320	669.1	211.550	2336	209.240	228.7
4	207.780	13.57	208.000	33.37	209.950	772.1	209.530	780.0 *	210.910	1825	209.250	228.1
5	207.740	11.00 *	208.385	72.60	210.500	1343	209.730	985.7	210.590	1600	209.230	217.9
6	207.730	10.47	208.150	70.00 *	211.173	1818	209.980	999.9	210.290	1341	209.200	220.0 *
7	207.700	8.726	208.260	121.9	212.400	3500 *	209.850	879.5	210.240	1273	209.270	229.6
8	207.765	12.45	208.410	139.0	213.540	6331	209.640	723.7	210.200	1220	209.220	212.9
9	207.720	10.77	208.370	129.9	212.585	4355	209.520	669.2	210.440	1400 *	209.250	230.8
10	207.700	8.606	208.430	150.0 *	211.460	1909	209.520	672.8	211.150	2100 *	209.225	222.9
11	207.685	7.726	208.400	156.8	210.720	1433	209.880	900.0 *	211.920	3000 *	209.205	217.9
12	207.560	3.500 *	208.660	279.4	210.650	1441	211.300	2130	211.520	2400 *	209.200	216.8
13	207.510	1.760	208.675	278.6	210.540	1321	211.770	2700 *	210.960	1953	208.800	160.0 *
14	207.500	1.655	209.045	451.5	210.180	1000 *	212.760	3976	210.320	1328	208.500	120.0 *
15	207.470	1.007	209.060	416.2	210.100	900.0 *	211.930	3249	209.820	1164	208.500	121.8
16	207.470	0.977	208.870	375.1	209.740	830.7	210.970	1817	209.895	800.0 *	208.490	119.0
17	207.520	1.738	208.900	380.0 *	209.485	674.5	210.320	1251	209.820	737.6	208.510	125.5
18	207.490	1.486	208.920	402.7	209.400	625.2	209.940	950.0 *	209.720	658.6	208.490	119.8
20	207.490	1.493	209.080	481.1	209.460	688.3	209.690	732.2	209.570	487.5	208.460	110.0 *
21	207.570	3.160	209.150	538.6	209.180	400.0 *	209.640	727.0	209.480	434.8	208.420	105.4
22	207.690	7.910	209.190	545.5	209.080	329.7	209.810	773.8	209.470	408.7	208.420	105.0
23	207.770	11.28	209.135	551.6	208.900	271.6	209.810	773.8	209.430	300.0 *	208.400	103.6
24	207.800	12.41	209.710	850.0 *	208.840	195.0	209.670	765.0	209.410	361.6	208.405	99.61
25	207.810	12.73	210.003	1177	208.800	214.4	209.590	850.0 *	209.310	345.0	208.400	99.67
26	207.920	23.00 *	209.930	1114	208.860	239.1	209.530	664.9	209.365	359.4	208.420	105.6
27	207.900	20.80	209.700	898.9	208.850	216.7	210.000	1106	209.360	308.1	208.460	105.3 *
28	207.765	12.51	209.820	921.4	208.950	250.0 *	212.695	4075	209.360	306.1	208.300	54.99
29	207.765	12.63	209.780	861.9	209.470	705.9	212.960	5185	209.340	298.1	208.305	55.51
30	208.000	36.80	209.410	753.4	209.600	757.1	212.750	4157	209.260	200.0 *	208.290	53.31
31			209.300	600.0 *	209.410	613.1			209.280	249.8		
Ten-Daily Mean												
I Ten-Daily	207.738	10.81	208.214	83.48	211.024	2202	209.603	775.3	211.090	2238	209.242	227.2
II Ten-Daily	207.522	2.344	208.873	371.9	209.983	965.4	210.825	1842	210.321	1315	208.665	143.3
III Ten-Daily	207.799	15.32	209.557	801.1	209.085	381.1	210.646	1908	209.370	324.7	208.382	88.79
Monthly												
Min.	207.470	0.977	207.925	25.80	208.800	195.0	209.320	650.8	209.260	200.0	208.290	53.31
Max.	208.000	36.80	210.003	1177	213.540	6331	212.960	5185	213.030	5481	209.280	248.6
Mean	207.686	9.492	208.903	431.2	210.000	1157	210.358	1508	210.231	1261	208.763	153.1

Annual Runoff in MCM = 12212 Annual Runoff in mm = 211

Peak Observed Discharge = 6331 cumecs on 08/08/2016 Corres. Water Level :213.54 m

Lowest Observed Discharge = 0.082 cumecs on 12/04/2017 Corres. Water Level :207.47 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	208.295	56.85	207.940	24.00 *	207.815	9.123	207.770	8.855	207.685	4.442	207.660	3.407
2	208.280	50.93	207.960	27.24	207.805	8.612	207.730	6.559	207.660	3.500 *	207.750	6.573
3	208.285	51.67	207.990	31.29	207.800	8.319	207.735	6.658	207.635	3.805	207.740	6.029
4	208.260	52.00 *	207.960	30.13	207.790	7.663	207.740	6.661	207.630	3.719	207.710	5.006
5	208.280	50.32	207.940	25.69	207.720	11.10 *	207.725	5.500 *	207.600	3.104	207.705	4.946
6	208.270	47.57	207.940	25.71	207.665	9.811	207.735	5.912	207.590	3.056	207.680	3.879
7	208.250	48.20	207.945	26.39	207.660	9.560	207.730	5.722	207.595	3.083	207.675	3.867 *
8	208.260	44.65	207.920	23.00 *	207.655	9.026	207.820	11.00 *	207.590	3.063	207.660	3.013
9	208.275	46.85	207.940	25.49	207.830	10.93	207.800	9.677	207.670	3.750 *	207.640	2.813
10	208.270	49.83	207.930	24.38	207.810	9.853	207.790	8.912	207.690	3.780 *	207.580	1.115
11	208.260	51.60 *	207.925	23.82	207.800	9.023	207.820	11.17	207.685	2.847	207.570	1.098
12	208.200	47.00 *	207.915	22.81	207.780	15.00 *	207.880	14.90 *	207.470	0.082	207.590	1.294
13	208.220	57.42	207.925	23.81	207.760	14.50	207.830	11.50 *	207.480	0.105	207.600	1.413
14	208.195	56.96	207.920	23.32	207.540	1.491	207.820	11.27	207.500	0.350 *	207.680	3.483 *
15	208.190	56.02	207.870	20.00 *	207.710	11.01	207.810	10.85	207.500	0.128	207.800	9.574
16	208.185	56.48	207.790	14.82	207.750	10.33	207.800	10.45	207.720	4.100 *	207.790	9.259
17	208.160	49.57	207.785	14.60	207.750	10.43	207.810	10.73	207.840	13.97	207.760	8.272
18	208.180	45.00 *	207.775	13.82	207.740	10.40	207.810	10.76	207.860	14.85	207.850	14.01
20	208.045	38.20	207.810	16.51	207.810	14.25	207.810	10.69	207.760	5.241	207.820	12.37
21	208.020	34.67	207.820	17.65	207.790	12.54	207.805	10.29	207.740	5.009	207.780	9.096 *
22	208.020	34.53	207.820	17.00 *	207.780	11.07	207.810	10.63	207.755	5.025	207.730	5.994
23	208.015	35.43	207.755	12.56	207.770	11.31	207.860	14.60	207.730	4.500 *	207.725	6.027
24	208.025	35.41	207.750	11.64	207.760	10.80	207.855	14.18	207.745	4.878	207.705	3.953
25	207.990	31.00 *	207.740	11.64	207.760	10.82	207.850	14.02	207.700	2.930	207.750	7.042
26	207.950	27.35	207.730	11.20 *	207.750	10.43	207.810	10.70 *	207.780	6.139	207.750	6.815
27	207.950	27.08	207.730	11.33	207.800	12.27	207.860	14.79	207.720	4.410	207.740	6.116
28	207.960	27.40	207.720	10.62	207.780	9.572	207.845	13.70	207.700	3.728	207.750	6.151 *
29	207.980	30.07	207.820	16.90 *			207.700	5.295	207.680	3.641	207.840	14.85
30	207.980	30.08	207.830	17.15			207.690	4.645	207.670	3.500 *	207.900	15.50
31	207.960	28.34	207.825	16.96			207.680	4.604			207.860	12.78
Ten-Daily Mean												
I Ten-Daily	208.273	49.89	207.947	26.33	207.755	9.400	207.757	7.546	207.634	3.530	207.680	4.065
II Ten-Daily	208.169	49.65	207.849	18.70	207.743	10.90	207.820	11.30	207.665	5.553	207.728	7.427
III Ten-Daily	207.986	31.03	207.776	14.06	207.774	11.10	207.797	10.68	207.722	4.376	207.775	8.574
Monthly												
Min.	207.950	27.08	207.720	10.62	207.540	1.491	207.680	4.604	207.470	0.082	207.570	1.098
Max.	208.295	57.42	207.990	31.29	207.830	15.00	207.880	14.90	207.860	14.85	207.900	15.50
Mean	208.137	43.12	207.855	19.51	207.756	10.42	207.792	9.869	207.674	4.487	207.729	6.75

Peak Computed Discharge = 3800 cumecs on 02/10/2016

Corres. Water Level :212.5 m

Lowest Computed Discharge = 0.350 cumecs on 14/04/2017

Corres. Water Level :207.5 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

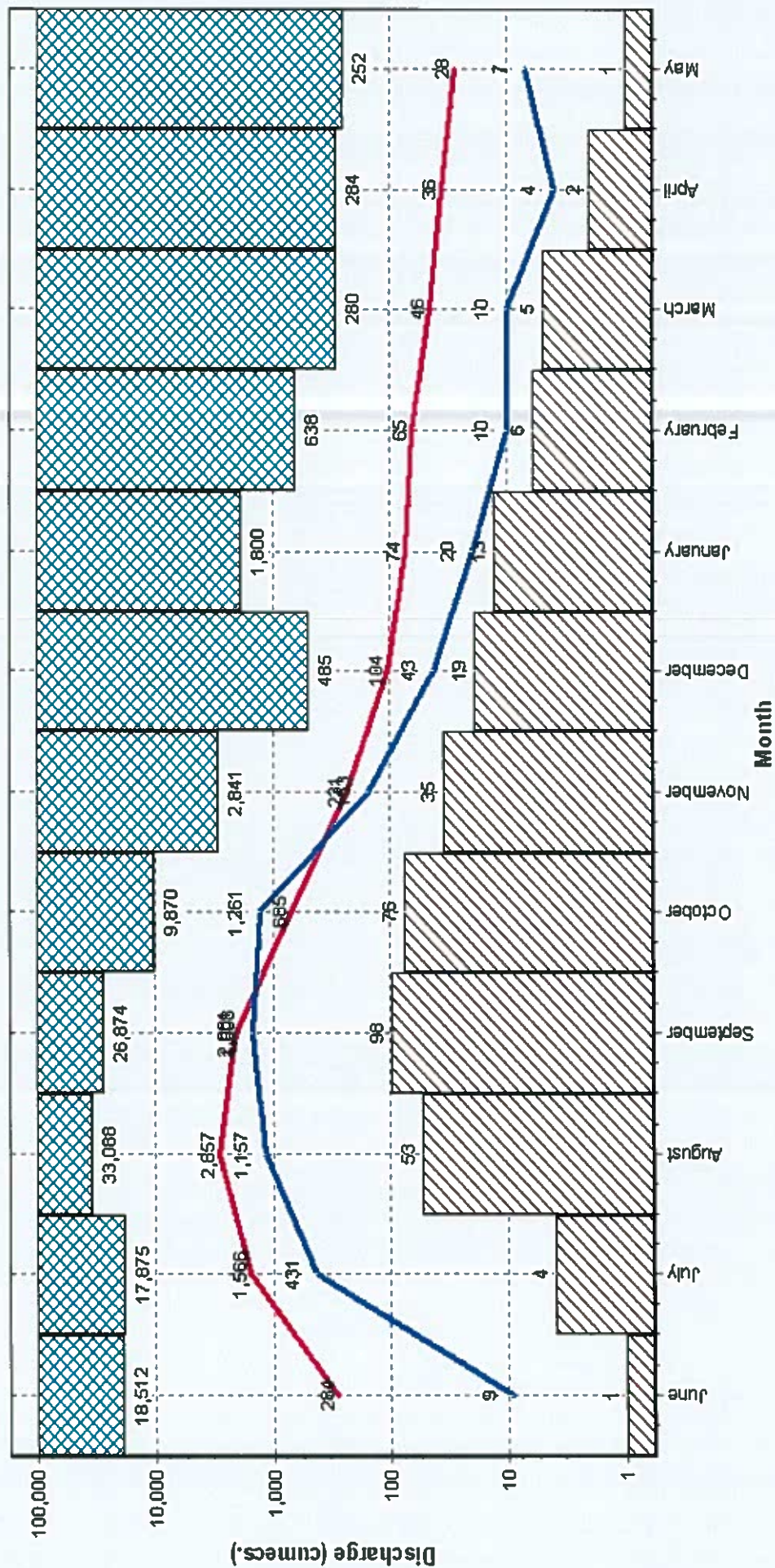
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : Basantpur (EM000R2)

Data considered : 1971-2017

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Local River : Mahanadi

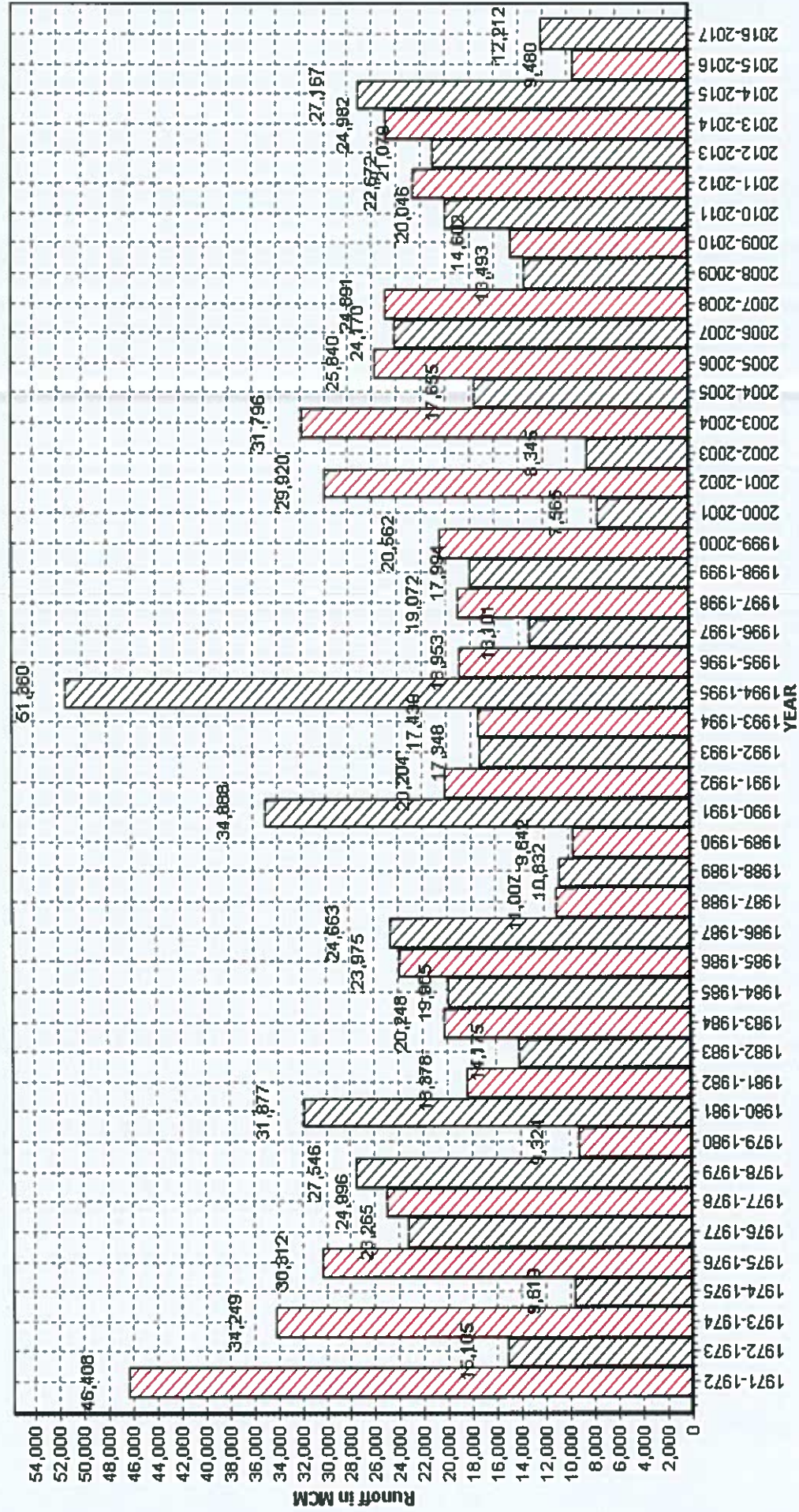


Annual Runoff Values for the period: 1971 - 2017

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



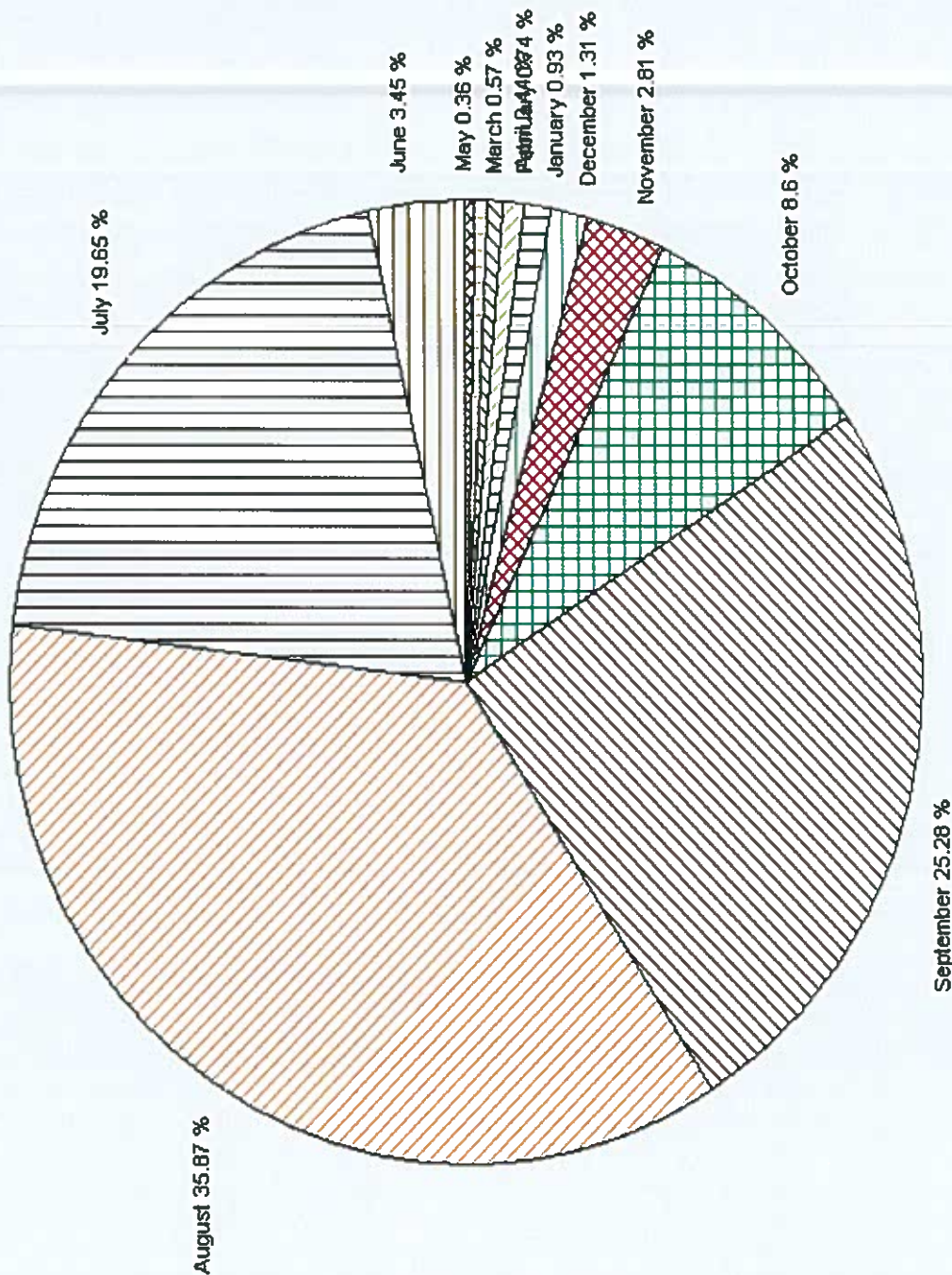
Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1971-2016

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

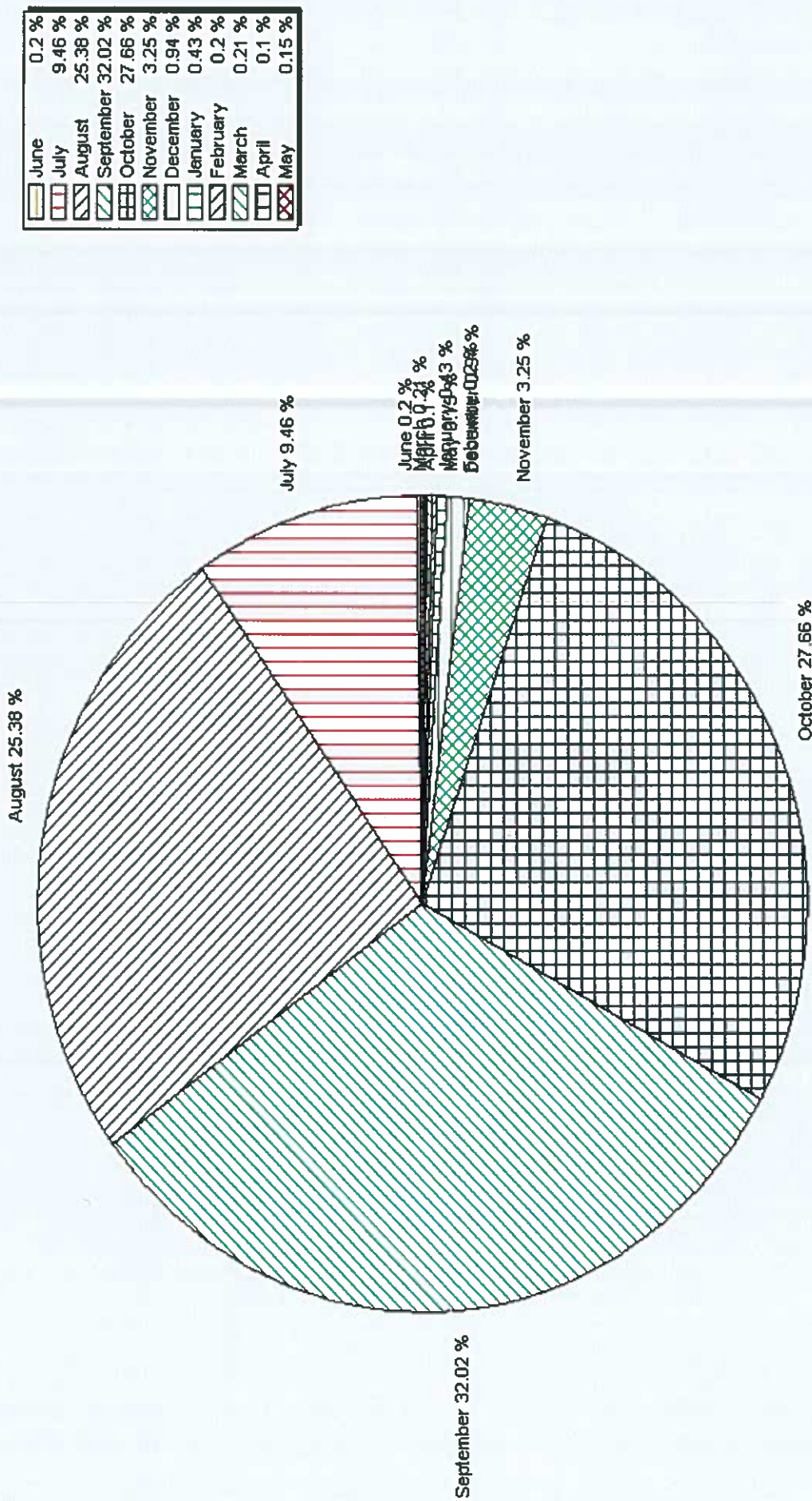
June	3.45 %
July	19.65 %
August	35.87 %
September	25.28 %
October	8.6 %
November	2.81 %
December	1.31 %
January	0.93 %
February	0.74 %
March	0.57 %
April	0.44 %
May	0.36 %



Monthly Runoff for the Year : 2016-2017

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



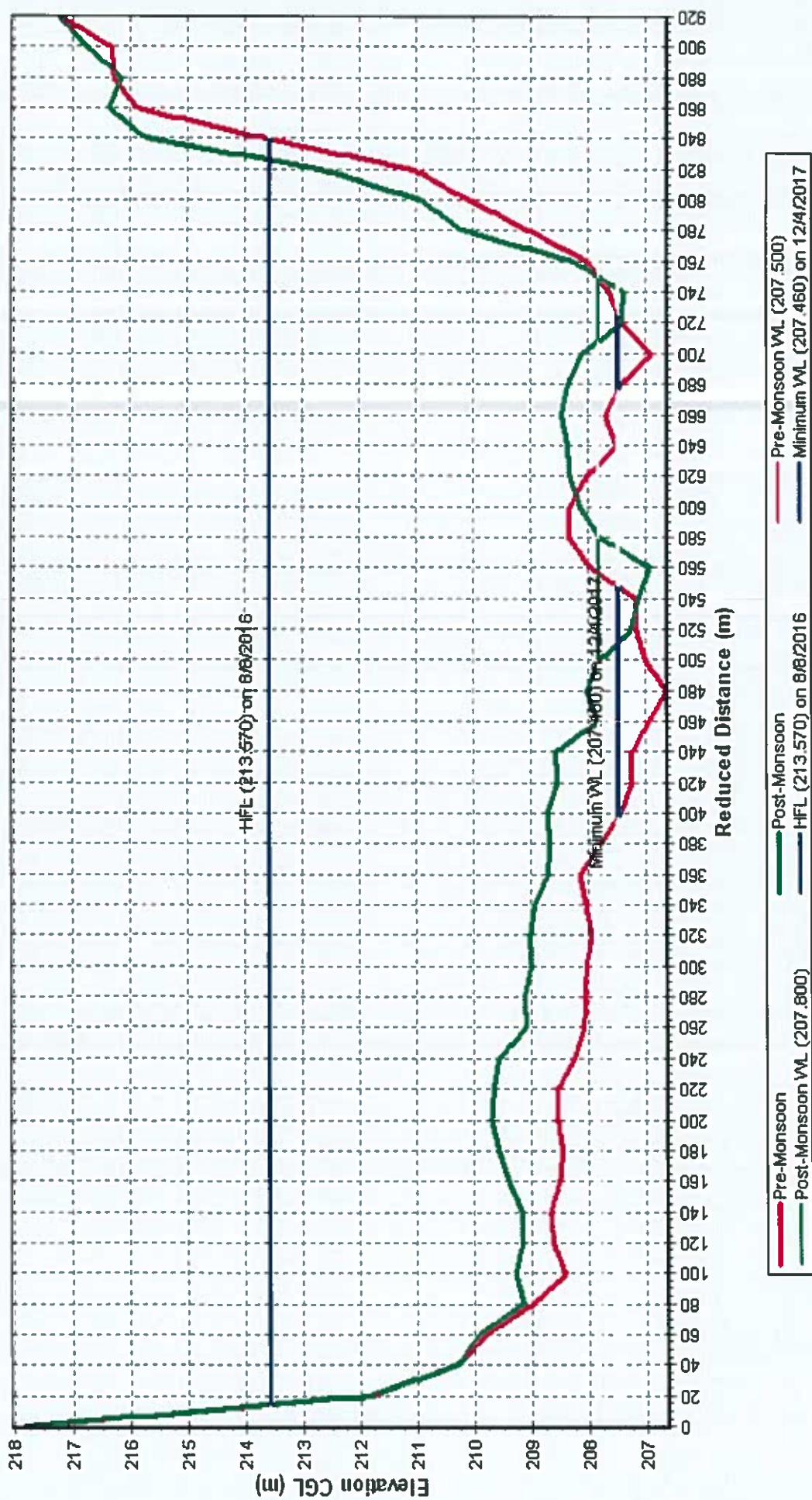
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur



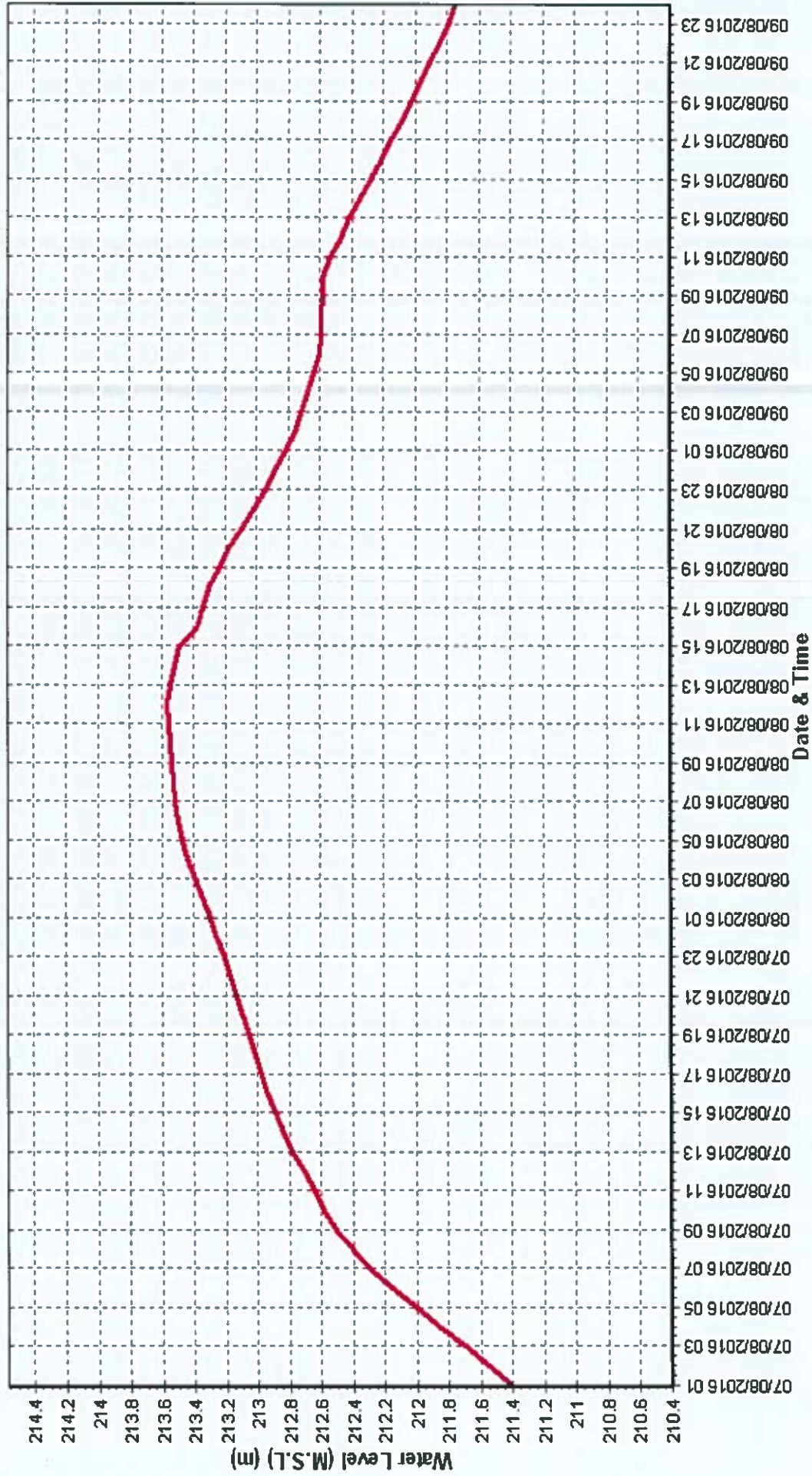
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



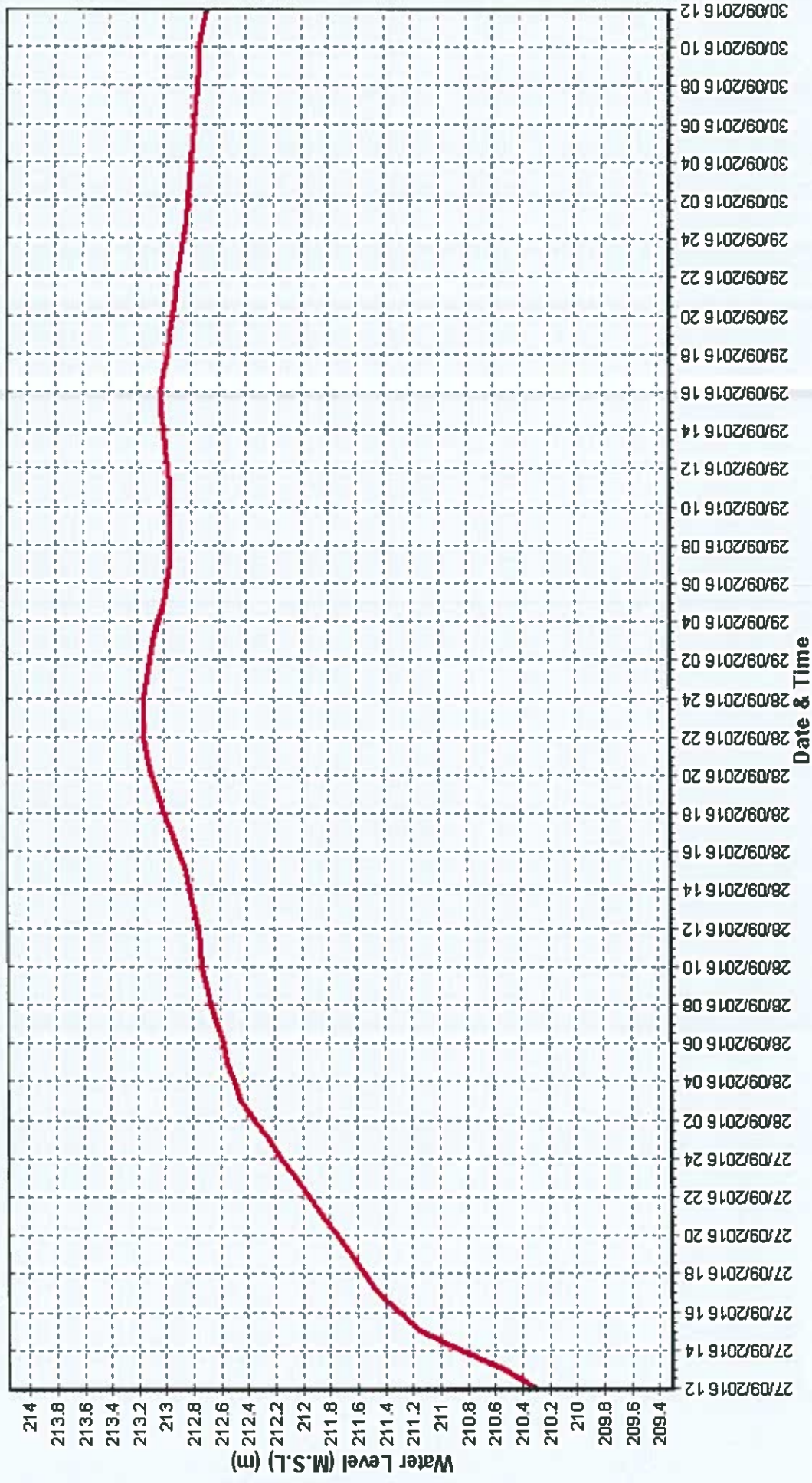
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



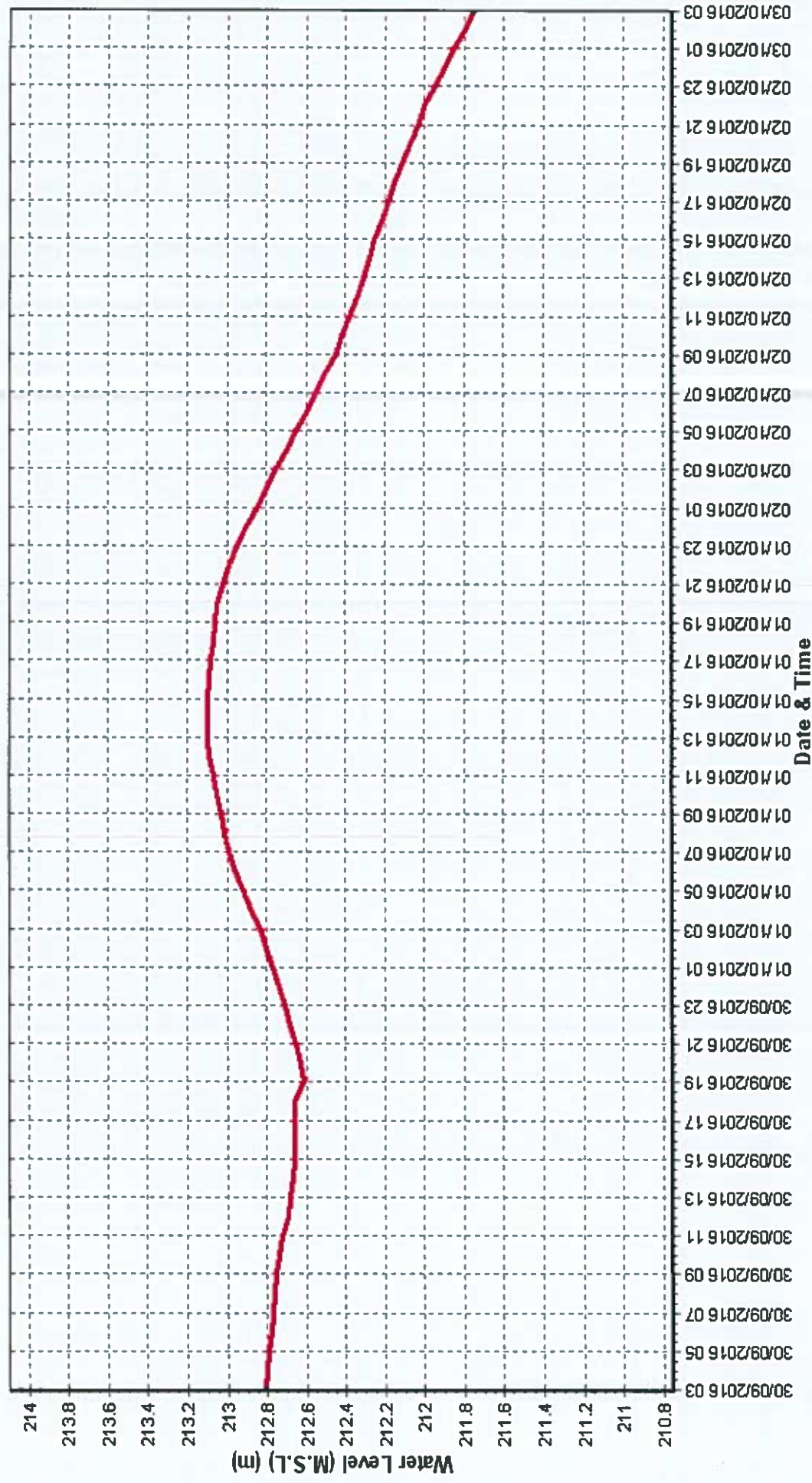
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

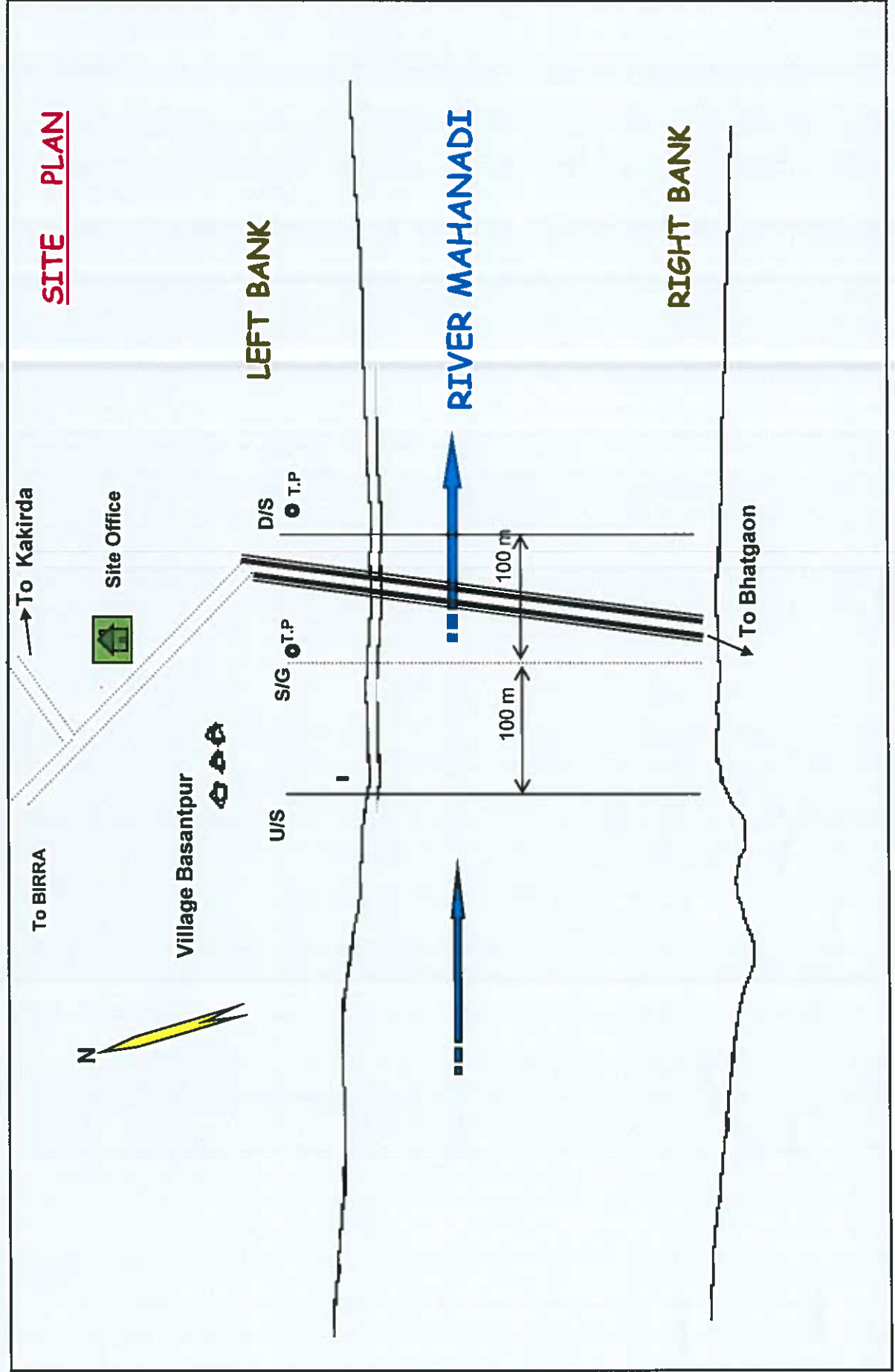


CENTRAL WATER COMMISSION, MAHANADI DIVISION, CWC BURLA

Site : BASANTPUR

Code : EM000R2

Sub-Division: MMSD-I CWC Raipur



SECTION – II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day		Jun					Jul					Aug						
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	10.63	0.000	0.000	0.016	0.016	15	25.80	0.000	0.000	0.054	0.054	120	730.6	0.000	0.000	0.000	0.164	10321
2	10.82	0.000	0.000	0.015	0.015	14	37.19	0.000	0.000	0.194	0.194	623	678.2	0.000	0.000	0.000	0.114	6656
3	11.04	0.000	0.000	0.016	0.016	15	55.00	0.000	0.000	0.000	0.000	0	580.1	0.000	0.000	0.094	0.094	4727
4	13.57	0.000	0.000	0.016	0.016	19	33.37	0.000	0.000	0.139	0.139	401	772.1	0.000	0.000	0.233	0.233	15537
5	11.00	0.000	0.000	0.000	0.000	0	72.60	0.000	0.000	0.102	0.102	640	1343	0.000	0.000	0.273	0.273	31704
6	10.47	0.000	0.000	0.017	0.017	15	70.00	0.000	0.000	0.000	0.000	0	1818	0.000	0.000	0.193	0.193	30250
7	8.726	0.000	0.000	0.016	0.016	12	121.9	0.000	0.000	0.225	0.225	2369	3500	0.000	0.000	0.000	0.000	0
8	12.45	0.000	0.000	0.014	0.014	15	139.0	0.000	0.000	0.086	0.086	1033	6331	0.000	0.000	0.250	0.250	136752
9	10.77	0.000	0.000	0.012	0.012	11	129.9	0.000	0.000	0.089	0.089	999	4355	0.000	0.000	0.214	0.214	80636
10	8.606	0.000	0.000	0.010	0.010	7	150.0	0.000	0.000	0.000	0.000	0	1909	0.000	0.000	0.076	0.076	12505
11	7.726	0.000	0.000	0.008	0.008	5	156.8	0.000	0.000	0.058	0.058	786	1433	0.000	0.000	0.062	0.062	7713
12	3.500	0.000	0.000	0.000	0.000	0	279.4	0.000	0.000	0.066	0.066	1593	1441	0.000	0.000	0.061	0.061	7644
13	1.760	0.000	0.000	0.000	0.000	0	278.6	0.000	0.000	0.122	0.122	2937	1321	0.000	0.000	0.101	0.101	11493
14	1.655	0.000	0.000	0.000	0.000	0	451.5	0.000	0.000	0.752	0.752	29332	1000	0.000	0.000	0.000	0.000	0
15	1.007	0.000	0.000	0.000	0.000	0	416.2	0.000	0.000	0.070	0.070	2517	900.0	0.000	0.000	0.000	0.000	0
16	0.977	0.000	0.000	0.000	0.000	0	375.1	0.000	0.000	0.034	0.034	1095	830.7	0.000	0.000	0.038	0.038	2749
17	1.738	0.000	0.000	0.000	0.000	0	380.0	0.000	0.000	0.000	0.000	0	674.5	0.000	0.000	0.096	0.096	5577
18	1.486	0.000	0.000	0.000	0.000	0	402.7	0.000	0.000	0.079	0.079	2755	625.2	0.000	0.000	0.103	0.103	5537
20	1.493	0.000	0.000	0.000	0.000	0	481.1	0.000	0.000	0.229	0.229	9532	688.3	0.000	0.000	0.092	0.092	5447
21	3.160	0.000	0.000	0.000	0.000	0	538.6	0.000	0.000	0.164	0.164	7646	400.0	0.000	0.000	0.000	0.000	0
22	7.910	0.000	0.000	0.000	0.000	0	545.5	0.000	0.000	0.252	0.252	11864	329.7	0.000	0.000	0.121	0.121	3441
23	11.28	0.000	0.000	0.075	0.075	73	551.6	0.000	0.000	0.149	0.149	7111	271.6	0.000	0.000	0.120	0.120	2826
24	12.41	0.000	0.000	0.021	0.021	23	850.0	0.000	0.000	0.000	0.000	0	195.0	0.000	0.000	0.100	0.100	1690
25	12.73	0.000	0.000	0.025	0.025	27	1177	0.000	0.000	0.112	0.112	11422	214.4	0.000	0.000	0.102	0.102	1885
26	23.00	0.000	0.000	0.000	0.000	0	1114	0.000	0.000	0.081	0.081	7777	239.1	0.000	0.000	0.054	0.054	1105
27	20.80	0.000	0.000	0.047	0.047	84	898.9	0.000	0.000	0.035	0.035	2687	216.7	0.000	0.000	0.063	0.063	1185
28	12.51	0.000	0.000	0.029	0.029	31	921.4	0.000	0.000	0.086	0.086	6822	250.0	0.000	0.000	0.000	0.000	0
29	12.63	0.000	0.000	0.082	0.082	90	861.9	0.000	0.000	0.116	0.116	8616	705.9	0.000	0.000	0.051	0.051	3080
30	36.80	0.000	0.000	0.038	0.038	121	753.4	0.000	0.000	0.097	0.097	6321	757.1	0.000	0.000	0.056	0.056	3630
31							600.0	0.000	0.000	0.000	0.000	0	613.1	0.000	0.000	0.048	0.048	2527
Ten Daily Mean																		
Ten Daily I		10.81	0.000	0.000	0.013	0.013	83.48	0.000	0.000	0.089	0.089	619	2202	0.000	0.000	0.161	0.161	32909
Ten Daily II		2.344	0.000	0.000	0.001	0.001	371.9	0.000	0.000	0.159	0.159	5838	965.4	0.000	0.000	0.063	0.063	5130
Ten Daily III		15.32	0.000	0.000	0.032	0.032	801.1	0.000	0.000	0.099	0.099	6388	381.1	0.000	0.000	0.065	0.065	1943
Monthly																		
Total						578						134826						401758

Annual Sediment Load (Metric Tonnes) : 1238827

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Basantpur (EM000R2)

Division : MD, CWC, Burla

Local River : Mahanadi

Sub-Division : MMSD I, CWC, Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	650.8	0.000	0.000	0.562	0.562	31603	5481	0.000	0.000	0.148	0.148	69903
2	722.3	0.000	0.000	0.942	0.942	58785	3800	0.000	0.000	0.000	0.000	0
3	669.1	0.000	0.000	0.187	0.187	10817	2336	0.000	0.000	0.055	0.055	11098
4	780.0	0.000	0.000	0.000	0.000	0	1825	0.000	0.000	0.065	0.065	10204
5	985.7	0.000	0.000	0.126	0.126	10739	1600	0.000	0.000	0.040	0.040	5586
6	999.9	0.000	0.000	0.160	0.160	13805	1341	0.000	0.000	0.032	0.032	3754
7	879.5	0.000	0.000	0.145	0.145	11033	1273	0.000	0.000	0.056	0.056	6125
8	723.7	0.000	0.000	0.124	0.124	7741	1220	0.000	0.000	0.022	0.022	2278
9	669.2	0.000	0.000	0.090	0.090	5192	1400	0.000	0.000	0.000	0.000	0
10	672.8	0.000	0.000	0.151	0.151	8754	2100	0.000	0.000	0.000	0.000	0
11	900.0	0.000	0.000	0.000	0.000	0	3000	0.000	0.000	0.000	0.000	0
12	2130	0.000	0.000	0.134	0.134	24678	2400	0.000	0.000	0.000	0.000	0
13	2700	0.000	0.000	0.000	0.000	0	1953	0.000	0.000	0.074	0.074	12540
14	3976	0.000	0.000	0.021	0.021	7146	1328	0.000	0.000	0.044	0.044	5059
15	3249	0.000	0.000	0.060	0.060	16955	1164	0.000	0.000	0.026	0.026	2634
16	1817	0.000	0.000	0.079	0.079	12352	800.0	0.000	0.000	0.000	0.000	0
17	1251	0.000	0.000	0.060	0.060	6506	737.6	0.000	0.000	0.049	0.049	3129
18	950.0	0.000	0.000	0.117	0.117	7382	658.6	0.000	0.000	0.047	0.047	2686
20	732.2	0.000	0.000	0.131	0.131	8204	434.8	0.000	0.000	0.119	0.119	5025
21	727.0	0.000	0.000	0.089	0.089	5930	408.7	0.000	0.000	0.059	0.059	2083
22	773.8	0.000	0.000	0.109	0.109	7314	300.0	0.000	0.000	0.000	0.000	0
23	773.8	0.000	0.000	0.061	0.061	4039	361.6	0.000	0.000	0.018	0.018	559
24	765.0	0.000	0.000	0.000	0.000	0	345.0	0.000	0.000	0.047	0.047	1410
25	850.0	0.000	0.000	0.055	0.055	3154	359.4	0.000	0.000	0.047	0.047	1469
26	664.9	0.000	0.000	0.082	0.082	7875	308.1	0.000	0.000	0.072	0.072	1914
27	1106	0.000	0.000	0.258	0.258	90700	306.1	0.000	0.000	0.030	0.030	793
28	4075	0.000	0.000	0.242	0.242	108511	298.1	0.000	0.000	0.030	0.030	778
29	5185	0.000	0.000	0.202	0.202	72439	200.0	0.000	0.000	0.000	0.000	0
30	4157	0.000	0.000	0.000	0.000	0	249.8	0.000	0.000	0.016	0.016	337
31												
Ten Daily Mean												
Ten Daily I	775.3	0.000	0.000	0.249	0.249	15847	2238	0.000	0.000	0.042	0.042	10895
Ten Daily II	1842	0.000	0.000	0.054	0.054	7938	1315	0.000	0.000	0.041	0.041	3383
Ten Daily III	1908	0.000	0.000	0.123	0.123	30816	324.7	0.000	0.000	0.035	0.035	1069
Monthly						546010						154537
Total												710

Annual Sediment Load (Metric Tonnes) : 1238827

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Local River : Mahanadi

Day	Dec					Jan					Feb							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	56.85	0.000	0.000	0.000	0.000	0	24.00	0.000	0.000	0.000	0.000	0	9.123	0.000	0.000	0.000	0.000	0
2	50.93	0.000	0.000	0.000	0.000	0	27.24	0.000	0.000	0.015	0.015	35	8.612	0.000	0.000	0.000	0.000	0
3	51.67	0.000	0.000	0.000	0.000	0	31.29	0.000	0.000	0.000	0.000	0	8.319	0.000	0.000	0.000	0.000	0
4	52.00	0.000	0.000	0.000	0.000	0	30.13	0.000	0.000	0.000	0.000	0	7.663	0.000	0.000	0.000	0.000	0
5	50.32	0.000	0.000	0.027	0.027	116	25.69	0.000	0.000	0.000	0.000	0	11.10	0.000	0.000	0.000	0.000	0
6	47.57	0.000	0.000	0.000	0.000	0	25.71	0.000	0.000	0.000	0.000	0	9.811	0.000	0.000	0.009	0.009	8
7	48.20	0.000	0.000	0.000	0.000	0	26.39	0.000	0.000	0.000	0.000	0	9.560	0.000	0.000	0.000	0.000	0
8	44.65	0.000	0.000	0.000	0.000	0	23.00	0.000	0.000	0.000	0.000	0	9.026	0.000	0.000	0.000	0.000	0
9	46.85	0.000	0.000	0.000	0.000	0	25.49	0.000	0.000	0.014	0.014	30	10.93	0.000	0.000	0.000	0.000	0
10	49.83	0.000	0.000	0.000	0.000	0	24.38	0.000	0.000	0.000	0.000	0	9.853	0.000	0.000	0.000	0.000	0
11	51.60	0.000	0.000	0.000	0.000	0	23.82	0.000	0.000	0.000	0.000	0	9.023	0.000	0.000	0.000	0.000	0
12	47.00	0.000	0.000	0.000	0.000	0	22.81	0.000	0.000	0.000	0.000	0	15.00	0.000	0.000	0.000	0.000	0
13	57.42	0.000	0.000	0.000	0.000	0	23.81	0.000	0.000	0.000	0.000	0	14.50	0.000	0.000	0.009	0.009	11
14	56.96	0.000	0.000	0.000	0.000	0	23.32	0.000	0.000	0.000	0.000	0	1.491	0.000	0.000	0.000	0.000	0
15	56.02	0.000	0.000	0.000	0.000	0	20.00	0.000	0.000	0.000	0.000	0	11.01	0.000	0.000	0.000	0.000	0
16	56.48	0.000	0.000	0.000	0.000	0	14.82	0.000	0.000	0.013	0.013	16	10.33	0.000	0.000	0.000	0.000	0
17	49.57	0.000	0.000	0.000	0.000	0	14.60	0.000	0.000	0.000	0.000	0	10.43	0.000	0.000	0.000	0.000	0
18	45.00	0.000	0.000	0.000	0.000	0	13.82	0.000	0.000	0.000	0.000	0	10.40	0.000	0.000	0.000	0.000	0
20	38.20	0.000	0.000	0.000	0.000	0	16.51	0.000	0.000	0.000	0.000	0	14.25	0.000	0.000	0.008	0.008	10
21	34.67	0.000	0.000	0.000	0.000	0	17.65	0.000	0.000	0.000	0.000	0	12.54	0.000	0.000	0.000	0.000	0
22	34.53	0.000	0.000	0.000	0.000	0	17.00	0.000	0.000	0.000	0.000	0	11.07	0.000	0.000	0.000	0.000	0
23	35.43	0.000	0.000	0.000	0.000	0	12.56	0.000	0.000	0.012	0.012	12	11.31	0.000	0.000	0.000	0.000	0
24	35.41	0.000	0.000	0.000	0.000	0	11.64	0.000	0.000	0.000	0.000	0	10.80	0.000	0.000	0.000	0.000	0
25	31.00	0.000	0.000	0.000	0.000	0	11.64	0.000	0.000	0.000	0.000	0	10.82	0.000	0.000	0.000	0.000	0
26	27.35	0.000	0.000	0.012	0.012	29	11.20	0.000	0.000	0.000	0.000	0	10.43	0.000	0.000	0.000	0.000	0
27	27.08	0.000	0.000	0.000	0.000	0	11.33	0.000	0.000	0.000	0.000	0	12.27	0.000	0.000	0.008	0.008	8
28	27.40	0.000	0.000	0.000	0.000	0	10.62	0.000	0.000	0.000	0.000	0	9.572	0.000	0.000	0.000	0.000	0
29	30.07	0.000	0.000	0.000	0.000	0	16.90	0.000	0.000	0.000	0.000	0						
30	30.08	0.000	0.000	0.000	0.000	0	17.15	0.000	0.000	0.011	0.011	16						
31	28.34	0.000	0.000	0.000	0.000	0	16.96	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	49.89	0.000	0.000	0.003	0.003	12	26.33	0.000	0.000	0.003	0.003	7	9.400	0.000	0.000	0.001	0.001	1
Ten Daily II	49.65	0.000	0.000	0.003	0.003	10	18.70	0.000	0.000	0.001	0.001	2	10.90	0.000	0.000	0.002	0.002	2
Ten Daily III	31.03	0.000	0.000	0.001	0.001	3	14.06	0.000	0.000	0.002	0.002	3	11.10	0.000	0.000	0.001	0.001	1
Monthly Total						247						111						36

Annual Sediment Load (Metric Tonnes) : 1238827

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

Day	Mar					Apr					May				
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day
1	8.855	0.000	0.000	0.000	0	4.442	0.000	0.000	0.000	0	3.407	0.000	0.000	0.000	0
2	6.559	0.000	0.000	0.000	0	3.500	0.000	0.000	0.000	0	6.573	0.000	0.000	0.000	0
3	6.658	0.000	0.000	0.000	0	3.805	0.000	0.000	0.000	0	6.029	0.000	0.000	0.000	0
4	6.661	0.000	0.000	0.000	0	3.719	0.000	0.000	0.000	0	5.006	0.000	0.000	0.000	0
5	5.500	0.000	0.000	0.000	0	3.104	0.000	0.000	0.000	0	4.946	0.000	0.000	0.000	0
6	5.912	0.000	0.000	0.006	3	3.056	0.000	0.000	0.000	0	3.879	0.000	0.000	0.000	0
7	5.722	0.000	0.000	0.000	0	3.083	0.000	0.000	0.000	0	3.867	0.000	0.000	0.000	0
8	11.00	0.000	0.000	0.000	0	3.063	0.000	0.000	0.000	0	3.013	0.000	0.000	0.000	0
9	9.677	0.000	0.000	0.000	0	3.750	0.000	0.000	0.000	0	2.813	0.000	0.000	0.000	0
10	8.912	0.000	0.000	0.000	0	3.780	0.000	0.000	0.000	0	1.115	0.000	0.000	0.000	0
11	11.17	0.000	0.000	0.000	0	2.847	0.000	0.000	0.000	0	1.098	0.000	0.000	0.000	0
12	14.90	0.000	0.000	0.000	0	0.082	0.000	0.000	0.000	0	1.294	0.000	0.000	0.000	0
13	11.50	0.000	0.000	0.000	0	0.105	0.000	0.000	0.000	0	1.413	0.000	0.000	0.000	0
14	11.27	0.000	0.000	0.000	0	0.350	0.000	0.000	0.000	0	3.483	0.000	0.000	0.000	0
15	10.85	0.000	0.000	0.000	0	0.128	0.000	0.000	0.000	0	9.574	0.000	0.000	0.000	0
16	10.45	0.000	0.000	0.000	0	4.100	0.000	0.000	0.000	0	9.259	0.000	0.000	0.000	0
17	10.73	0.000	0.000	0.000	0	13.97	0.000	0.000	0.000	0	8.272	0.000	0.000	0.000	0
18	10.76	0.000	0.000	0.000	0	14.85	0.000	0.000	0.000	0	14.01	0.000	0.000	0.000	0
20	10.69	0.000	0.000	0.005	4	5.241	0.000	0.000	0.000	0	12.37	0.000	0.000	0.000	0
21	10.29	0.000	0.000	0.000	0	5.009	0.000	0.000	0.000	0	9.096	0.000	0.000	0.000	0
22	10.63	0.000	0.000	0.000	0	5.025	0.000	0.000	0.000	0	5.994	0.000	0.000	0.000	0
23	14.60	0.000	0.000	0.000	0	4.500	0.000	0.000	0.000	0	6.027	0.000	0.000	0.000	0
24	14.18	0.000	0.000	0.000	0	4.878	0.000	0.000	0.000	0	3.953	0.000	0.000	0.000	0
25	14.02	0.000	0.000	0.000	0	2.930	0.000	0.000	0.000	0	7.042	0.000	0.000	0.000	0
26	10.70	0.000	0.000	0.000	0	6.139	0.000	0.000	0.000	0	6.815	0.000	0.000	0.000	0
27	14.79	0.000	0.000	0.005	7	4.410	0.000	0.000	0.000	0	6.116	0.000	0.000	0.000	0
28	13.70	0.000	0.000	0.000	0	3.728	0.000	0.000	0.000	0	6.151	0.000	0.000	0.000	0
29	5.295	0.000	0.000	0.000	0	3.641	0.000	0.000	0.000	0	14.85	0.000	0.000	0.000	0
30	4.645	0.000	0.000	0.000	0	3.500	0.000	0.000	0.000	0	15.50	0.000	0.000	0.000	0
31	4.604	0.000	0.000	0.000	0						12.78	0.000	0.000	0.000	0
Ten Daily Mean															
Ten Daily I	7.546	0.000	0.000	0.001	0	3.530	0.000	0.000	0.000	0	4.065	0.000	0.000	0.000	0
Ten Daily II	11.30	0.000	0.000	0.000	0	5.553	0.000	0.000	0.000	0	7.427	0.000	0.000	0.000	0
Ten Daily III	10.68	0.000	0.000	0.000	1	4.376	0.000	0.000	0.000	0	8.574	0.000	0.000	0.000	0
Monthly															
Total					14					0					0

Annual Sediment Load for period : 1973-2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

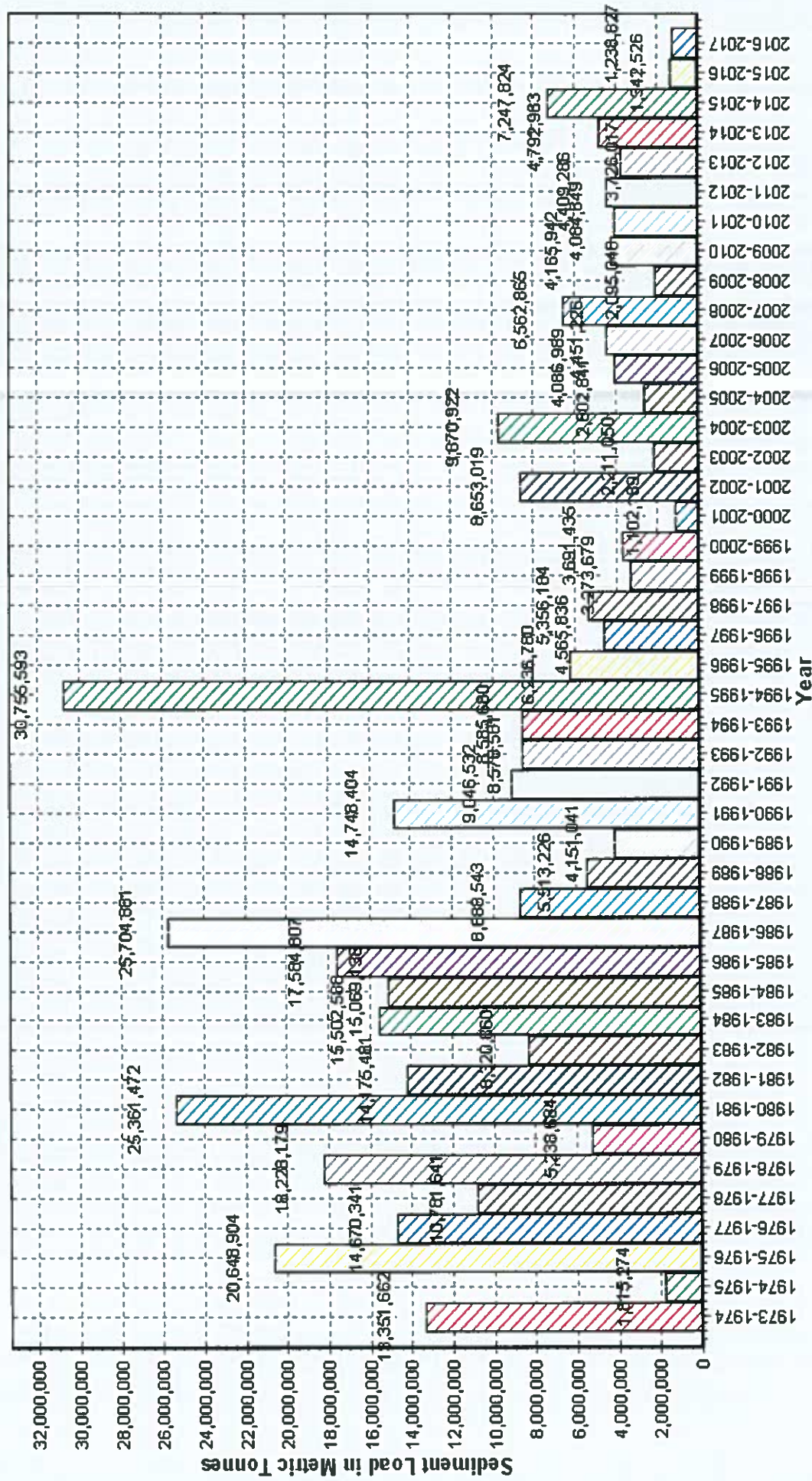
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	13346414	5248	13351662	34249
1974-1975	1815054	220	1815274	9619
1975-1976	20626347	22557	20648904	30312
1976-1977	14668919	1422	14670341	23265
1977-1978	10758712	22928	10781641	24996
1978-1979	18203926	24253	18228179	27546
1979-1980	5235829	2855	5238684	9324
1980-1981	25344116	17356	25361472	31877
1981-1982	14166825	8656	14175481	18378
1982-1983	8317774	3086	8320860	14175
1983-1984	15499685	2903	15502588	20248
1984-1985	15047638	21500	15069138	19905
1985-1986	17583023	1784	17584807	23975
1986-1987	25702082	2799	25704881	24663
1987-1988	8686840	1703	8688543	11007
1988-1989	5511599	1627	5513226	10832
1989-1990	4150721	320	4151041	9642
1990-1991	14745477	2927	14748404	34888
1991-1992	9045509	1023	9046532	20204
1993-1994	8583379	2301	8585680	17439
1994-1995	30691520	64073	30755593	51360
1995-1996	6223214	13565	6236780	18953
1996-1997	4562979	2856	4565836	13101
1997-1998	5348879	7305	5356184	19072
1998-1999	3271130	2549	3273679	17994
1999-2000	3685291	6144	3691435	20562
2000-2001	1100237	1951	1102189	7565
2001-2002	8644276	8743	8653019	29920
2002-2003	2203590	7460	2211050	8345
2003-2004	9661577	9345	9670922	31796
2004-2005	2597039	5801	2602841	17655
2005-2006	4084463	2526	4086989	25840
2006-2007	4446277	4949	4451226	24170
2007-2008	6560638	2227	6562865	24891
2008-2009	2093227	1813	2095040	13493
2009-2010	4165017	925	4165942	14602
2010-2011	4084649	0	4084649	20046
2011-2012	4394240	15047	4409286	22672
2012-2013	3718823	7194	3726017	21079
2013-2014	4784581	8381	4792963	24982
2014-2015	7245833	1991	7247824	27167
2015-2016	1341867	659	1342526	9452
2016-2017	1238420	408	1238827	12212

Annual Sediment Load for the period: 1973-2017

Station Name : Basantpur (EM000R2)

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

Local River : Mahanadi



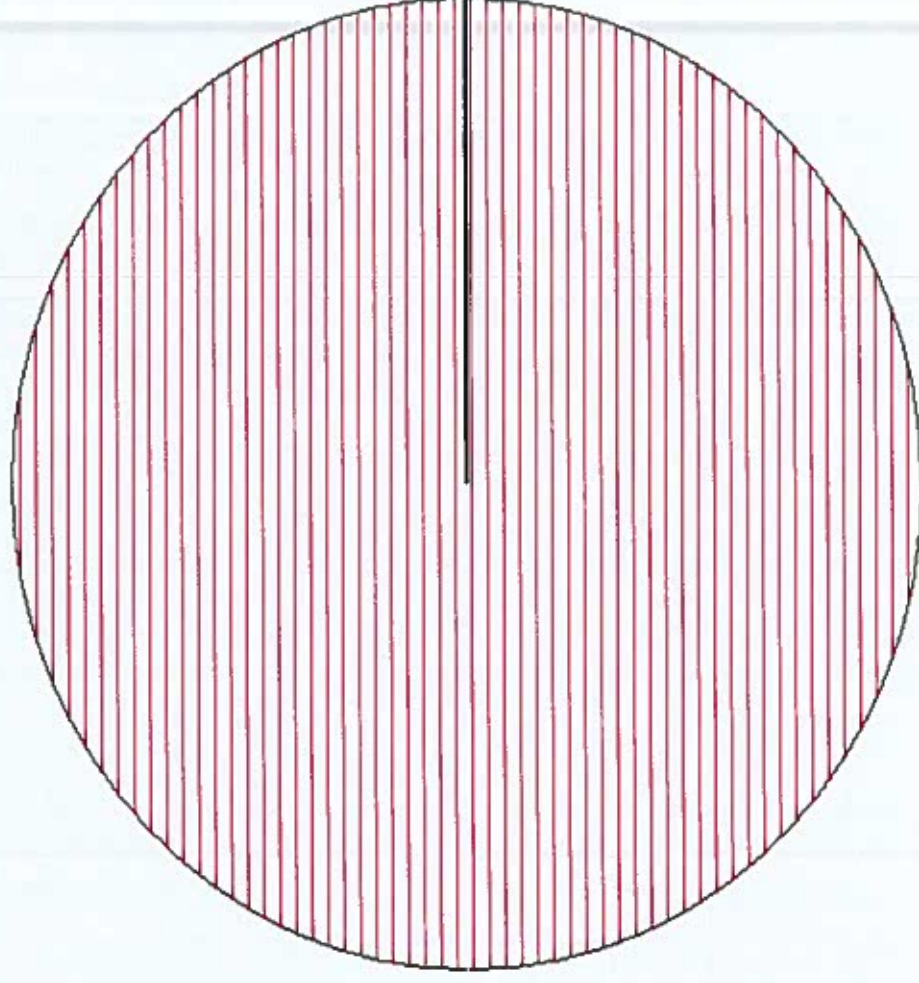
Seasonal Sediment Load for the period : 1973-2016

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur



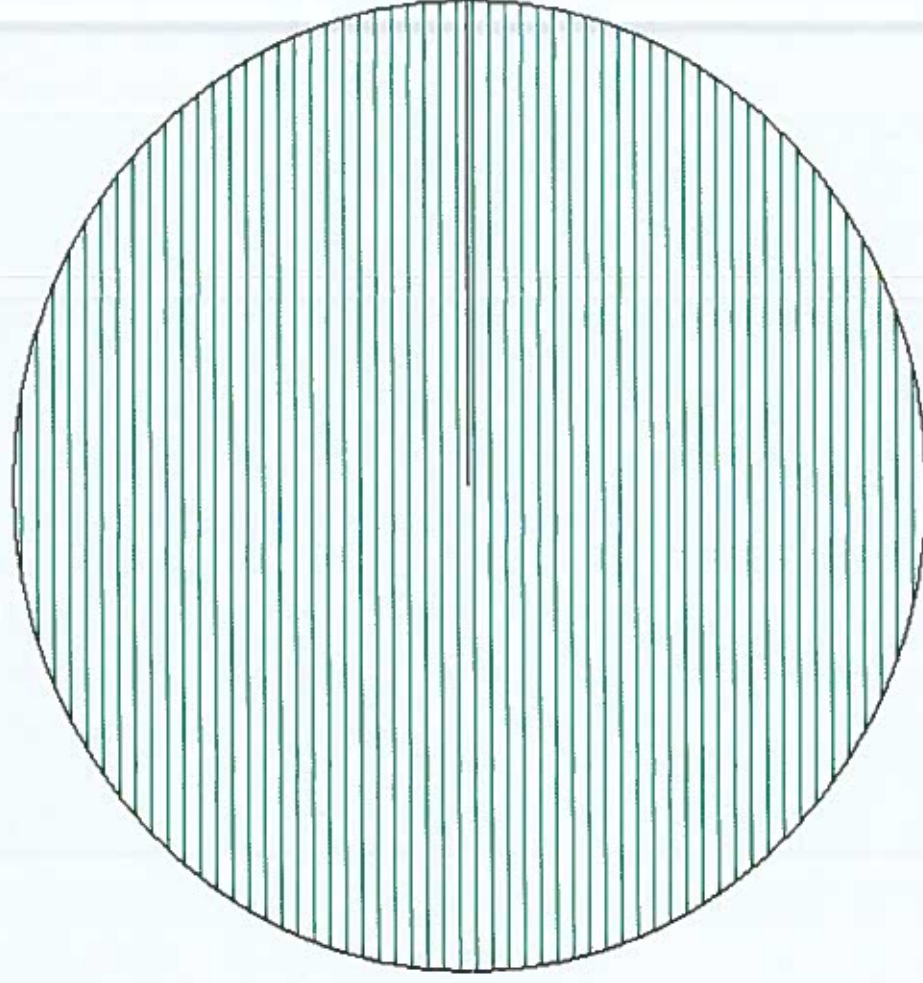
Monsoon 390,516,992

Non-Monsoon 331,699

Seasonal Sediment Load for the Year: 2016-2017

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Basantpur (EM000R2)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL											
1	Q (cumec)	10.63	25.80	730.6	650.8	5481	56.85	27.24	9.123	8.855	4.442	3.407
2	Colour_Cod (-)	Clear	Clear	Light Brown	Light Brown	Brown	Clear	Clear	Clear	Clear	Clear	Other
3	EC_FLD (µmho/cm)	318	240	169	428	383	456	438	495	535	785	703
4	EC_GEN (µmho/cm)	286	221	193	230	102	236	219	238	228	263	353
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)				8.1	7.6	8.3	8.2	8.1	8.2	8.2	8.7
7	pH_GEN (pH units)	8.2	8.6	6.4	7.5	6.5	8.1	8.5	8.5	8.2	8.4	7.7
8	Temp (deg C)	32.5	31.5	29.8	29.0	27.5	23.0	20.0	22.0	29.0	31.5	31.0
	CHEMICAL											
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	228	124	180	152	152	152	136	164	152	220	204
3	Ca (mg/L)	29	34	38	42	46	42	43	46	51	55	64
4	Cl (mg/L)	38.0	14.0	17.0	15.0	19.0	20.0	27.0	40.0	64.0	57.0	54.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	139	76	110	93	93	93	83	100	93	134	124
7	K (mg/L)	5.8	12.5	5.3	15.2	6.9	7.1	7.3	9.9	10.0	8.8	11.4
8	Mg (mg/L)	12.6	13.6	1.9	13.6	28.2	1.0	2.9	18.5	5.8	8.8	1.9
	BIOLOGICAL/BACTERIOLOGICAL											
1	BOD3-27 (mg/L)	0.8	0.6	0.5	1.6	1.0	0.7	0.8	1.0	2.1	1.6	1.0
2	DO (mg/L)	5.2	5.9	6.2	7.2	6.0	6.9	7.2	8.1	8.1	6.9	5.2
3	DO SAT% (%)	71	79	81	94	75	80	79	93	105	93	70
	TRACE & TOXIC											
	CHEMICAL INDICES											
1	HAR_Ca (mgCaCO3/L)	72	85	96	104	116	104	108	116	128	136	160
2	HAR_Total (mgCaCO3/L)	125	142	104	161	234	108	120	193	153	173	168
3	Na% (%)	30	23	19	19	12	20	24	18	31	24	28
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.0	0.8	0.5	0.7	0.4	0.6	0.7	0.6	1.2	0.9	1.1
	PESTICIDES											

Water Quality Summary for the period : 2016-2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : MMSD I,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	6331	0.082	387.2
2	EC_FLD (µmho/cm)	11	785	169	450
3	EC_GEN (µmho/cm)	11	353	102	234
4	pH_FLD (pH units)	8	8.7	7.6	8.2
5	pH_GEN (pH units)	11	8.6	6.4	7.9
6	Temp (deg C)	11	32.5	20.0	27.9
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	11	228	124	170
3	Ca (mg/L)	11	64	29	45
4	Cl (mg/L)	11	64.0	14.0	33.2
5	CO3 (mg/L)	11	0.0	0.0	0
6	HCO3 (mg/L)	11	139	76	103
7	K (mg/L)	11	15.2	5.3	9.1
8	Mg (mg/L)	11	28.2	1.0	9.9
9	Na (mg/L)	11	33.5	12.2	21.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	11	2.1	0.5	1.1
3	DO_SAT% (%)	11	105	70	84
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	11	160	72	112
2	HAR_Total (mgCaCO3/L)	11	234	104	153
3	Na% (%)	11	31	12	23
4	RSC (-)	11	0.0	0.0	0
5	SAR (-)	11	1.2	0.4	0.8
	PESTICIDES				

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

Water Quality Seasonal Average for the period: 2002-2017

TSS
River WaterDivision : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	684.1	1862	1004	2903	3379	2552	582.3	514.9	674.3	1399	1067	3170	2035	523.8	1380
2	EC_FLD (µmho/cm)	170	157	168	226	159	188	172	190						315	308
3	EC_GEN (µmho/cm)	170	157	168	226	159	146	168	221	268	260	312	214	247	173	206
4	pH_FLD (pH units)	8.0	7.6	7.8	7.8	7.6	8.4	7.6	7.2	6.9	7.0	6.4	6.7	6.4	7.9	7.9
5	pH_GEN (pH units)	8.0	7.6	7.8	7.8	7.6	7.6	7.7	7.5	7.4	7.3	7.3	8.0	8.3	7.9	7.4
6	Temp (deg C)	28.5	28.3	32.0	30.2	28.7	28.4	28.3	27.8	27.1	29.6	28.7	27.0	29.5	28.6	30.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	2.6	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	2.8	0.8	0.0
2	ALK-TOT (mgCaCO3/L)	96	152	93	127	107	115	127	156	174	181	223	186	203	163	167
3	B (mg/L)				0.05	0.01	0.01	0.01	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	17	18	38	16	10	13	11	15	20	20	28	23	22	22	38
5	Cl (mg/L)	13.4	19.2	13.3	18.2	8.6	10.5	13.1	10.7	11.8	12.8	15.9	22.8	13.8	15.4	20.6
6	CO3 (mg/L)	0.0	0.0	0.0	3.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	3.4	1.0	0.0
7	F (mg/L)		1.43		0.30	0.05	0.09	0.10	0.14	0.16	0.19	0.23				
8	Fe (mg/L)	0.2			0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1				
10	K (mg/L)	2.4	1.8		3.0	1.7	2.0	2.0	3.1	3.9	4.2	2.9	7.4	14.0	5.5	9.1
11	Mg (mg/L)	4.5	5.6	5.0	5.1	5.1	5.5	7.2	9.6	10.2	10.4	16.1	6.8	10.3	7.6	14.0
12	Na (mg/L)	9.2	6.1		9.9	4.6	5.4	8.1	9.6	15.7	18.2	16.4	15.3	21.6	12.3	19.0
13	NH3-N (mg N/L)	0.07														
14	NO2+NO3 (mg N/L)	0.79		0.10	0.06	0.06	0.07	0.32								
15	NO2-N (mgN/L)				0.00	0.01	0.01	0.03	0.01	0.02	0.02	0.05				
16	NO3-N (mgN/L)				0.06	0.05	0.06	0.29								
17	o-PO4-P (mg P/L)							0.080								
18	P-Tot (mgP/L)		0.020		0.013	0.009	0.010	0.034	0.036	0.026	0.054	0.118				
19	SiO2 (mg/L)	11.3			12.2	15.7	19.4	23.4	22.1	19.6	22.6	27.4				
20	SO4 (mg/L)	9.4	18.0	9.8	10.3	11.0	11.0	13.6	16.8	21.4	24.5	28.3				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Basantpur (EM000R2)

Division : MD, CWC, Burla

Local River : Mahanadi

River Water

Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.4	1.0	0.8	1.0	0.4	1.2	0.8	0.9	0.8	1.0	1.0	0.7	0.6	0.5	0.9
2	COD (mg/L)					21.1	18.0	16.8	24.0	24.8	24.8	30.4				
3	DO (mg/L)	6.5	5.1	6.4	5.8	6.1	7.2	6.9	5.8	5.1	5.8	5.8	5.6	6.5	5.0	6.1
4	DO_SAT% (%)	83	67	89	77	79	92	88	73	64	76	74	70	85	64	80
	TRACE & TOXIC															
1	Al (mg/L)	0.18														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	42	46	96	39	26	33	27	38	49	50	70	58	54	55	95
2	HAR_Total (mgCaCO3/L)	61	69	117	61	47	56	57	78	91	93	137	87	97	87	153
3	Na% (%)	26	14		25	18	17	22	21	22	27	20	22	28	22	21
4	RSC (-)	0.1	0.3	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.0
5	SAR (-)	0.5	0.3		0.6	0.3	0.3	0.5	0.5	0.7	0.8	0.6	0.7	1.0	0.6	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Basantpur (EM000R2)

Local River : Mahanadi

River Water

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	Winter																	
		Nov - Feb																	
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017			
	PHYSICAL																		
1	Q (cumec)	104.1	415.8	164.0	204.3	154.4	131.6	107.6	70.29	149.4	146.5	126.2	209.9	165.9	68.54	31.07			
2	EC_FLD (µmho/cm)	170	157	300	162	167	195	235							187	463			
3	EC_GEN (µmho/cm)	170	157	300	162	167	201	243	313	358	299	354	434	288	227	231			
4	pH_FLD (pH units)	7.7	7.9	8.0	6.9	8.0	8.2	7.2	7.3	8.0	7.8	6.6		6.4	8.0	8.2			
5	pH_GEN (pH units)	7.7	7.9	8.0	6.9	8.0	7.8	7.5	7.6	7.4	7.8	7.8	8.1	8.3	8.3	8.4			
6	Temp (deg C)	19.1	22.5	23.3	24.8	20.0	20.3	18.5	16.8	22.3	20.5	20.6	21.8	21.4	23.0	21.7			
	CHEMICAL																		
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2	ALK-TOT (mgCaCO3/L)	97	151	190	107	117	150	92	197	261	215	259	255	234	183	151			
3	B (mg/L)				0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00							
4	Ca (mg/L)	17	15	18	12	13	13	18	21	27	23	35	37	35	28	44			
5	Cl (mg/L)	14.3	13.7	8.0	14.1	13.1	17.8	19.5	11.5	22.0	17.0	15.4	22.8	20.3	15.3	29.0			
6	CO3 (mg/L)	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
7	F (mg/L)		0.98		0.08	0.08	0.12	0.11	0.16	0.10	0.14	0.24							
8	Fe (mg/L)	0.2			0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1		0.1					
10	K (mg/L)	2.8		1.3	2.2	1.7	2.1	2.5	3.6	4.8	4.2	1.7	10.1	14.6	4.6	8.1			
11	Mg (mg/L)	4.9	4.4	11.4	5.7	7.2	8.8	10.2	10.1	15.7	13.5	16.0	14.1	15.6	10.7	7.5			
12	Na (mg/L)	9.0		25.4	8.3	7.0	10.4	12.8	10.2	19.8	17.6	22.4	24.1	21.3	14.4	17.5			
13	NH3-N (mg N/L)	0.09																	
14	NO2+NO3 (mg N/L)	0.62		0.25	0.07	0.04	0.12	0.59						0.20					
15	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.02	0.04	0.04	0.04		0.02					
16	NO3-N (mgN/L)				0.06	0.03	0.11	0.57						0.18					
17	o-PO4-P (mg P/L)																		
18	p-Tot (mgP/L)		0.010	0.020	0.010	0.006	0.020	0.017	0.042	0.062	0.062	0.072		0.060					
19	SiO2 (mg/L)	14.0			15.9	14.1	25.5	20.3	23.8	18.3	14.0	16.2		9.4					
20	SO4 (mg/L)	7.6	13.2	14.3	14.8	12.2	20.3	15.7	21.3	32.4	25.5	25.8		26.4					

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Basantpur (EM000R2)

Division : MD, CWC, Burla

Local River : Mahanadi

River Water

Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	0.2	0.9	0.6	1.0	0.7	1.0	0.7	0.9	0.6	0.9	0.7	1.2	0.7	0.8
2	COD (mg/L)					23.4	23.0	25.0	29.0	30.0	22.0	30.0				
3	DO (mg/L)	7.7	6.1	8.7	7.5	7.9	9.0	6.8	7.5	7.3	7.4	7.2	7.9	8.2	7.3	7.4
4	DO_SAT% (%)	82	82	102	90	86	98	72	77	83	82	80	89	92	84	84
	TRACE & TOXIC															
1	Al (mg/L)	0.16														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	42	37	44	30	33	32	44	54	67	58	87	92	87	71	110
2	HAR_Total (mgCaCO3/L)	62	55	91	54	63	69	87	96	133	114	154	151	152	116	141
3	Na% (%)	23		36	24	19	24	24	18	23	24	20	24	21	21	21
4	RSC (-)	0.0	0.6	0.3	0.0	0.0	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.5		1.0	0.5	0.4	0.6	0.6	0.5	0.7	0.7	0.8	0.9	0.8	0.6	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Basantpur (EM0000R2)

Local River : Mahanadi

River Water

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	31.06	94.63	63.28	68.56	97.53	32.94	44.15	7.787	21.04	29.06	29.00	32.59	34.76	7.171	5.568
2	EC_FLD (µmho/cm)	215	218	139	134	137	150								277	674
3	EC_GEN (µmho/cm)	215	218	139	134	137	158	276	281	389	347	320	342	232	268	281
4	pH_FLD (pH units)	8.0	8.0	8.3	7.5	7.6	7.4	7.0	6.9		7.2	6.5				8.4
5	pH_GEN (pH units)	8.0	8.0	8.3	7.5	7.6	8.1	7.6	7.6	7.3	7.6	8.1	8.0	8.3	8.6	8.1
6	Temp (deg C)	24.3	28.0	29.0	32.0	27.7	26.2	23.7	23.8	25.2	25.7	27.3	26.0	25.8	30.3	30.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.1	9.3	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	116	205	65	95	93	107	169	202	197	226	265	258	189	224	192
3	B (mg/L)				0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	20	20	48	12	12	11	20	19	25	28	34	36	26	29	57
5	Cl (mg/L)	18.7	14.0	7.5	10.5	17.4	14.6	13.0	14.6	24.9	22.7	20.7	21.3	22.3	22.3	58.3
6	CO3 (mg/L)	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.1	11.2	0.0	0.0
7	F (mg/L)			0.15	0.05	0.16	0.15	0.19	0.14	0.09	0.23	0.21				
8	Fe (mg/L)	0.2			0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1		0.1		
10	K (mg/L)	3.6		1.9	1.7	1.8	2.3	2.9	5.7	6.0	2.7	8.6	4.5	6.3	11.3	10.0
11	Mg (mg/L)	6.2	8.0	-16.3	4.2	5.1	6.5	10.8	13.0	14.1	15.4	7.2	18.8	14.9	5.2	5.5
12	Na (mg/L)	12.2		7.2	8.2	6.9	10.5	10.8	23.5	19.3	18.7	44.9	24.7	18.1	27.8	31.1
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)	0.77		0.08	0.06	0.08	0.47	0.30						0.21		
15	NO2-N (mgN/L)				0.00	0.00	0.02	0.02	0.02	0.05	0.10	0.07		0.05		
16	NO3-N (mgN/L)				0.05	0.08	0.45	0.28						0.16		
17	o-PO4-P (mg P/L)															
18	P-Tot (mgP/L)			0.020	0.018	0.007	0.020	0.013	0.033	0.103	0.107	0.073		0.063		
19	SiO2 (mg/L)	8.3			18.5	15.3	17.2	23.8	15.5	20.4	20.7	19.3		20.7		
20	SO4 (mg/L)	12.1	5.1	8.7	9.6	8.6	12.3	22.7	20.3	38.5	36.1	32.7		29.9		

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Basantpur (EM000R2)

Division : MD,CWC,Burla

Local River : Mahanadi

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9	0.4	0.4	0.2	1.0	0.7	0.9	1.1	1.1	1.4	0.7	1.1	0.7	1.2	1.6
2	COD (mg/L)					24.7	23.7	28.0	24.0	24.0	21.3	25.3				
3	DO (mg/L)	6.6	7.4	7.0	6.0	6.2	7.3	5.1	5.7	5.9	5.5	5.7	6.2	6.4	7.1	6.7
4	DO_SAT% (%)	79	93	89	81	79	90	60	67	70	67	71	76	78	95	89
	TRACE & TOXIC															
1	Al (mg/L)	0.15														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	49	50	120	31	31	28	49	48	62	69	86	91	64	73	142
2	HAR_Total (mgCaCO3/L)	75	83	53	48	52	55	94	102	121	133	115	169	126	94	165
3	Na% (%)	26		22	26	23	28	19	32	25	22	44	24	23	35	28
4	RSC (-)	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.4	0.0
5	SAR (-)	0.6		0.4	0.5	0.5	0.6	0.5	1.0	0.8	0.7	1.8	0.8	0.7	1.2	1.1
	PESTICIDES															

SITE KALMA

HISTORY SHEET

Water Year : 2016-2017

Site : KALMA

Code : KALMA

State : Chhattisgarh

District : Janjgir-champa

Basin : Mahanadi

Independent River : Mahanadi

Tributary :

Sub Tributary :

Sub-Sub Tributary :

Local River :

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Drainage Area : Sq. Km.

Bank : Left

Latitude : ""

Longitude : ""

Zero of Gauge (m) : 190 (m.s.l)

17-10-2016

Opening Date

Closing Date

Gauge : 19-10-2016

Discharge : 17-10-2016

Sediment :

Water Quality :

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date

Stage-Discharge Data for the period 2016 - 2017

Station Name : KALMA (KALMA)

Division : MD,CWC,Burla

Local River :

Sub-Division : MMSD II,CWC,Burla

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1											195.000	111.6
2											195.795	656.2
3											194.825	32.66
4											194.860	65.82
5											194.870	81.22
6											194.900	87.00 *
7											194.850	62.76
8											194.835	90.29
9											194.780	93.58
10											194.730	72.79
11											194.715	77.13
12											194.650	65.79
13											194.600	60.00 *
14											194.530	52.00 *
15											194.595	56.10
16											194.640	64.40
17									195.725	392.3	194.520	38.68
18									195.655	351.2	194.675	73.00
19									195.790	113.0	194.600	49.47
20									195.750	418.5	194.580	43.00 *
21									195.650	343.4	194.630	62.63
22									194.400	207.5	194.570	41.21
23									194.210	180.0 *	194.540	37.25
24									194.150	162.8	194.490	28.90
25									195.100	141.3	194.480	24.28
26									195.020	134.7	194.495	35.05
27									195.750	444.2	194.470	32.00 *
28									194.900	83.35	194.490	41.46
29									195.050	122.9	194.480	30.57
30									195.200	150.0 *	194.480	31.13
31									195.010	112.6		
Ten-Daily Mean												
I Ten-Daily											194.944	135.4
II Ten-Daily									195.730	318.8	194.611	57.96
III Ten-Daily									194.949	189.3	194.512	36.45
Monthly												
Min.									194.150	83.35	194.470	24.28
Max.									195.790	444.2	195.795	656.2
Mean									195.157	223.8	194.689	76.6

Annual Runoff in MCM = 653 Annual Runoff in mm =

Peak Observed Discharge = 656.2 cumecs on 02/11/2016 Corres. Water Level :195.795 m

Lowest Observed Discharge = 0.000 cumecs on 13/12/2016 Corres. Water Level :194.135 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m, *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : KALMA (KALMA)

Division : MD,CWC,Burla

Local River :

Sub-Division : MMSD II,CWC,Burla

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	194.490	33.80	193.900	0.000 *	193.630	0.000	193.460	0.690	193.410	0.745	193.420	4.254
2	194.500	38.54	193.850	0.000	193.730	16.28	193.460	0.872	193.410	0.700 *	193.420	3.337
3	194.505	41.09	193.820	0.000	193.670	5.151	193.450	0.672	193.400	0.674	193.460	6.448
4	194.500	41.00 *	193.880	0.000	193.650	0.000	193.440	0.578	193.380	0.528	193.460	6.611
5	194.490	40.47	193.960	43.96	193.650	0.000 *	193.440	0.950 *	193.370	0.511	193.480	7.613
6	194.480	37.35	194.000	58.88	193.650	0.000	193.440	0.741	193.360	0.350	193.450	5.290
7	194.480	38.88	193.990	51.12	193.650	0.000	193.440	0.778	193.350	0.231	193.350	1.900 *
8	194.470	35.09	193.780	45.00 *	193.640	0.000	193.440	0.690	193.350	0.171	193.380	2.232
9	194.470	30.57	193.730	0.000	193.640	0.000	193.440	0.661	193.350	0.420 *	193.380	2.143
10	194.480	39.97	193.720	0.000	193.640	0.000	193.440	0.561	193.350	0.167	193.380	2.050 *
11	194.480	40.00 *	193.700	0.000	193.640	0.000	193.430	0.626	193.340	0.163	193.370	1.617
12	194.510	42.00 *	193.680	0.000	193.640	0.000 *	193.430	0.750 *	193.340	0.603	193.350	1.421
13	194.135	0.000	193.630	0.000	193.630	0.000	193.430	0.720 *	193.340	0.661	193.340	1.513
14	194.135	0.000	193.750	13.37	193.630	0.000	193.430	0.410	193.340	0.710 *	193.340	1.500 *
15	194.170	93.77	193.660	5.000 *	193.630	0.000	193.430	0.824	193.340	0.582	193.330	1.140
16	194.160	80.90	193.700	8.228	193.610	0.000	193.430	0.537	193.360	1.450 *	193.350	2.031
17	194.080	0.000	193.690	6.495	193.610	0.000	193.420	0.592	193.390	2.500	193.350	1.664
18	194.100	70.00 *	193.700	10.06	193.610	0.000	193.420	0.961	193.390	2.271	193.340	1.501
19	194.185	125.1	193.720	18.71	193.610	0.000 *	193.420	0.920 *	193.380	1.994	193.340	1.562
20	194.170	109.2	193.680	5.331	193.630	0.000	193.420	0.847	193.380	2.184	193.320	0.667
21	194.120	66.35	193.720	16.04	193.570	0.000	193.420	0.906	193.380	2.369	193.320	1.800 *
22	194.080	22.88	193.710	11.00 *	193.570	0.000	193.420	0.845	193.380	2.602	193.360	2.077
23	194.080	39.79	193.710	11.24	193.560	0.000	193.420	0.868	193.380	2.480 *	193.360	2.105
24	194.075	40.97	193.670	0.000	193.600	0.000 *	193.420	0.870	193.390	2.435	193.360	2.199
25	194.080	41.00 *	193.670	0.000	193.590	0.000	193.430	2.479	193.380	2.384	193.380	2.954
26	194.030	5.192	193.710	11.00 *	193.580	0.000 *	193.430	2.510 *	193.470	8.093	193.420	4.347
27	194.000	0.000	193.690	5.384	193.520	0.000	193.430	2.461	193.470	8.603	193.630	26.22
28	194.040	39.85	193.690	5.434	193.510	0.000	193.430	2.475	193.420	5.852	193.630	25.00 *
29	194.050	52.85	193.690	5.000 *			193.420	0.912	193.420	4.593	193.650	30.59
30	193.970	25.80	193.690	5.147			193.430	2.549	193.420	4.550 *	193.380	4.681
31	193.910	0.000	193.590	0.000			193.420	0.863			193.580	25.09
Ten-Daily Mean												
I Ten-Daily	194.486	37.68	193.863	19.90	193.655	2.143	193.445	0.719	193.373	0.450	193.418	4.188
II Ten-Daily	194.212	56.10	193.691	6.720	193.624	0.000	193.426	0.719	193.360	1.312	193.343	1.462
III Ten-Daily	194.040	30.43	193.685	6.386	193.563	0.000	193.425	1.613	193.411	4.396	193.461	11.55
Monthly												
Min.	193.910	0.000	193.590	0.000	193.510	0.000	193.420	0.410	193.340	0.163	193.320	0.667
Max.	194.510	125.1	194.000	58.88	193.730	16.28	193.460	2.549	193.470	8.603	193.650	30.59
Mean	194.240	41.05	193.745	10.85	193.618	0.765	193.432	1.036	193.381	2.053	193.409	5.921

Peak Computed Discharge = 180.0 cumecs on 23/10/2016

Corres. Water Level :194.21 m

Lowest Computed Discharge = 0.000 cumecs on 01/01/2017

Corres. Water Level :193.9 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

831

Monthly Runoff for the Year : 2016-2017

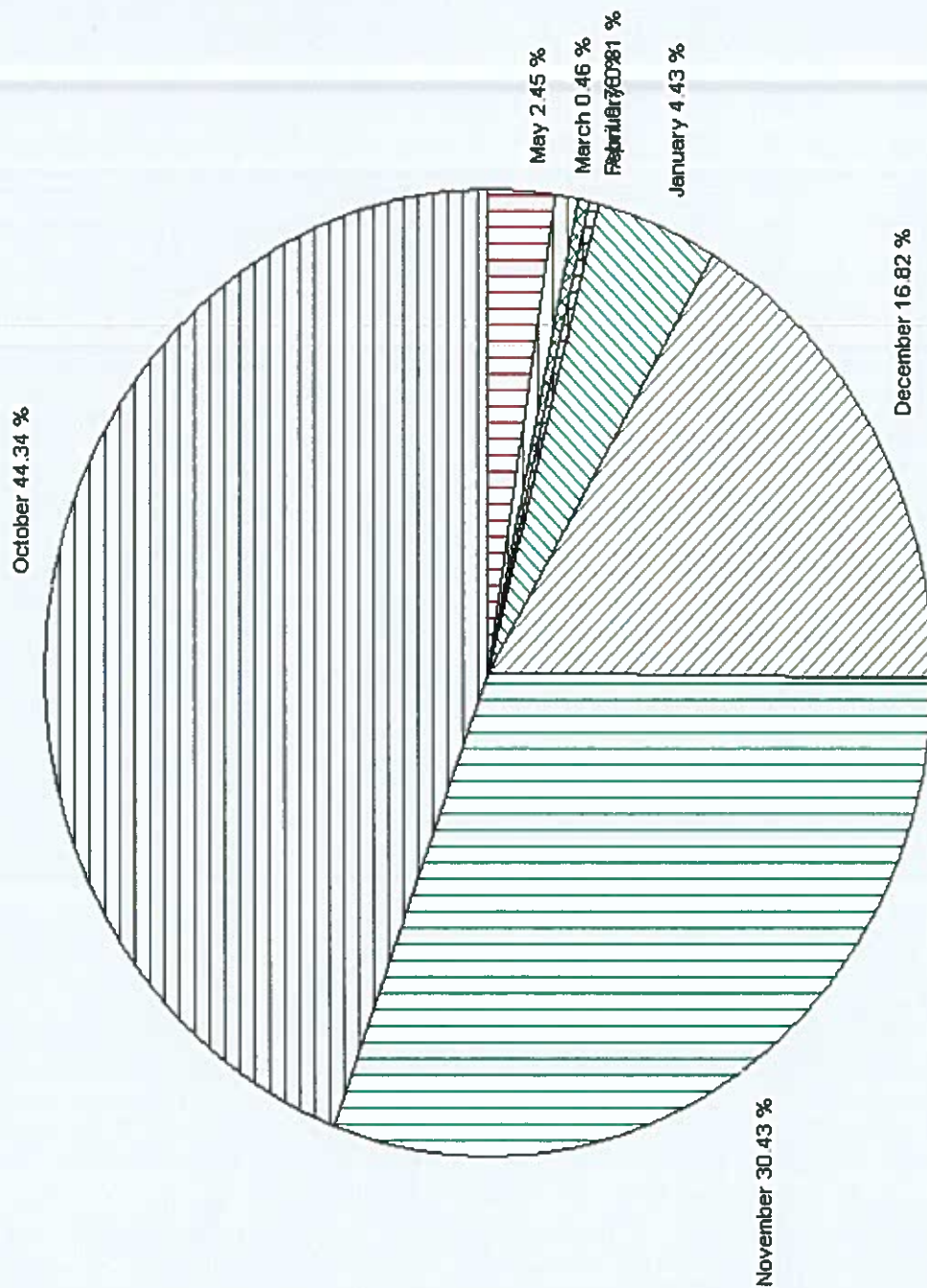
Station Name : KALMA (KALMA)

Local River :

Division : MD, CWC, Buria

Sub-Division : MMSD II, CWC, Buria

October	44.34 %
November	30.43 %
December	16.82 %
January	4.43 %
February	0.31 %
March	0.46 %
April	0.76 %
May	2.45 %

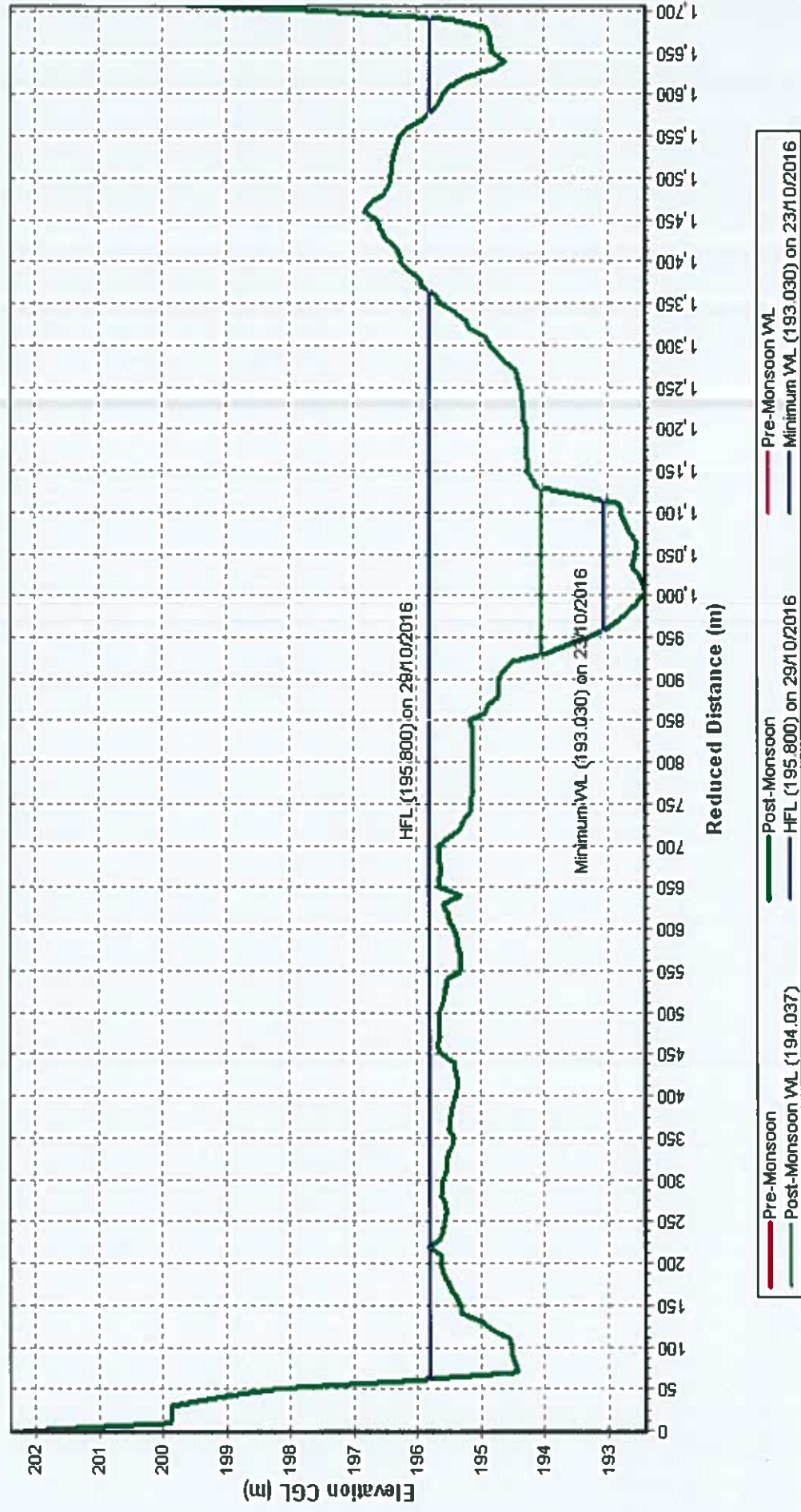


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : KALMA (KALMA)

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla

Local River :



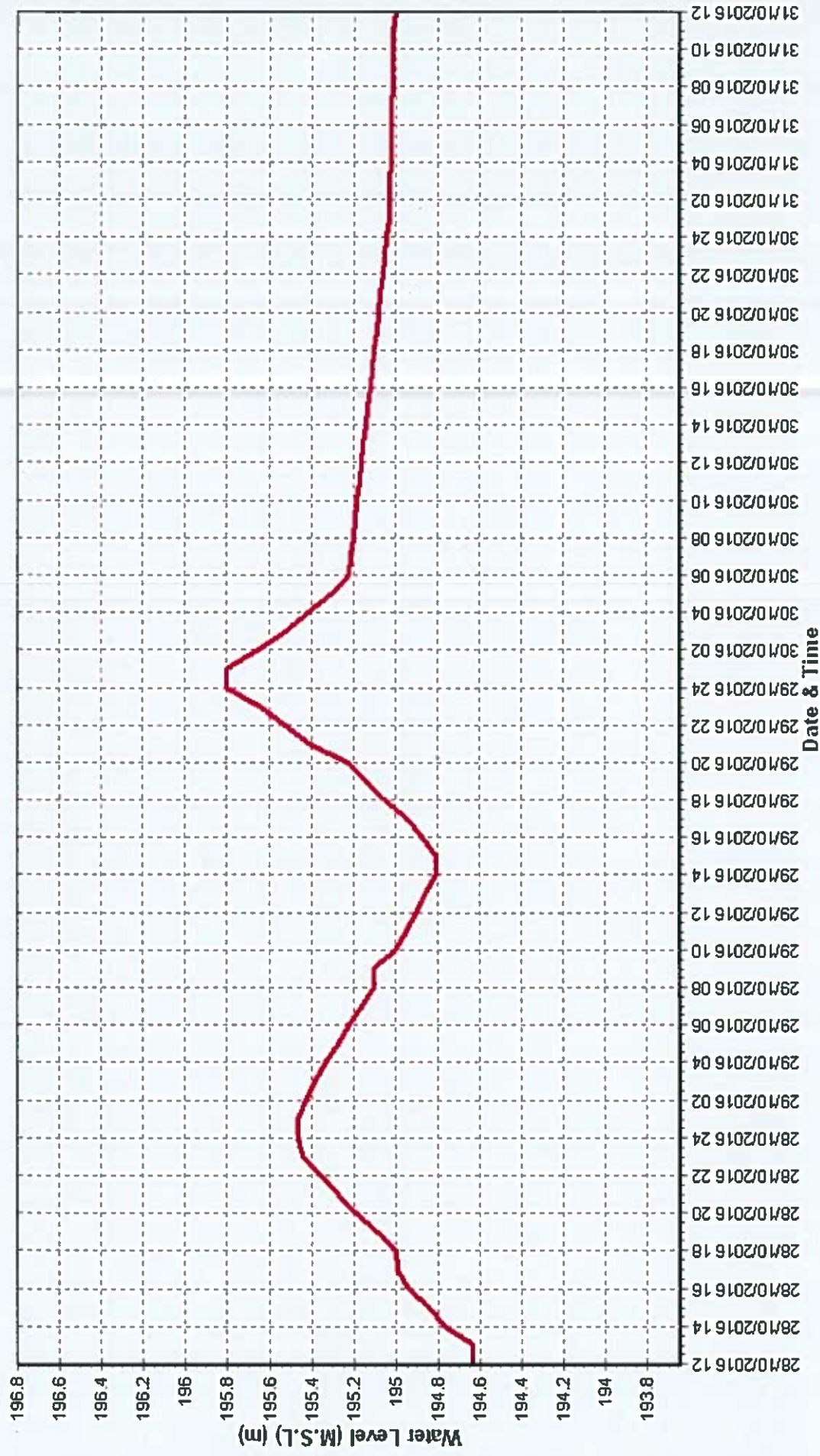
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : KALMA (KALMA)

Local River :

Division : MD, CWC, Burla

Sub-Division : MMSD II, CWC, Burla



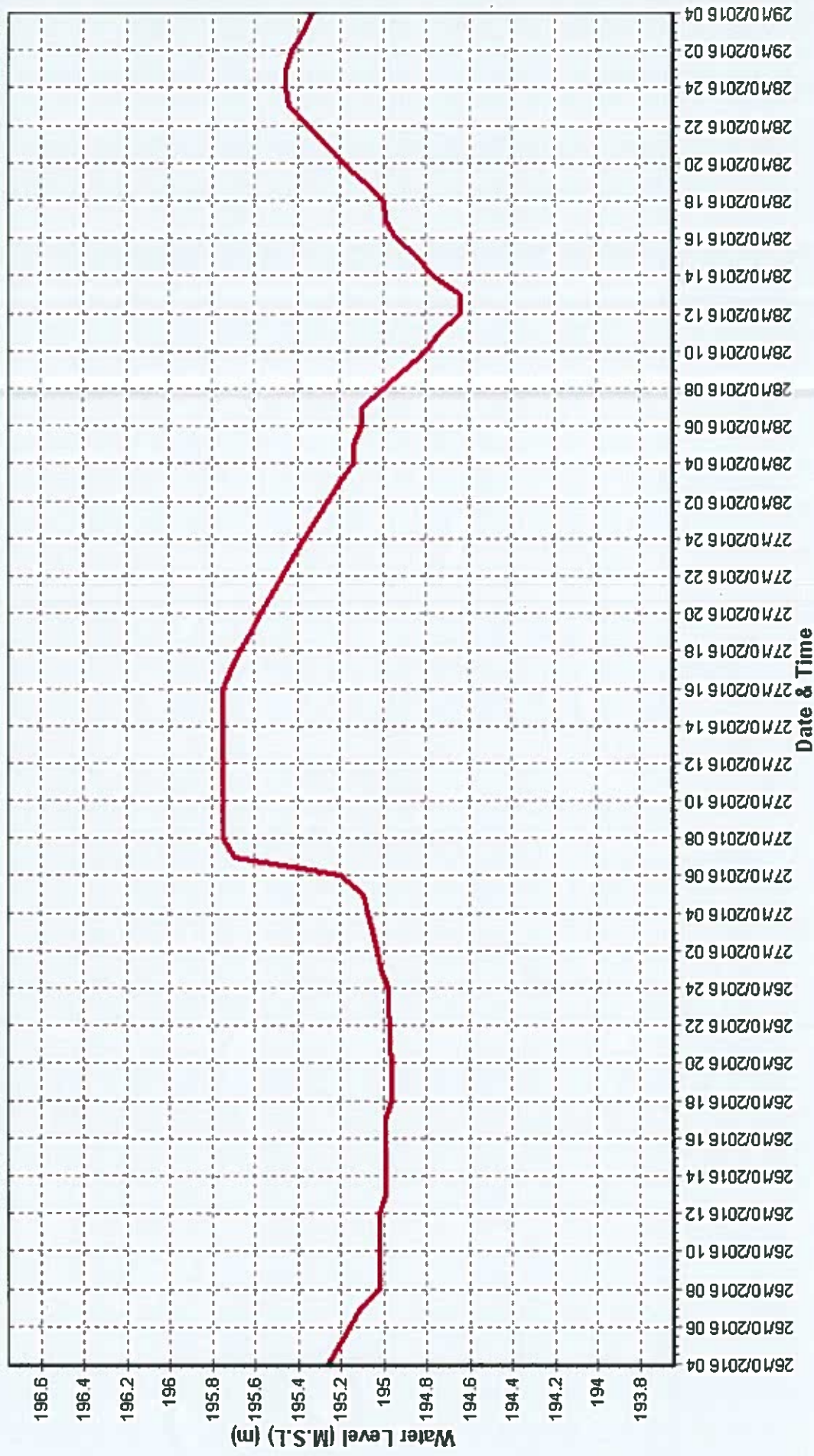
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : KALMA (KALMA)

Local River :

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



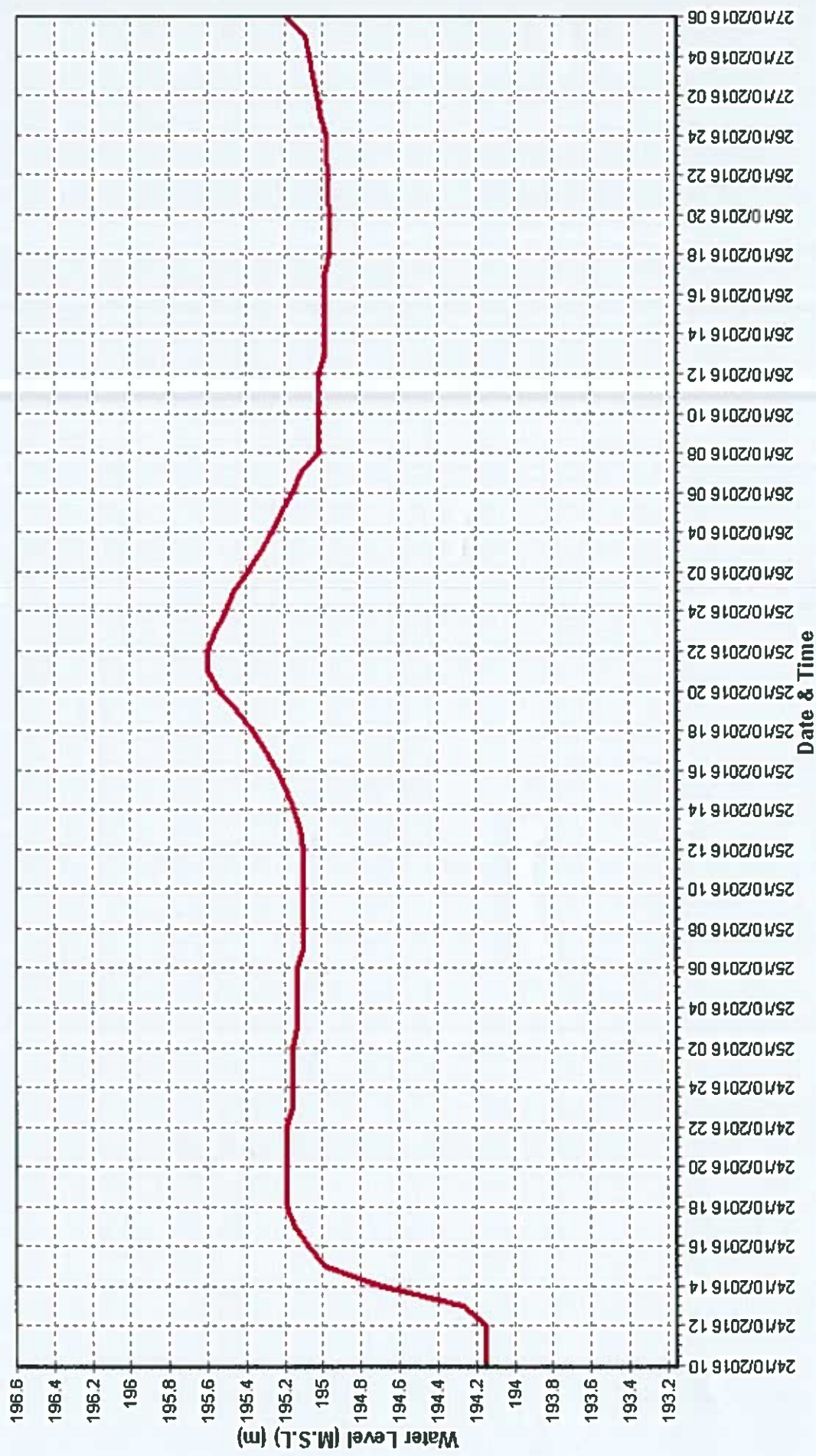
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : KALMA (KALMA)

Division : MD,CWC,Burla

Local River :

Sub-Division : MMSD II,CWC,Burla



SEONATH SUB-BASIN

SITE GUNDERDEHI

HISTORY SHEET

Water Year : 2016-2017

Site : GUNDERDEHI

Code : 164

State : Chhattisgarh

District : Durg

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Seonath

Sub Tributary : Tandula

Sub-Sub Tributary :

Local River : Tandula

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Burla

Drainage Area : Sq. Km.

Bank :

Latitude : 20°57'11"

Longitude : 81°16'45"

Zero of Gauge (m) : 292 (m.s.l)

01/07/2013

Opening Date

Closing Date

Gauge : 01/07/2013

Discharge : 15/07/2013

Sediment :

Water Quality :

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2014-2015	570.3	296.630	08/09/2014	0.000	292.000	11/05/2015
2015-2016	161.6	294.475	18/09/2015	0.000	293.440	27/10/2015

Stage-Discharge Data for the period 2016 - 2017

Station Name : GUNDERDEHI (164)

Division : MD,CWC,Burla

Local River : Tandula

Sub-Division : UMSD,CWC,Burla

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	292.000	0.000 *	292.000	0.000 *	292.855	2.157	292.525	0.000 *	293.660	15.47	293.620	0.000 *
2	292.000	0.000 *	292.000	0.000 *	292.960	2.864	292.520	0.000 *	293.120	0.000 *	293.920	0.000 *
3	292.000	0.000 *	292.000	0.000 *	292.925	1.939	292.540	0.000 *	293.520	0.000 *	293.610	0.000 *
4	292.000	0.000 *	292.000	0.000 *	292.890	1.869	292.570	0.000 *	293.435	0.000 *	293.610	0.000 *
5	292.000	0.000 *	292.000	0.000 *	293.575	12.26	292.610	0.000 *	292.920	0.000 *	293.590	0.000 *
6	292.000	0.000 *	292.000	0.000 *	293.710	18.10	293.180	0.000 *	292.650	0.000 *	293.590	0.000 *
7	292.000	0.000 *	292.000	0.000 *	294.200	120.0 *	293.675	0.000 *	292.545	0.000 *	293.610	0.000 *
8	292.000	0.000 *	292.000	0.000 *	294.005	97.61	293.680	0.000 *	293.660	13.13	293.600	0.000 *
9	292.000	0.000 *	292.000	0.000 *	293.710	18.39	293.645	0.000 *	294.020	0.000 *	293.600	0.000 *
10	292.000	0.000 *	293.420	5.200 *	293.545	13.92	293.670	0.000 *	294.260	0.000 *	293.600	0.000 *
11	292.000	0.000 *	293.260	9.077	293.735	18.73	293.640	0.000 *	294.005	0.000 *	293.590	0.000 *
12	292.000	0.000 *	293.530	6.953	293.575	13.40	294.580	0.000 *	293.710	0.000 *	293.590	0.000 *
13	292.000	0.000 *	293.065	3.271	293.385	8.801	294.400	124.9	293.540	0.000 *	293.580	0.000 *
14	292.000	0.000 *	292.898	2.909	293.220	7.700 *	293.940	120.1	293.050	0.000 *	293.580	0.000 *
15	292.000	0.000 *	292.740	0.000 *	293.020	5.600 *	293.695	18.44	293.470	0.000 *	293.580	0.000 *
16	292.000	0.000 *	292.680	0.000 *	293.030	5.018	293.400	0.000 *	293.350	0.000 *	293.580	0.000 *
17	292.000	0.000 *	292.650	0.000 *	292.940	2.763	293.480	0.000 *	292.990	0.000 *	293.580	0.000 *
18	292.000	0.000 *	292.620	0.000 *	292.965	2.954	293.550	0.000 *	293.220	0.000 *	293.580	0.000 *
19	292.000	0.000 *	292.585	0.000 *	292.910	2.128	293.570	0.000 *	293.380	0.000 *	293.590	0.000 *
20	292.000	0.000 *	292.565	0.000 *	292.820	1.708	293.440	0.000 *	293.440	0.000 *	293.590	0.000 *
21	292.000	0.000 *	293.015	3.174	292.750	0.000 *	293.720	0.000 *	293.000	0.000 *	293.580	0.000 *
22	292.000	0.000 *	293.260	9.537	292.620	0.000 *	293.640	0.000 *	293.370	0.000 *	293.580	0.000 *
23	292.000	0.000 *	293.300	10.28	292.600	0.000 *	293.495	0.000 *	293.650	0.000 *	293.580	0.000 *
24	292.000	0.000 *	292.320	0.850 *	292.590	0.000 *	293.290	0.000 *	293.645	0.000 *	293.580	0.000 *
25	292.000	0.000 *	293.310	9.548	292.570	0.000 *	293.660	0.000 *	293.625	0.000 *	293.580	0.000 *
26	292.000	0.000 *	293.300	9.563	292.570	0.000 *	294.345	120.8	293.630	0.000 *	293.580	0.000 *
27	292.000	0.000 *	293.425	10.58	292.575	0.000 *	294.525	146.9	293.630	0.000 *	293.590	0.000 *
28	292.000	0.000 *	293.235	11.82	292.580	0.000 *	294.435	147.9	293.630	0.000 *	293.580	0.000 *
29	292.000	0.000 *	293.160	6.468	292.565	0.000 *	294.115	110.8	293.630	0.000 *	293.580	0.000 *
30	292.000	0.000 *	292.825	2.037	292.555	0.000 *	293.685	16.11	293.625	0.000 *	293.580	0.000 *
31			292.770	1.800 *	292.550	0.000 *			293.620	0.000 *		
Ten-Daily Mean												
I Ten-Daily	292.000	0.000	292.142	0.520	293.438	28.91	293.061	0.000	293.379	2.860	293.635	0.000
II Ten-Daily	292.000	0.000	292.859	2.221	293.160	6.881	293.770	26.34	293.415	0.000	293.584	0.000
III Ten-Daily	292.000	0.000	293.084	6.878	292.593	0.000	293.891	54.24	293.550	0.000	293.581	0.000
Monthly												
Min.	292.000	0.000	292.000	0.000	292.550	0.000	292.520	0.000	292.545	0.000	293.580	0.000
Max.	292.000	0.000	293.530	11.82	294.200	120.0	294.580	147.9	294.260	15.47	293.920	0.000
Mean	292.000	0	292.707	3.325	293.048	11.55	293.574	26.86	293.452	0.923	293.600	0

Annual Runoff in MCM = 112 Annual Runoff in mm =

Peak Observed Discharge = 147.9 cumecs on 28/09/2016 Corres. Water Level :294.435 m

Lowest Observed Discharge = 1.708 cumecs on 20/08/2016 Corres. Water Level :292.82 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : GUNDERDEHI (164)

Division : MD,CWC,Burla

Local River : Tandula

Sub-Division : UMSD,CWC,Burla

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	293.580	0.000 *	293.570	0.000 *	293.340	0.000 *	293.140	0.000 *	292.000	0.000 *	292.000	0.000 *
2	293.580	0.000 *	293.560	0.000 *	293.340	0.000 *	293.130	0.000 *	292.000	0.000 *	292.000	0.000 *
3	293.580	0.000 *	293.560	0.000 *	293.330	0.000 *	293.120	0.000 *	292.000	0.000 *	292.000	0.000 *
4	293.580	0.000 *	293.550	0.000 *	293.330	0.000 *	293.100	0.000 *	292.000	0.000 *	292.000	0.000 *
5	293.580	0.000 *	293.550	0.000 *	293.330	0.000 *	293.080	0.000 *	292.000	0.000 *	292.000	0.000 *
6	293.580	0.000 *	293.550	0.000 *	293.330	0.000 *	293.060	0.000 *	292.000	0.000 *	292.000	0.000 *
7	293.580	0.000 *	293.550	0.000 *	293.330	0.000 *	293.030	0.000 *	292.000	0.000 *	292.000	0.000 *
8	293.590	0.000 *	293.550	0.000 *	293.330	0.000 *	293.020	0.000 *	292.000	0.000 *	292.000	0.000 *
9	293.590	0.000 *	293.550	0.000 *	293.320	0.000 *	293.010	0.000 *	292.000	0.000 *	292.000	0.000 *
10	293.590	0.000 *	293.550	0.000 *	293.320	0.000 *	293.000	0.000 *	292.000	0.000 *	292.000	0.000 *
11	293.590	0.000 *	293.550	0.000 *	293.310	0.000 *	292.980	0.000 *	292.000	0.000 *	292.000	0.000 *
12	293.580	0.000 *	293.550	0.000 *	293.310	0.000 *	292.950	0.000 *	292.000	0.000 *	292.000	0.000 *
13	293.580	0.000 *	293.550	0.000 *	293.300	0.000 *	292.940	0.000 *	292.000	0.000 *	292.000	0.000 *
14	293.580	0.000 *	293.550	0.000 *	293.290	0.000 *	292.930	0.000 *	292.000	0.000 *	292.000	0.000 *
15	293.580	0.000 *	293.550	0.000 *	293.280	0.000 *	292.920	0.000 *	292.000	0.000 *	292.000	0.000 *
16	293.580	0.000 *	293.550	0.000 *	293.270	0.000 *	292.910	0.000 *	292.000	0.000 *	292.000	0.000 *
17	293.580	0.000 *	293.550	0.000 *	293.260	0.000 *	292.900	0.000 *	292.000	0.000 *	292.000	0.000 *
18	293.580	0.000 *	293.550	0.000 *	293.250	0.000 *	292.890	0.000 *	292.000	0.000 *	292.000	0.000 *
19	293.580	0.000 *	293.550	0.000 *	293.240	0.000 *	292.880	0.000 *	292.000	0.000 *	292.000	0.000 *
20	293.580	0.000 *	293.550	0.000 *	293.230	0.000 *	292.870	0.000 *	292.000	0.000 *	292.000	0.000 *
21	293.580	0.000 *	293.500	0.000 *	293.220	0.000 *	292.860	0.000 *	292.000	0.000 *	292.000	0.000 *
22	293.580	0.000 *	293.450	0.000 *	293.210	0.000 *	292.840	0.000 *	292.000	0.000 *	292.000	0.000 *
23	293.580	0.000 *	293.420	0.000 *	293.200	0.000 *	292.810	0.000 *	292.000	0.000 *	292.000	0.000 *
24	293.580	0.000 *	293.410	0.000 *	293.190	0.000 *	292.790	0.000 *	292.000	0.000 *	292.000	0.000 *
25	293.580	0.000 *	293.400	0.000 *	293.180	0.000 *	292.750	0.000 *	292.000	0.000 *	292.000	0.000 *
26	293.570	0.000 *	293.390	0.000 *	293.170	0.000 *	292.720	0.000 *	292.000	0.000 *	292.000	0.000 *
27	293.570	0.000 *	293.380	0.000 *	293.160	0.000 *	292.690	0.000 *	292.000	0.000 *	292.000	0.000 *
28	293.570	0.000 *	293.370	0.000 *	293.150	0.000 *	292.660	0.000 *	292.000	0.000 *	292.000	0.000 *
29	293.570	0.000 *	293.370	0.000 *			292.650	0.000 *	292.000	0.000 *	292.000	0.000 *
30	293.570	0.000 *	293.360	0.000 *			292.650	0.000 *	292.000	0.000 *	292.000	0.000 *
31	293.570	0.000 *	293.350	0.000 *			292.650	0.000 *			292.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	293.583	0.000	293.554	0.000	293.330	0.000	293.069	0.000	292.000	0.000	292.000	0.000
II Ten-Daily	293.581	0.000	293.550	0.000	293.274	0.000	292.917	0.000	292.000	0.000	292.000	0.000
III Ten-Daily	293.575	0.000	293.400	0.000	293.185	0.000	292.734	0.000	292.000	0.000	292.000	0.000
Monthly												
Min.	293.570	0.000	293.350	0.000	293.150	0.000	292.650	0.000	292.000	0.000	292.000	0.000
Max.	293.590	0.000	293.570	0.000	293.340	0.000	293.140	0.000	292.000	0.000	292.000	0.000
Mean	293.579	0	293.498	0	293.269	0	292.901	0	292.000	0	292.000	0

Peak Computed Discharge = 120.0 cumecs on 07/08/2016

Corres. Water Level :294.2 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :292 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

131

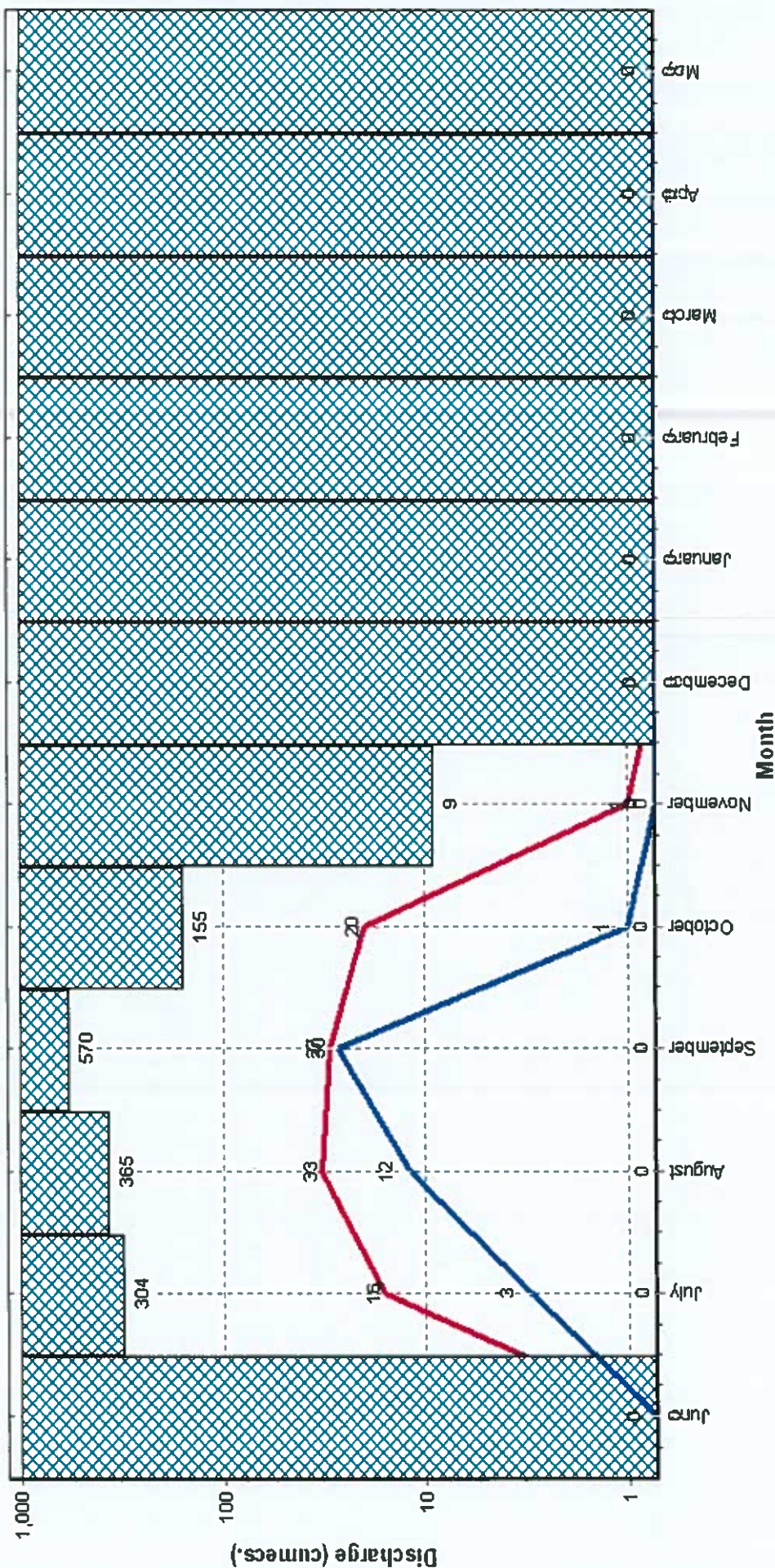
135

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : GUNDERDEHI (164)
Local River : Tandula

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Burla

Data considered : 2014-2017

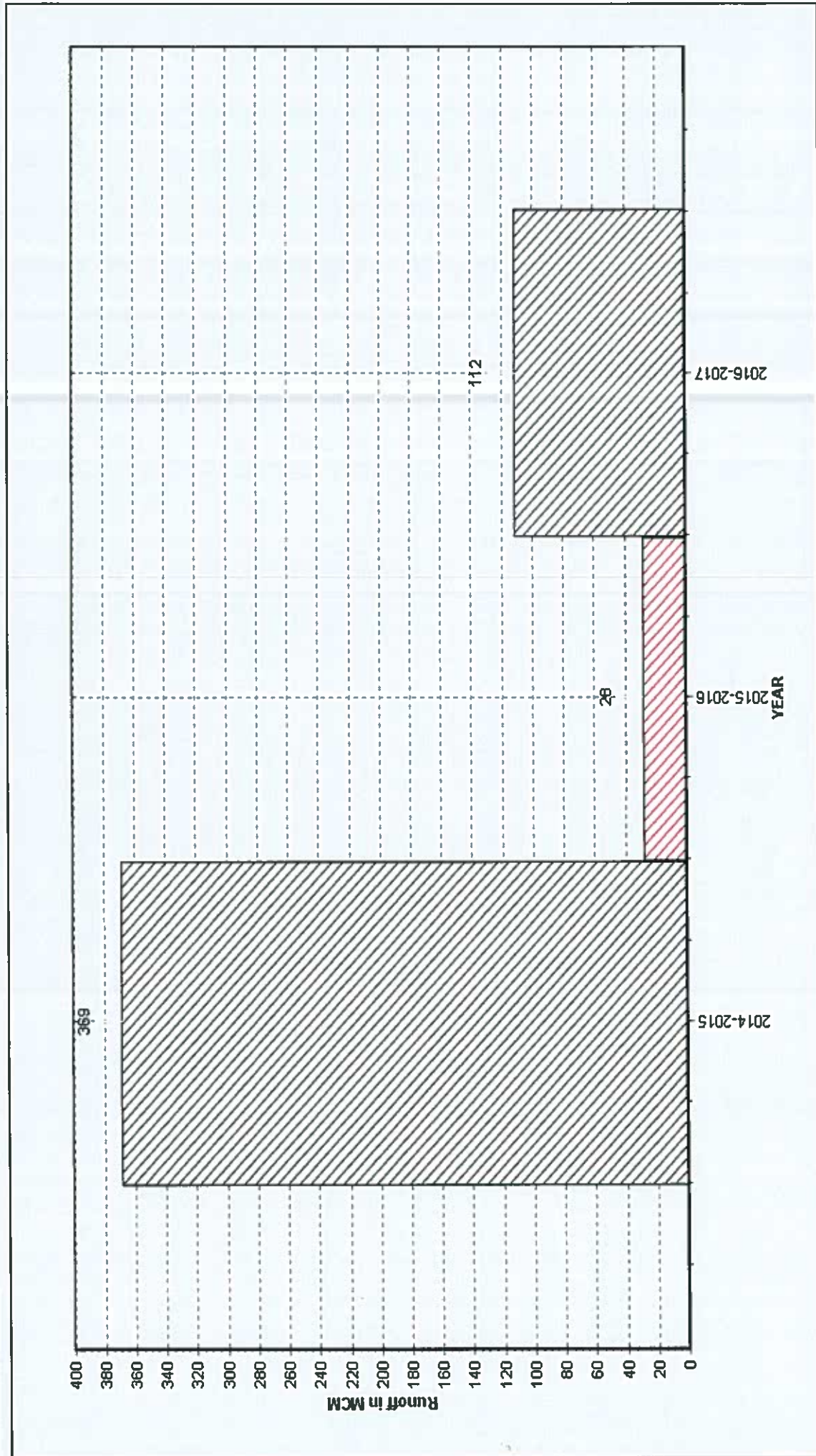


Annual Runoff Values for the period: 2014 - 2017

Station Name : GUNDERDEHI (164)

Local River : Tandula

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Burla



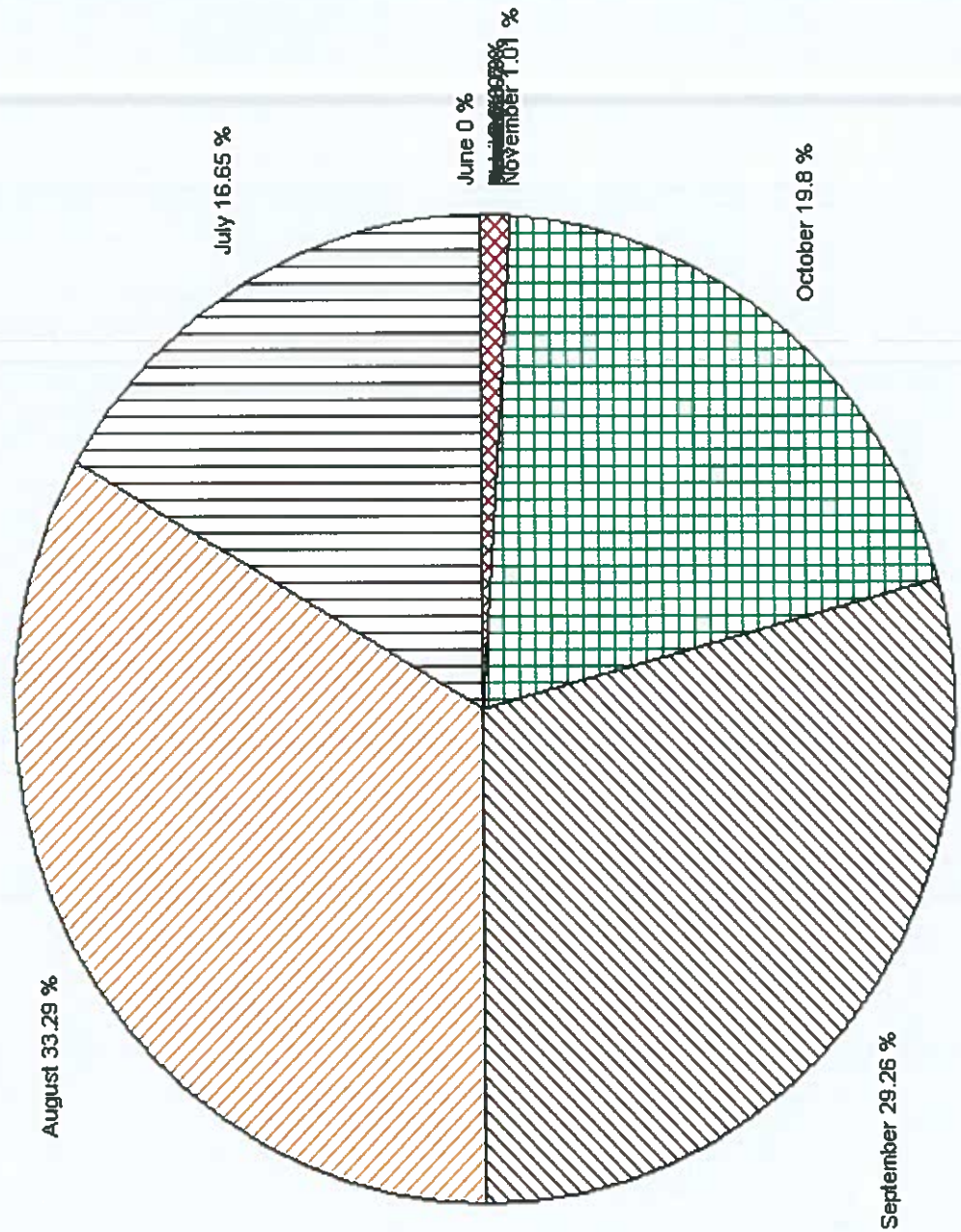
Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 2014-2016

Station Name : GUNDERDEHI (164)
Local River : Tandula

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Burla

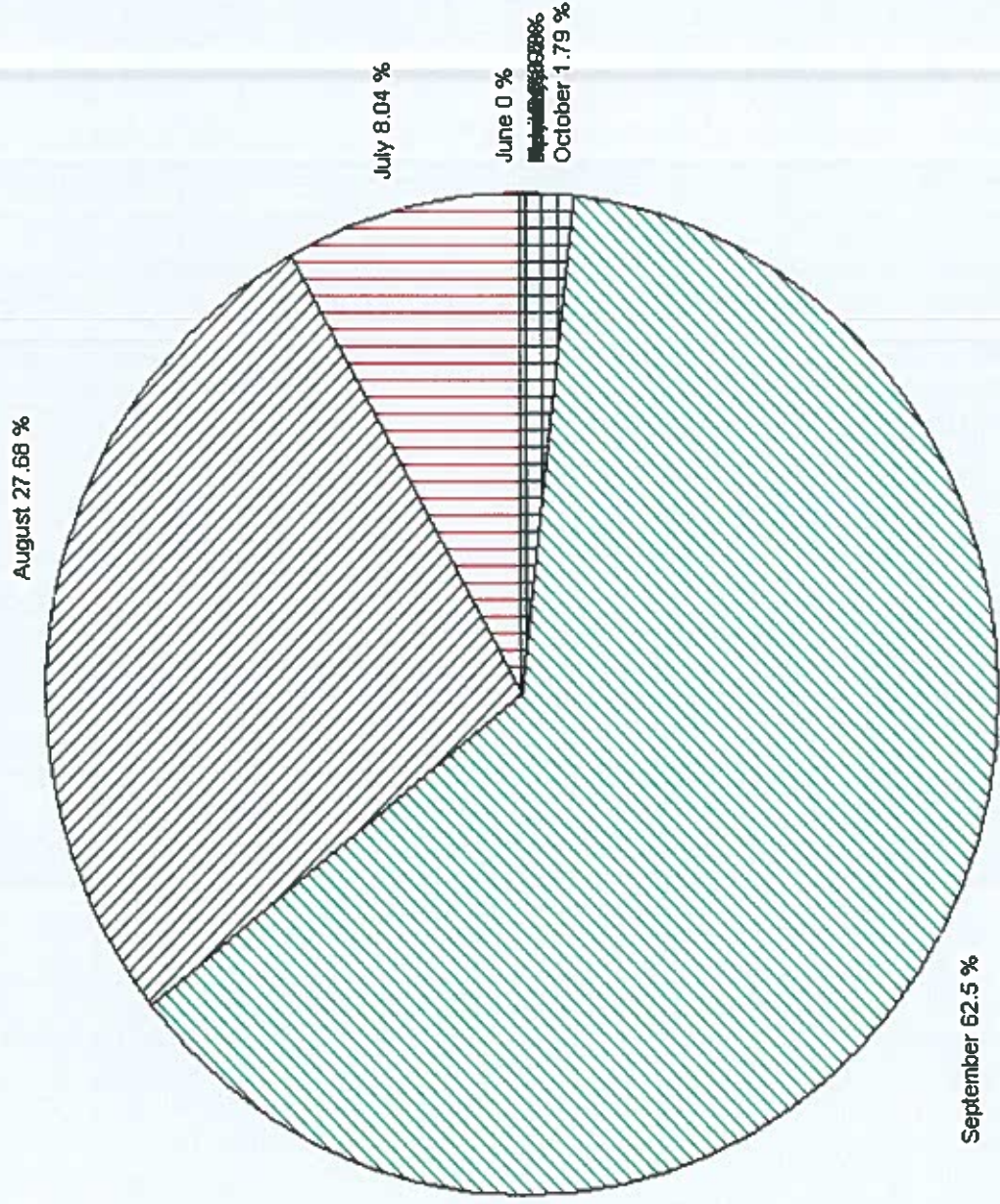
June	0 %
July	16.65 %
August	33.29 %
September	29.26 %
October	19.8 %
November	1.01 %
December	0 %
January	0 %
February	0 %
March	0 %
April	0 %
May	0 %



Monthly Runoff for the Year : 2016-2017

Station Name : GUNDERDEHI (164)
Local River : Tandula

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Burla



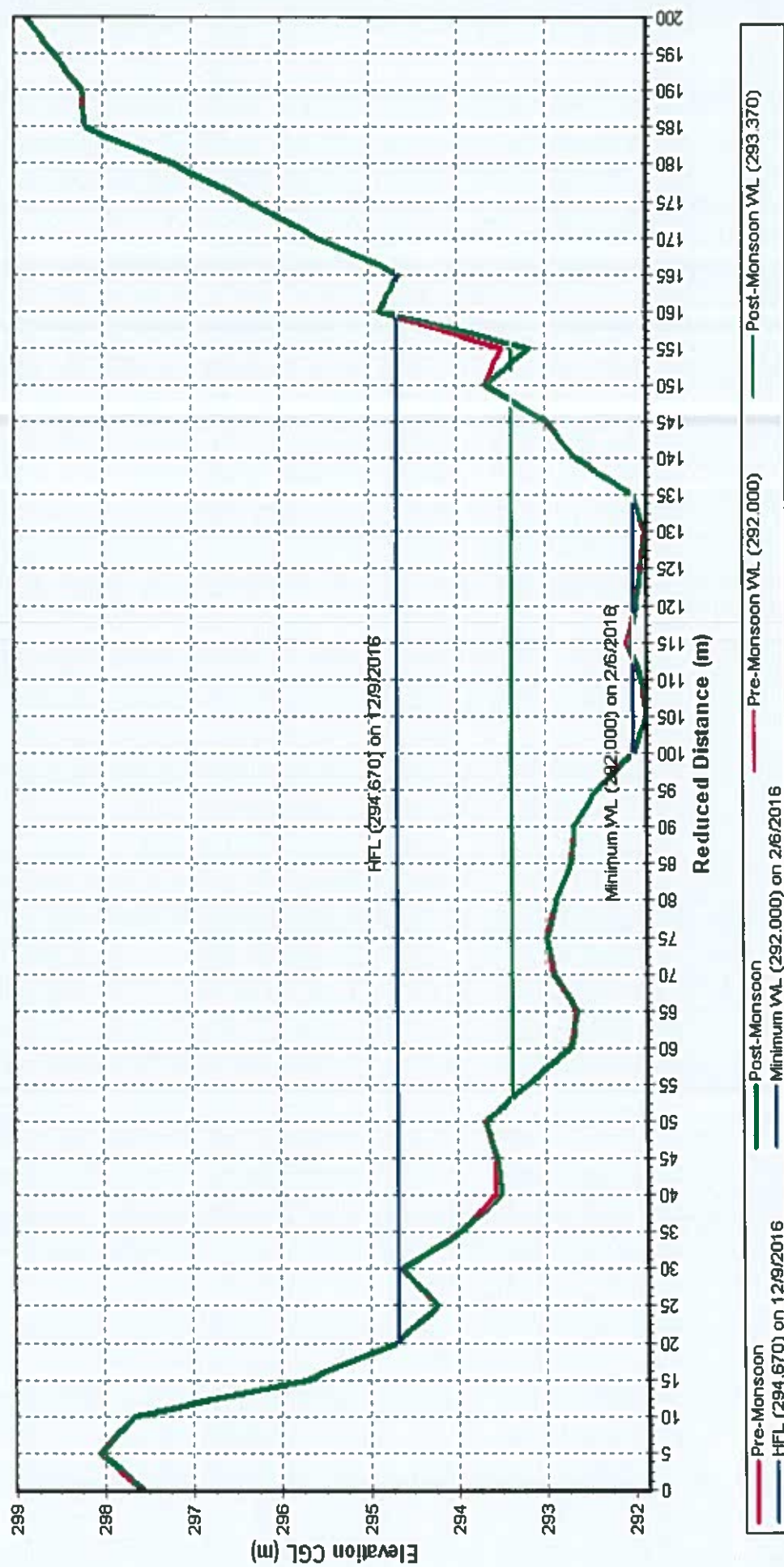
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : GUNDERDEHI (164)

Local River : Tandula

Division : MD, CWC, Burla

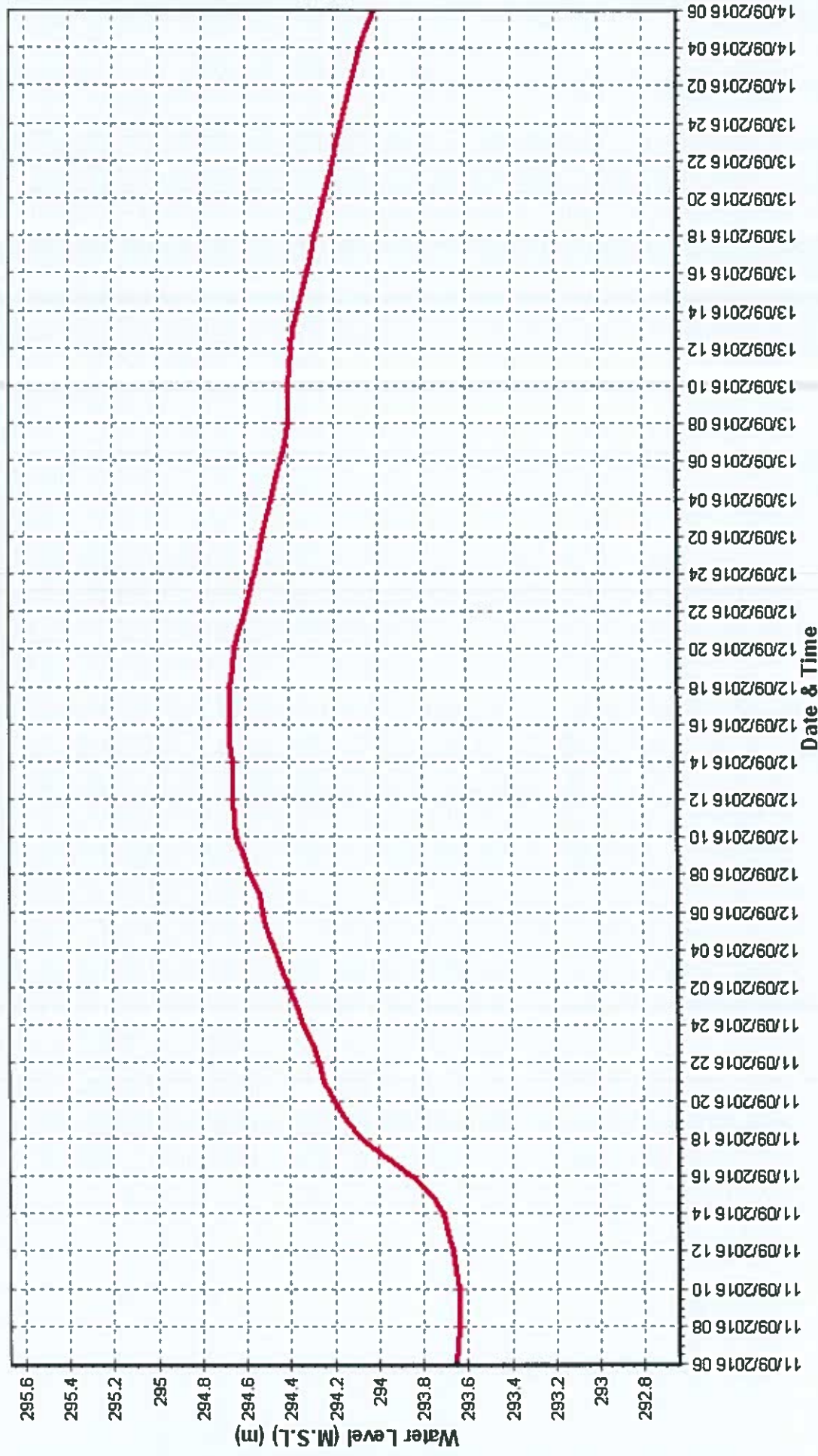
Sub-Division : UMSD, CWC, Burla



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : GUNDERDEHI (164)
Local River : Tandula

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Burla



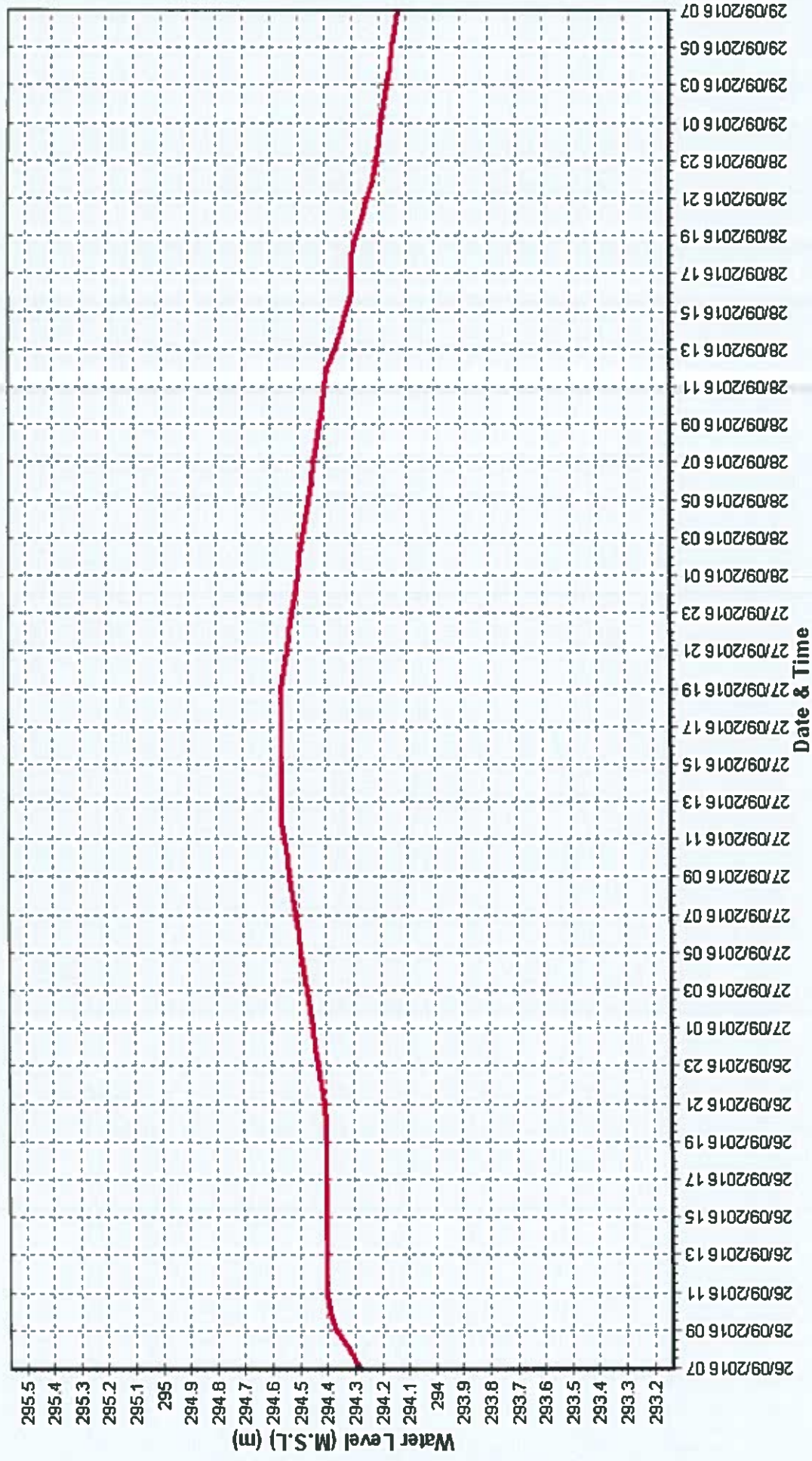
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : GUNDERDEHI (164)

Local River : Tandula

Division : MD, CWC, Burla

Sub-Division : UMSP, CWC, Burla

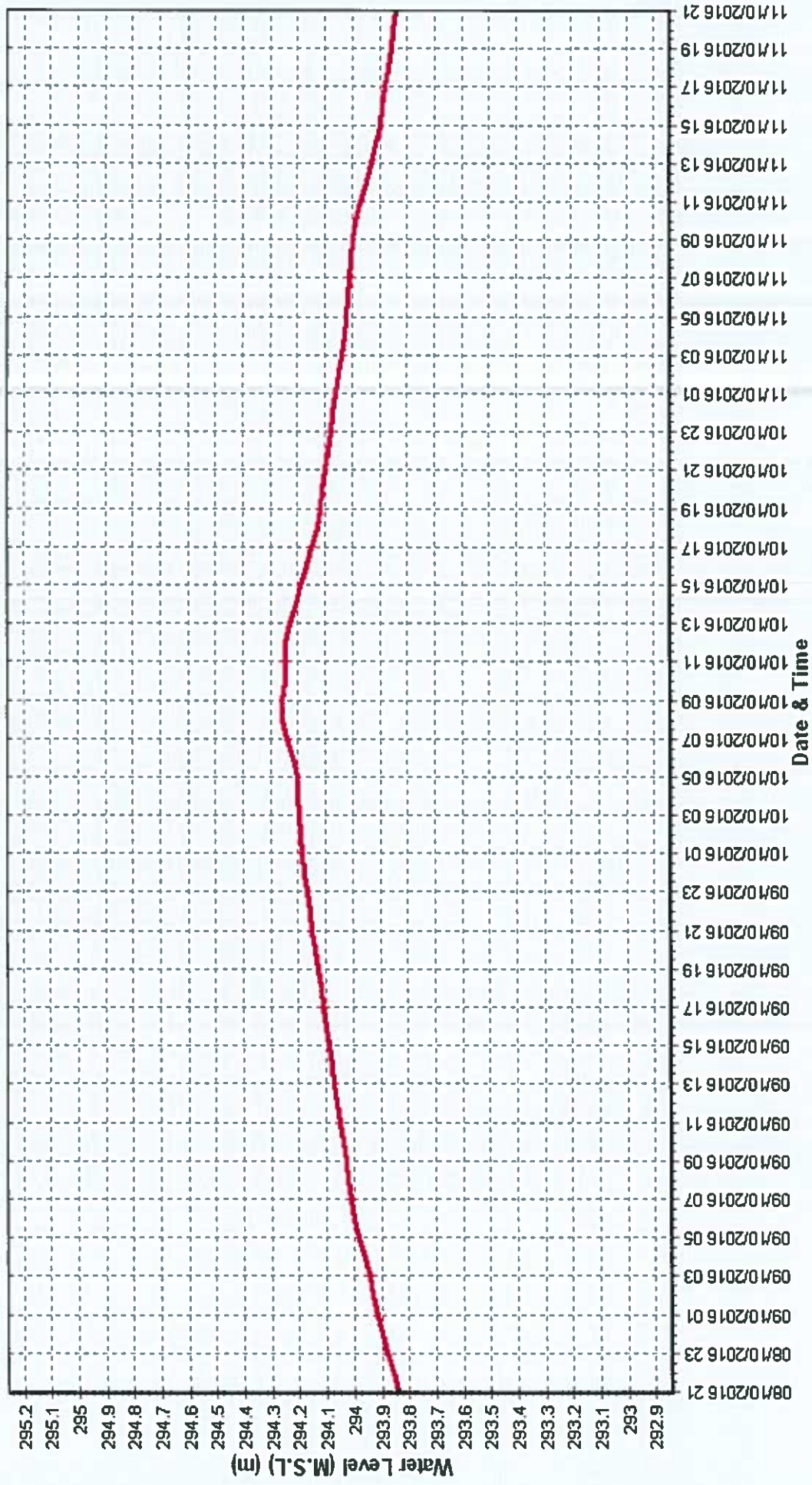


Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : GUNDERDEHI (164)

Local River : Tandula

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Burla



SITE KOTNI

HISTORY SHEET

Water Year : 2016-2017

Site : Kotni

Code : EMP00P8

State : Chhattisgarh

District : Durg

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Seonath

Sub Tributary :

Sub-Sub Tributary :

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Drainage Area : 6990 Sq. Km.

Bank :

Latitude : 21°13'02"

Longitude : 81°14'19"

Zero of Gauge (m) : 268 (m.s.l)

20/09/1977 - 20/09/2017

Opening Date

Closing Date

Gauge : 20/09/1977

Discharge : 30/09/1978

Sediment : 25/07/2014

Water Quality : 01/06/2015

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1982-1983	1917	275.835	14/08/1982	0.030	270.115	15/03/1983
1983-1984	1518	275.020	20/08/1983	0.020	269.985	14/03/1984
1984-1985	2934	277.155	03/08/1984	0.020	270.185	25/02/1985
1985-1986	1536	275.295	12/09/1985	0.030	270.510	29/03/1986
1986-1987	5098	278.400	15/08/1986	0.050	270.445	05/03/1987
1987-1988	1204	274.150	28/08/1987	0.010	270.270	12/02/1988
1988-1989	503.0	273.155	31/07/1988	0.050	270.285	31/12/1988
1989-1990	300.0	272.295	15/09/1989	0.010	270.245	11/12/1989
1990-1991	3305	278.090	23/08/1990	0.013	270.380	25/03/1991
1991-1992	2399	277.480	24/08/1991	0.032	270.270	18/01/1992
1992-1993	2524	277.380	22/08/1992	0.094	270.240	04/01/1993
1993-1994	1040	273.635	17/08/1993	0.056	270.150	17/03/1994
1994-1995	5269	279.610	12/07/1994	0.290	270.300	30/04/1995
1995-1996	2409	277.260	25/07/1995	0.010	270.360	05/03/1996
1996-1997	950.0	274.540	02/08/1996	0.043	270.355	13/01/1997
1997-1998	2094	276.070	23/08/1997	0.610	270.375	20/07/1997
1998-1999	938.9	273.620	09/09/1998	0.385	270.510	28/12/1998
1999-2000	754.4	273.435	01/09/1999	0.115	270.430	01/02/2000
2000-2001	1513	275.180	19/07/2000	0.040	270.300	20/11/2000
2001-2002	1800	275.970	20/08/2001	0.011	270.410	20/12/2001
2002-2003	613.3	273.460	25/06/2002	0.020	270.360	30/07/2002
2003-2004	2269	276.790	24/08/2003	0.057	270.470	28/12/2003

341

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2004-2005	721.7	273.260	17/07/2004	0.000	268.000	05/04/2005
2005-2006	2472	279.360	15/09/2005	0.000	268.000	15/04/2006
2006-2007	2393	277.960	14/08/2006	0.000	270.075	24/02/2007
2007-2008	3950	278.030	01/07/2007	0.000	269.950	05/04/2008
2008-2009	803.4	274.467	19/09/2008	0.000	272.300	04/12/2008
2009-2010	2210	276.075	16/07/2009	0.000	272.160	25/01/2010
2010-2011	2838	276.735	07/08/2010	0.000	272.630	25/01/2011
2011-2012	2048	278.390	08/09/2011	0.000	272.785	26/01/2012
2012-2013	1886	275.925	06/09/2012	0.000	270.700	26/03/2013
2013-2014	3000	278.700	01/08/2013	0.000	270.910	28/02/2014
2014-2015	2205	277.780	06/08/2014	0.000	272.630	20/10/2014
2015-2016	656.8	274.080	22/09/2015	0.000	270.430	26/01/2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Kotni (EMP00P8)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	268.000	0.000 *	268.000	0.000 *	271.250	0.000 *	270.430	0.000 *	274.430	660.5	272.440	0.000 *
2	268.000	0.000 *	268.000	0.000 *	271.060	0.000 *	271.090	0.000 *	274.090	610.2 *	272.440	0.000 *
3	268.000	0.000 *	268.000	0.000 *	271.070	0.000 *	271.900	0.000 *	273.950	592.6	272.440	0.000 *
4	268.000	0.000 *	268.000	0.000 *	271.840	0.000 *	272.500	0.000 *	273.930	563.8	272.440	0.000 *
5	268.000	0.000 *	268.000	0.000 *	273.225	144.3	272.770	0.000 *	273.800	407.7	272.440	0.000 *
6	268.000	0.000 *	268.000	0.000 *	274.220	634.8	272.890	0.000 *	273.550	336.1	272.420	0.000 *
7	268.000	0.000 *	270.660	0.000 *	274.850	798.6 *	272.970	0.000 *	273.400	323.7	272.410	0.000 *
8	268.000	0.000 *	271.250	0.000 *	274.335	723.9	272.890	0.000 *	273.540	288.1	272.400	0.000 *
9	268.000	0.000 *	272.670	0.000 *	273.885	480.0	272.700	0.000 *	273.800	406.5 *	272.400	0.000 *
10	268.000	0.000 *	272.890	0.000 *	273.780	368.8	272.530	0.000 *	274.620	728.4 *	272.400	0.000 *
11	268.000	0.000 *	273.335	186.1	273.875	392.6	272.630	0.000 *	274.550	685.6 *	272.390	0.000 *
12	268.000	0.000 *	273.433	236.1	273.835	324.7	273.110	0.000 *	274.180	632.3 *	272.390	0.000 *
13	268.000	0.000 *	273.245	243.0	273.695	310.4	274.160	682.9	273.560	436.5	272.390	0.000 *
14	268.000	0.000 *	272.510	0.000 *	273.580	295.5 *	274.400	866.4	273.305	321.7	272.390	0.000 *
15	268.000	0.000 *	272.200	0.000 *	273.320	195.6 *	274.020	371.4	273.530	361.1	272.380	0.000 *
16	268.000	0.000 *	272.950	0.000 *	273.173	170.3	273.770	517.7	273.430	333.9 *	272.380	0.000 *
17	268.000	0.000 *	272.730	0.000 *	273.150	158.0	273.690	407.7	273.305	275.2	272.380	0.000 *
18	268.000	0.000 *	271.980	0.000 *	273.130	143.6	273.490	392.4 *	273.150	188.9	272.380	0.000 *
19	268.000	0.000 *	271.530	0.000 *	272.950	0.000 *	273.383	385.2	273.085	164.3	272.370	0.000 *
20	268.000	0.000 *	271.310	0.000 *	272.800	0.000 *	273.330	322.3	273.000	134.8	272.360	0.000 *
21	268.000	0.000 *	271.230	0.000 *	272.490	0.000	273.340	325.1	272.830	0.000	272.350	0.000 *
22	268.000	0.000 *	271.270	0.000 *	272.130	0.000 *	273.350	353.1	272.700	0.000 *	272.330	0.000 *
23	268.000	0.000 *	271.620	0.000 *	271.770	0.000 *	273.380	401.9	272.690	0.000 *	272.320	0.000 *
24	268.000	0.000 *	272.560	0.000 *	271.480	0.000 *	273.320	346.5	272.070	0.000 *	272.310	0.000 *
25	268.000	0.000 *	273.300	157.9	271.160	0.000 *	273.280	337.8 *	271.880	0.000 *	272.300	0.000 *
26	268.000	0.000 *	273.390	172.5	270.900	0.000 *	274.230	492.1	271.770	0.000 *	272.300	0.000 *
27	268.000	0.000 *	273.235	154.5	270.920	0.000 *	274.475	644.6	272.060	0.000 *	272.300	0.000 *
28	268.000	0.000 *	273.080	98.52	271.550	0.000	274.550	941.8	272.540	0.000 *	272.300	0.000 *
29	268.000	0.000 *	272.750	0.000 *	271.020	0.000 *	274.200	503.4	272.520	0.000 *	272.290	0.000 *
30	268.000	0.000 *	272.040	0.000 *	270.470	0.000 *	274.430	584.7	272.490	0.000 *	272.290	0.000 *
31			271.600	0.000 *	270.440	0.000 *			272.460	0.000 *		
Ten-Daily Mean												
I Ten-Daily	268.000	0.000	269.547	0.000	272.951	315.0	272.267	0.000	273.911	491.7	272.423	0.000
II Ten-Daily	268.000	0.000	272.522	66.52	273.351	199.1	273.598	394.6	273.509	353.4	272.381	0.000
III Ten-Daily	268.000	0.000	272.370	53.03	271.303	0.000	273.855	493.1	272.365	0.000	272.309	0.000
Monthly												
Min.	268.000	0.000	268.000	0.000	270.440	0.000	270.430	0.000	271.770	0.000	272.290	0.000
Max.	268.000	0.000	273.432	243.0	274.850	798.6	274.550	941.8	274.620	728.4	272.440	0.000
Mean	268.000	0	271.509	40.28	272.495	165.8	273.240	295.9	273.233	272.6	272.371	0

Annual Runoff in MCM = 2049 Annual Runoff in mm = 293

Peak Observed Discharge = 941.8 cumecs on 28/09/2016 Corres. Water Level :274.55 m

Lowest Observed Discharge = 0.000 cumecs on 21/08/2016 Corres. Water Level :272.49 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

5246

Stage-Discharge Data for the period 2016 - 2017

Station Name : Kotni (EMP00P8)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	272.290	0.000 *	272.290	0.000 *	272.300	0.000 *	272.270	0.000 *	271.820	0.000 *	271.350	0.000 *
2	272.290	0.000 *	272.290	0.000 *	272.320	0.000 *	272.250	0.000 *	271.820	0.000 *	271.330	0.000 *
3	272.290	0.000 *	272.290	0.000 *	272.350	0.000 *	272.160	0.000 *	271.810	0.000 *	271.300	0.000 *
4	272.290	0.000 *	272.290	0.000 *	272.370	0.000 *	272.000	0.000 *	271.790	0.000 *	271.270	0.000 *
5	272.290	0.000 *	272.290	0.000 *	272.390	0.000 *	271.980	0.000 *	271.780	0.000 *	271.240	0.000 *
6	272.290	0.000 *	272.290	0.000 *	272.430	0.000 *	271.980	0.000 *	271.780	0.000 *	271.220	0.000 *
7	272.290	0.000 *	272.290	0.000 *	272.460	0.000 *	271.980	0.000 *	271.780	0.000 *	271.190	0.000 *
8	272.290	0.000 *	272.290	0.000 *	272.500	0.000 *	271.980	0.000 *	271.780	0.000 *	271.170	0.000 *
9	272.290	0.000 *	272.290	0.000 *	272.520	0.000 *	271.980	0.000 *	271.780	0.000 *	271.140	0.000 *
10	272.290	0.000 *	272.290	0.000 *	272.520	0.000 *	271.980	0.000 *	271.770	0.000 *	271.120	0.000 *
11	272.290	0.000 *	272.290	0.000 *	272.520	0.000 *	271.980	0.000 *	271.750	0.000 *	271.100	0.000 *
12	272.290	0.000 *	272.290	0.000 *	272.520	0.000 *	271.980	0.000 *	271.730	0.000 *	271.080	0.000 *
13	272.290	0.000 *	272.290	0.000 *	272.520	0.000 *	271.980	0.000 *	271.700	0.000 *	271.050	0.000 *
14	272.290	0.000 *	272.290	0.000 *	272.510	0.000 *	271.980	0.000 *	271.680	0.000 *	271.040	0.000 *
15	272.290	0.000 *	272.290	0.000 *	272.500	0.000 *	271.980	0.000 *	271.650	0.000 *	271.010	0.000 *
16	272.290	0.000 *	272.290	0.000 *	272.490	0.000 *	271.960	0.000 *	271.630	0.000 *	270.990	0.000 *
17	272.290	0.000 *	272.290	0.000 *	272.470	0.000 *	271.950	0.000 *	271.610	0.000 *	270.970	0.000 *
18	272.290	0.000 *	272.290	0.000 *	272.460	0.000 *	271.940	0.000 *	271.590	0.000 *	270.950	0.000 *
19	272.290	0.000 *	272.290	0.000 *	272.460	0.000 *	271.920	0.000 *	271.570	0.000 *	270.920	0.000 *
20	272.290	0.000 *	272.290	0.000 *	272.460	0.000 *	271.900	0.000 *	271.550	0.000 *	270.900	0.000 *
21	272.290	0.000 *	272.290	0.000 *	272.460	0.000 *	271.880	0.000 *	271.530	0.000 *	270.870	0.000 *
22	272.290	0.000 *	272.290	0.000 *	272.440	0.000 *	271.860	0.000 *	271.510	0.000 *	270.850	0.000 *
23	272.290	0.000 *	272.290	0.000 *	272.420	0.000 *	271.840	0.000 *	271.490	0.000 *	270.820	0.000 *
24	272.290	0.000 *	272.290	0.000 *	272.390	0.000 *	271.820	0.000 *	271.470	0.000 *	270.810	0.000 *
25	272.290	0.000 *	272.290	0.000 *	272.330	0.000 *	271.820	0.000 *	271.450	0.000 *	270.790	0.000 *
26	272.290	0.000 *	272.290	0.000 *	272.320	0.000 *	271.820	0.000 *	271.440	0.000 *	270.770	0.000 *
27	272.290	0.000 *	272.290	0.000 *	272.310	0.000 *	271.820	0.000 *	271.430	0.000 *	270.750	0.000 *
28	272.290	0.000 *	272.290	0.000 *	272.290	0.000 *	271.820	0.000 *	271.410	0.000 *	270.740	0.000 *
29	272.290	0.000 *	272.290	0.000 *			271.820	0.000 *	271.390	0.000 *	270.720	0.000 *
30	272.290	0.000 *	272.290	0.000 *			271.820	0.000 *	271.370	0.000 *	270.700	0.000 *
31	272.290	0.000 *	272.290	0.000 *			271.820	0.000 *			270.690	0.000 *
Ten-Daily Mean												
I Ten-Daily	272.290	0.000	272.290	0.000	272.416	0.000	272.056	0.000	271.791	0.000	271.233	0.000
II Ten-Daily	272.290	0.000	272.290	0.000	272.491	0.000	271.957	0.000	271.646	0.000	271.001	0.000
III Ten-Daily	272.290	0.000	272.290	0.000	272.370	0.000	271.831	0.000	271.449	0.000	270.774	0.000
Monthly												
Min.	272.290	0.000	272.290	0.000	272.290	0.000	271.820	0.000	271.370	0.000	270.690	0.000
Max.	272.290	0.000	272.290	0.000	272.520	0.000	272.270	0.000	271.820	0.000	271.350	0.000
Mean	272.290	0	272.290	0	272.430	0	271.944	0	271.629	0	270.995	0

Peak Computed Discharge = 798.6 cumecs on 07/08/2016

Corres. Water Level :274.85 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :268 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

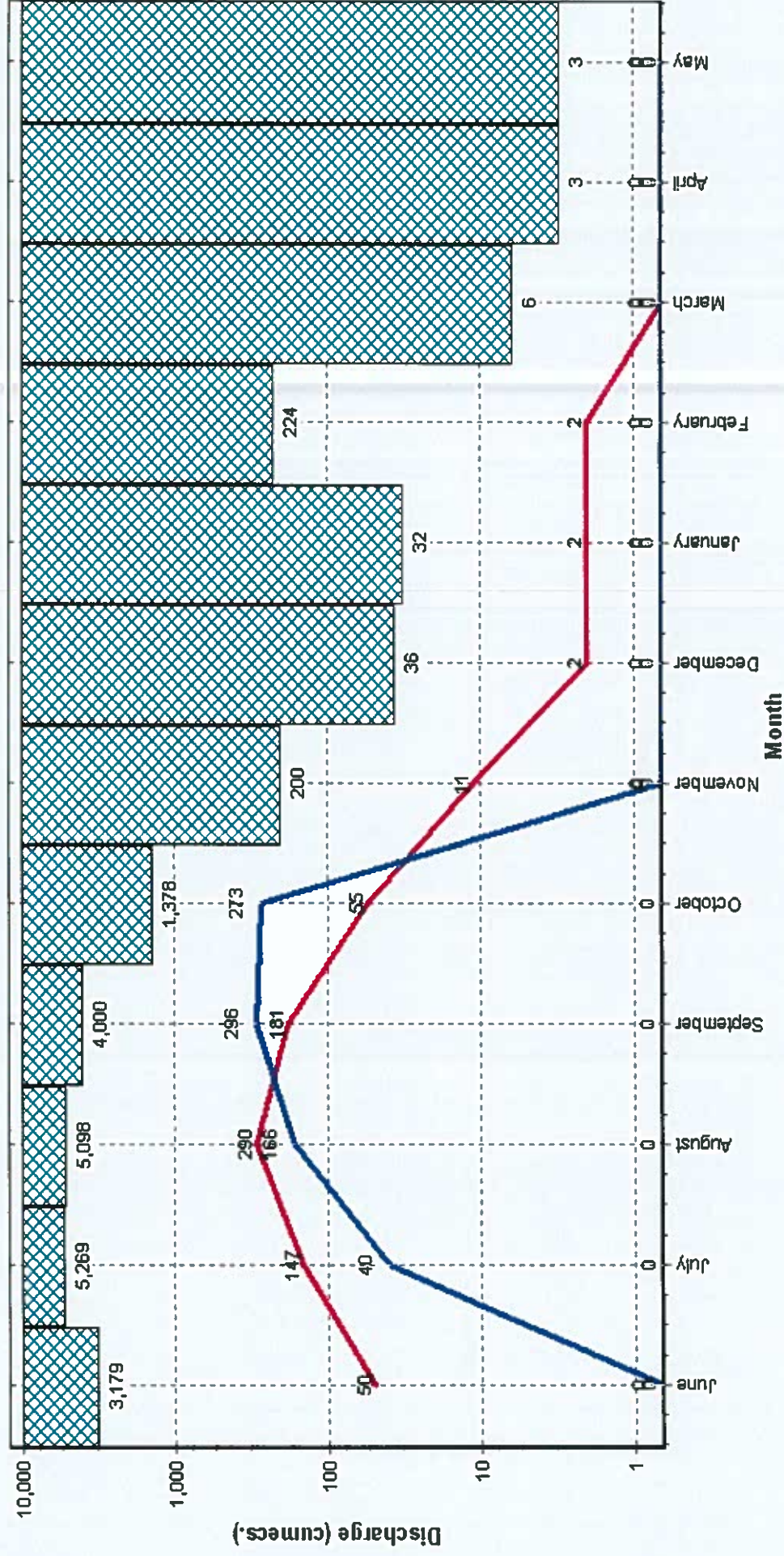
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : Kotni (EMP00P8)

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

Data considered : 1982-2017

Local River : Seonath

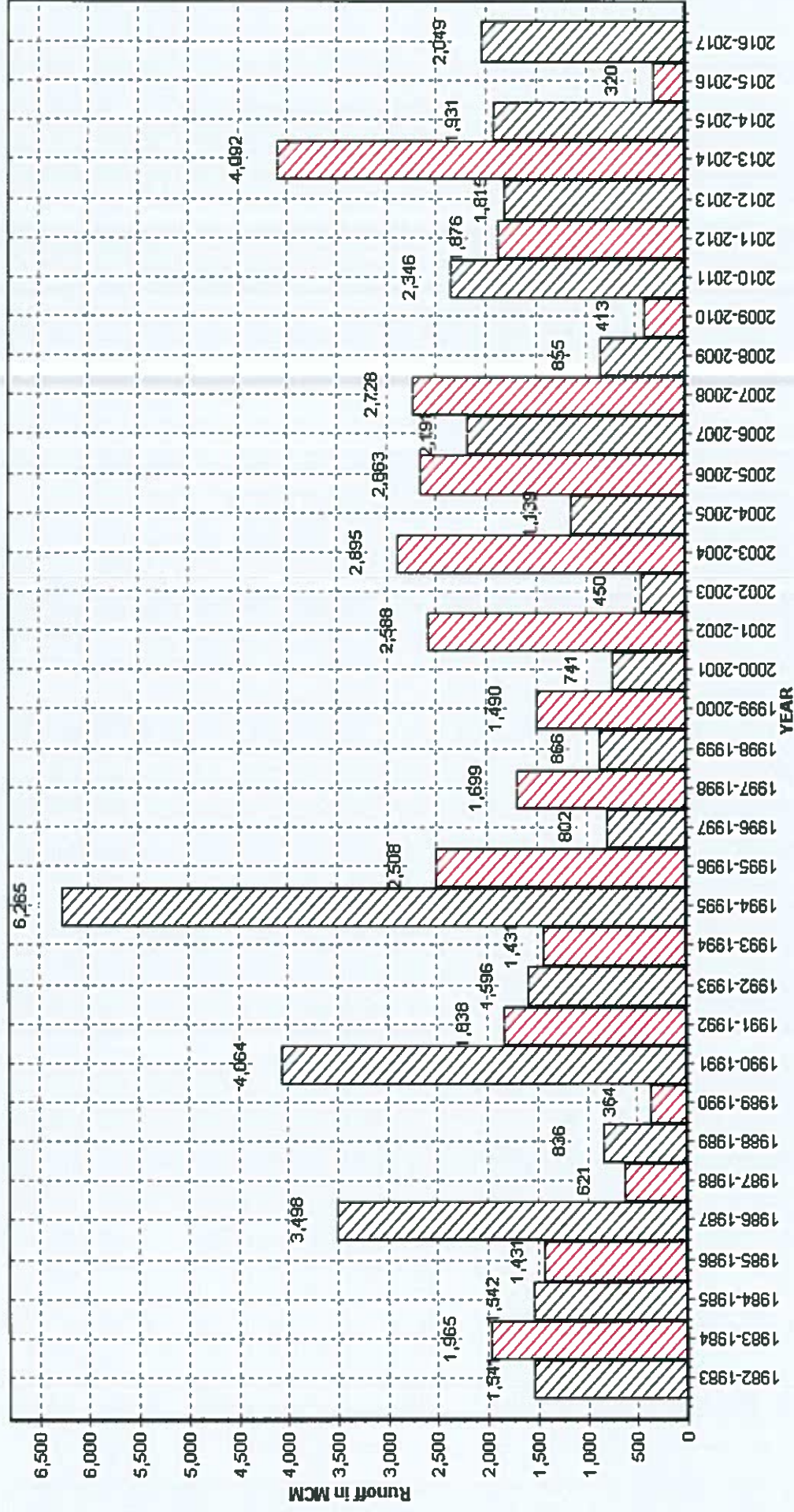


Annual Runoff Values for the period: 1982 - 2017

Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

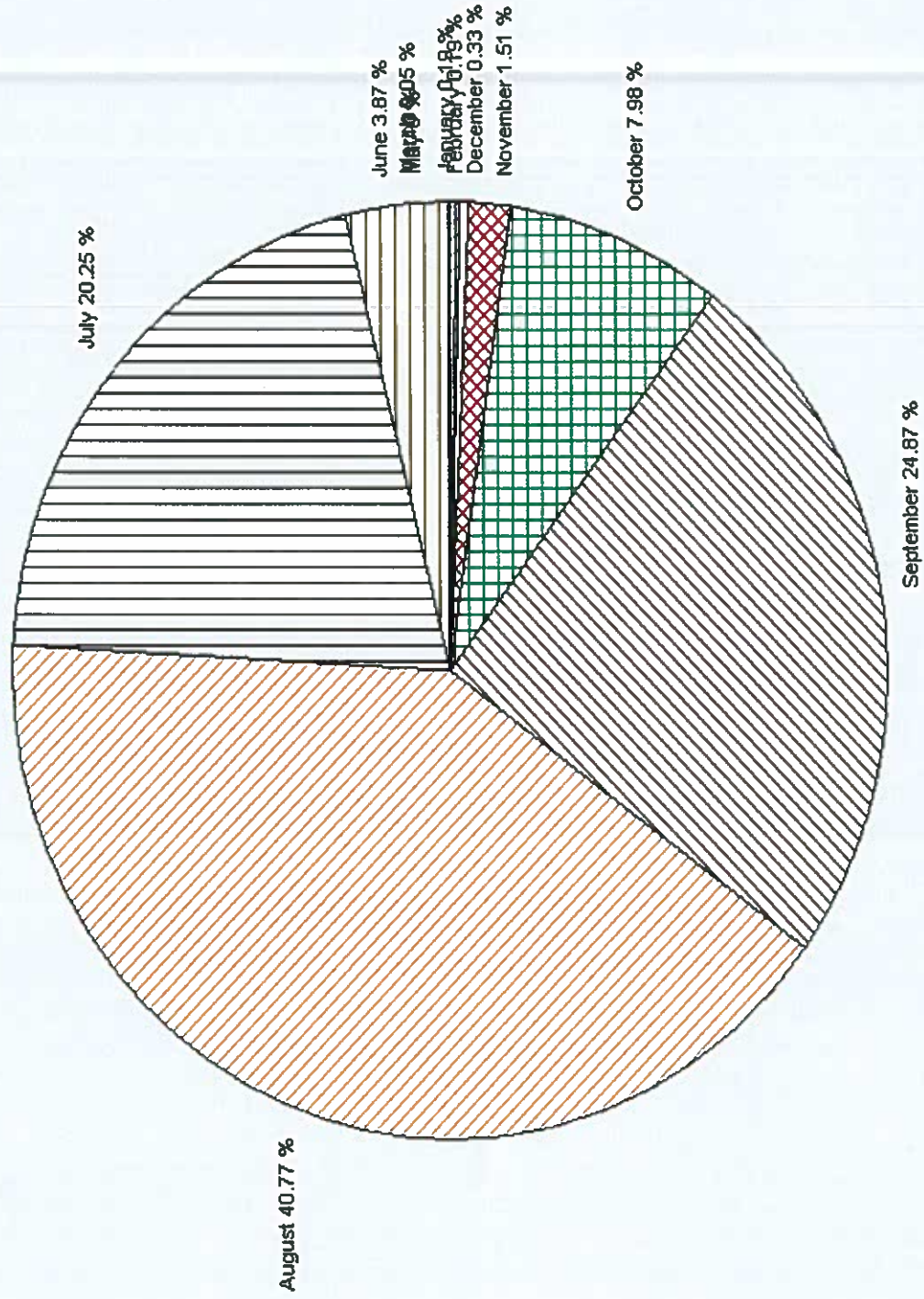


Monthly Average Runoff based on period : 1982-2016

Station Name : Kotni (EMP00P8)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

June	3.87 %
July	20.25 %
August	40.77 %
September	24.87 %
October	7.98 %
November	1.51 %
December	0.33 %
January	0.19 %
February	0.19 %
March	0.05 %
April	0 %
May	0 %



Monthly Runoff for the Year : 2016-2017

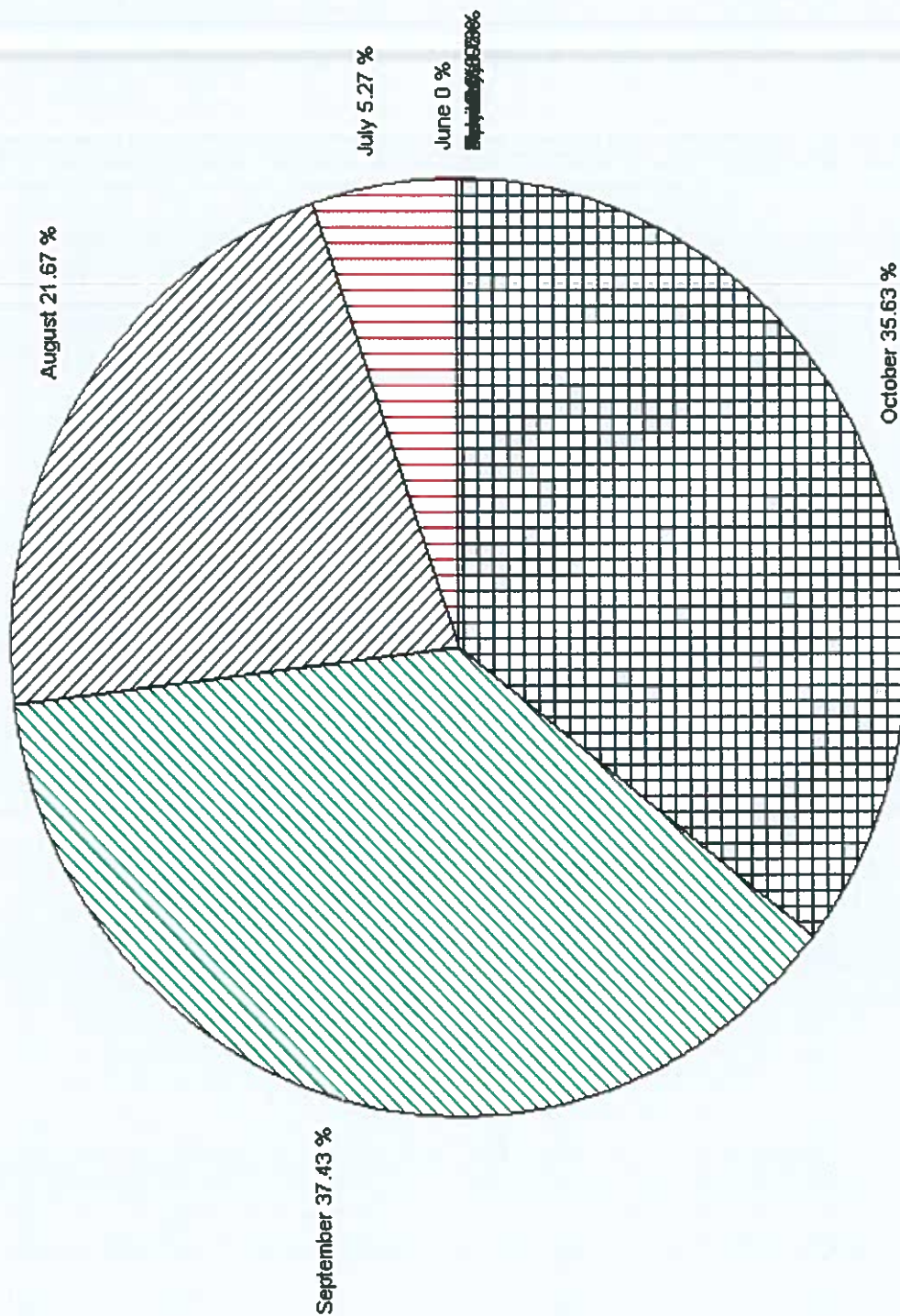
Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

June	0 %
July	5.27 %
August	21.67 %
September	37.43 %
October	35.63 %
November	0 %
December	0 %
January	0 %
February	0 %
March	0 %
April	0 %
May	0 %



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Kotni (EMP00P8)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



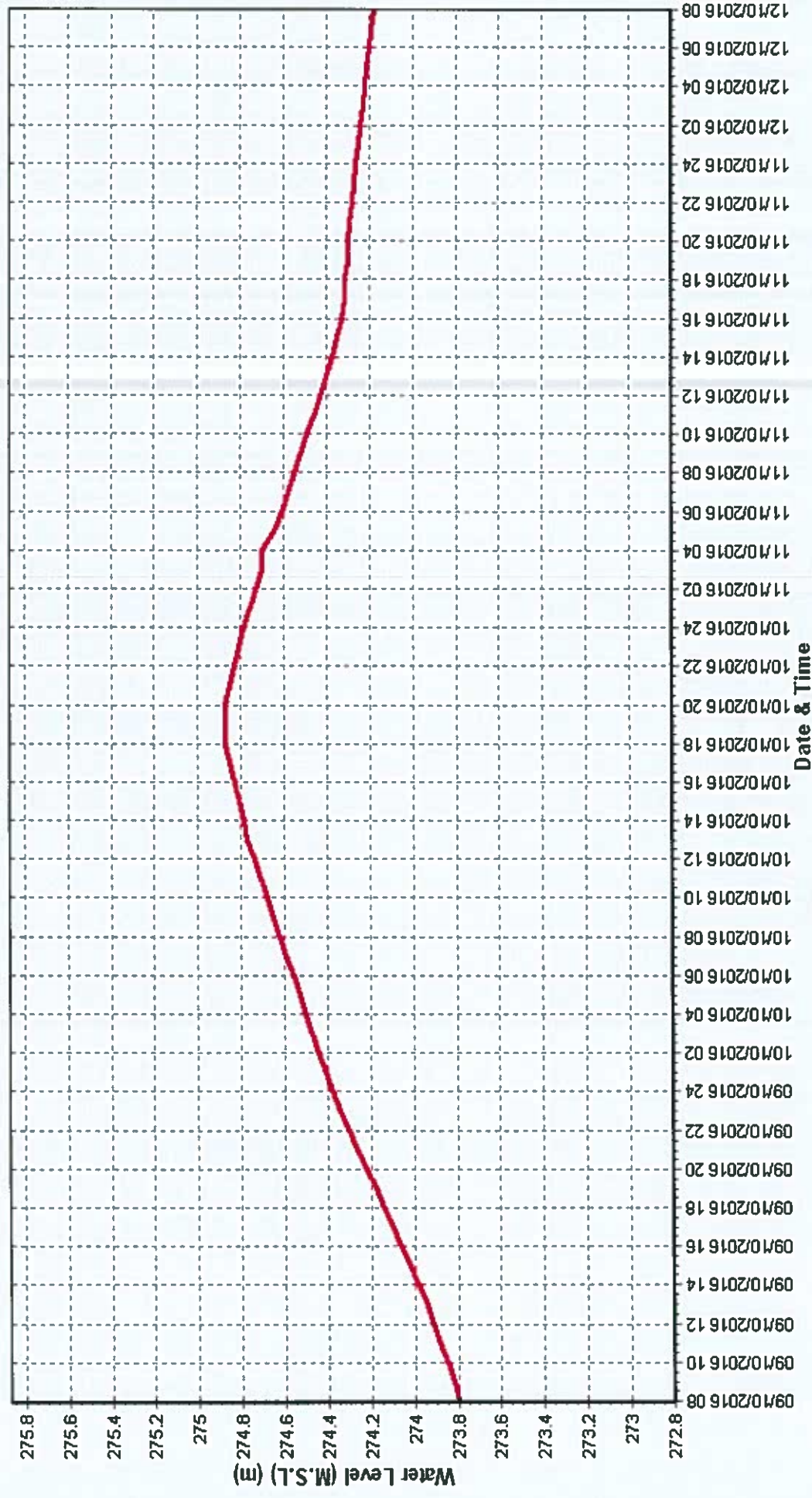
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD,CWC,Burla

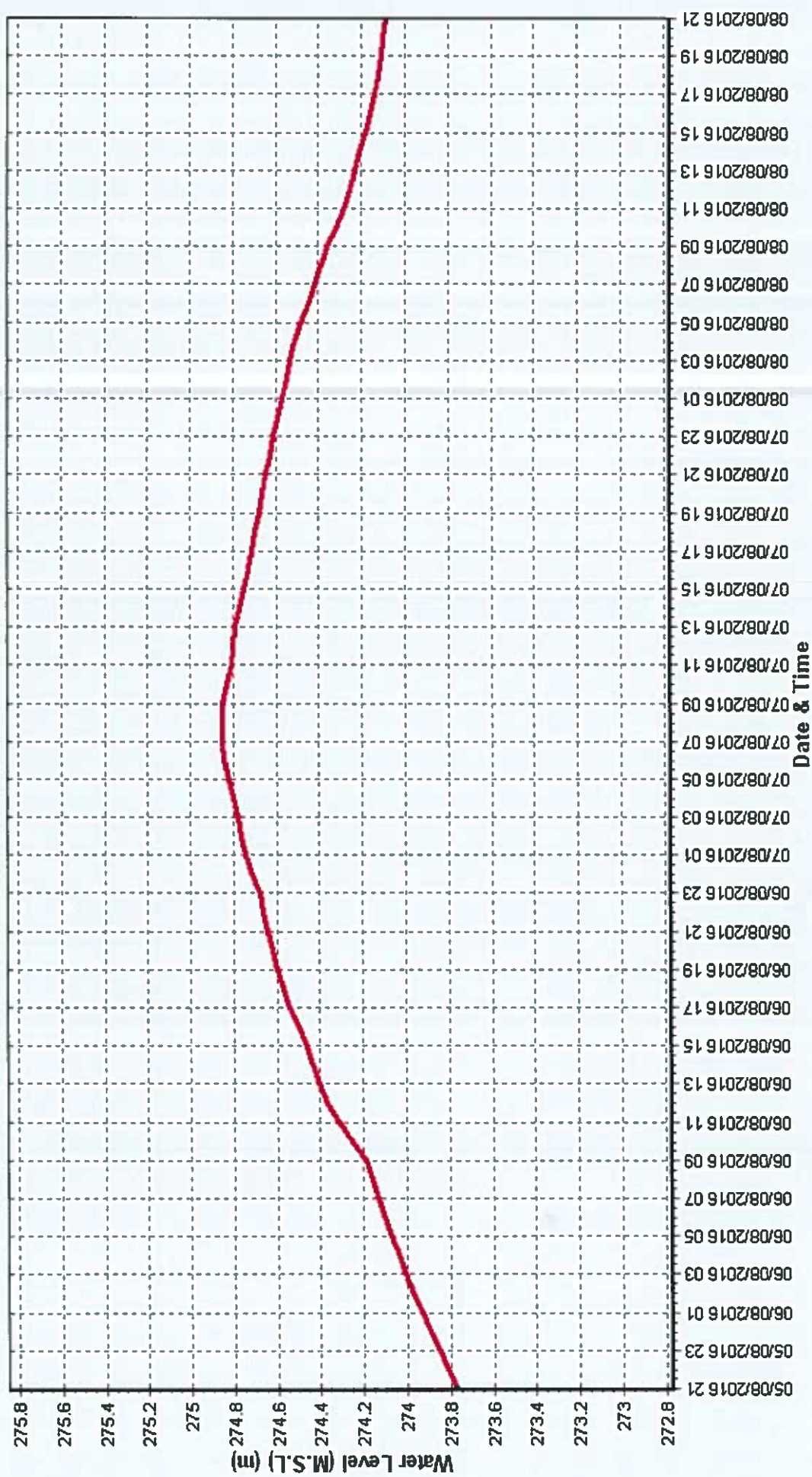
Sub-Division : UMSD,CWC,Raipur



Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Kotni (EMP00P8)
Local River : Seonath

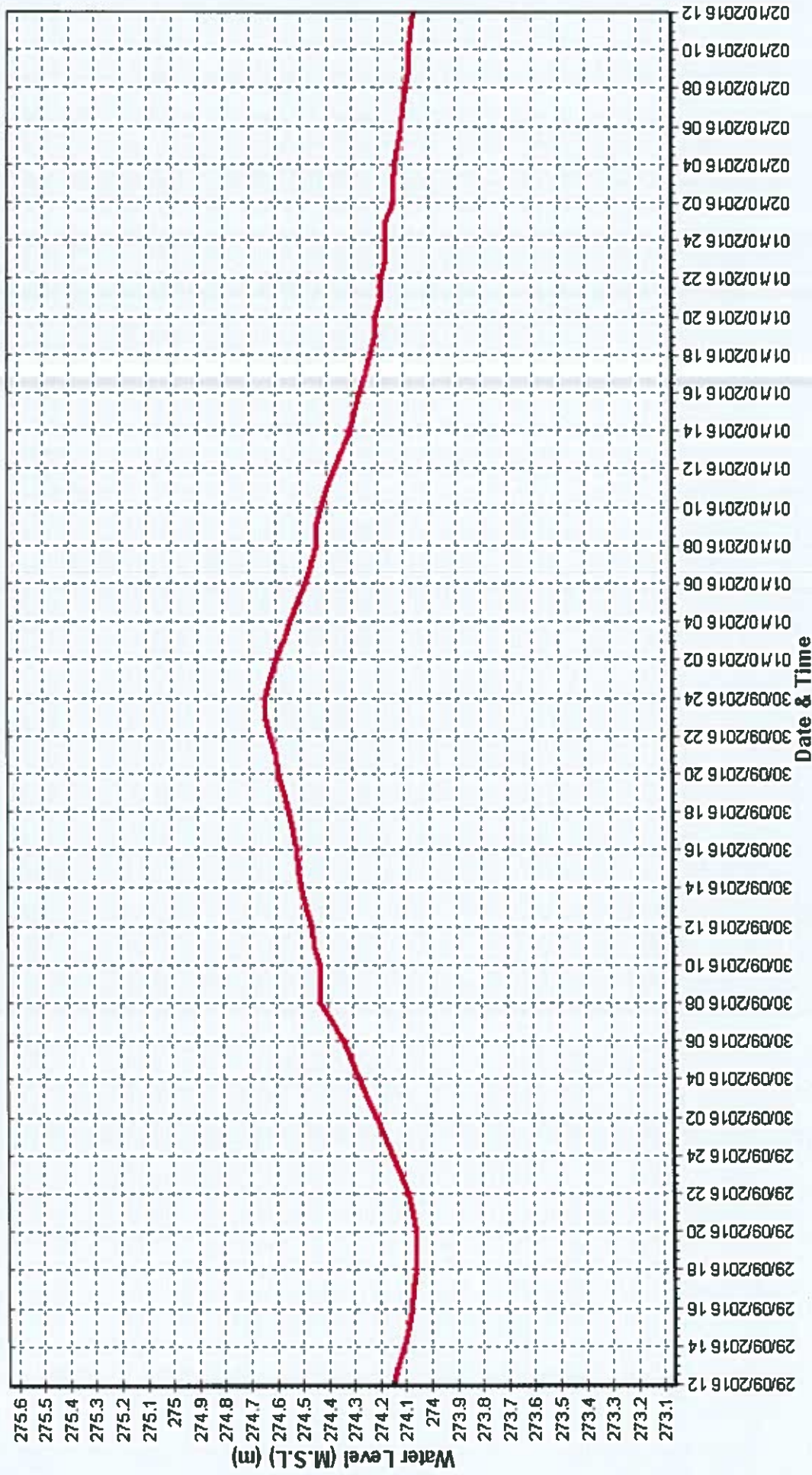
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

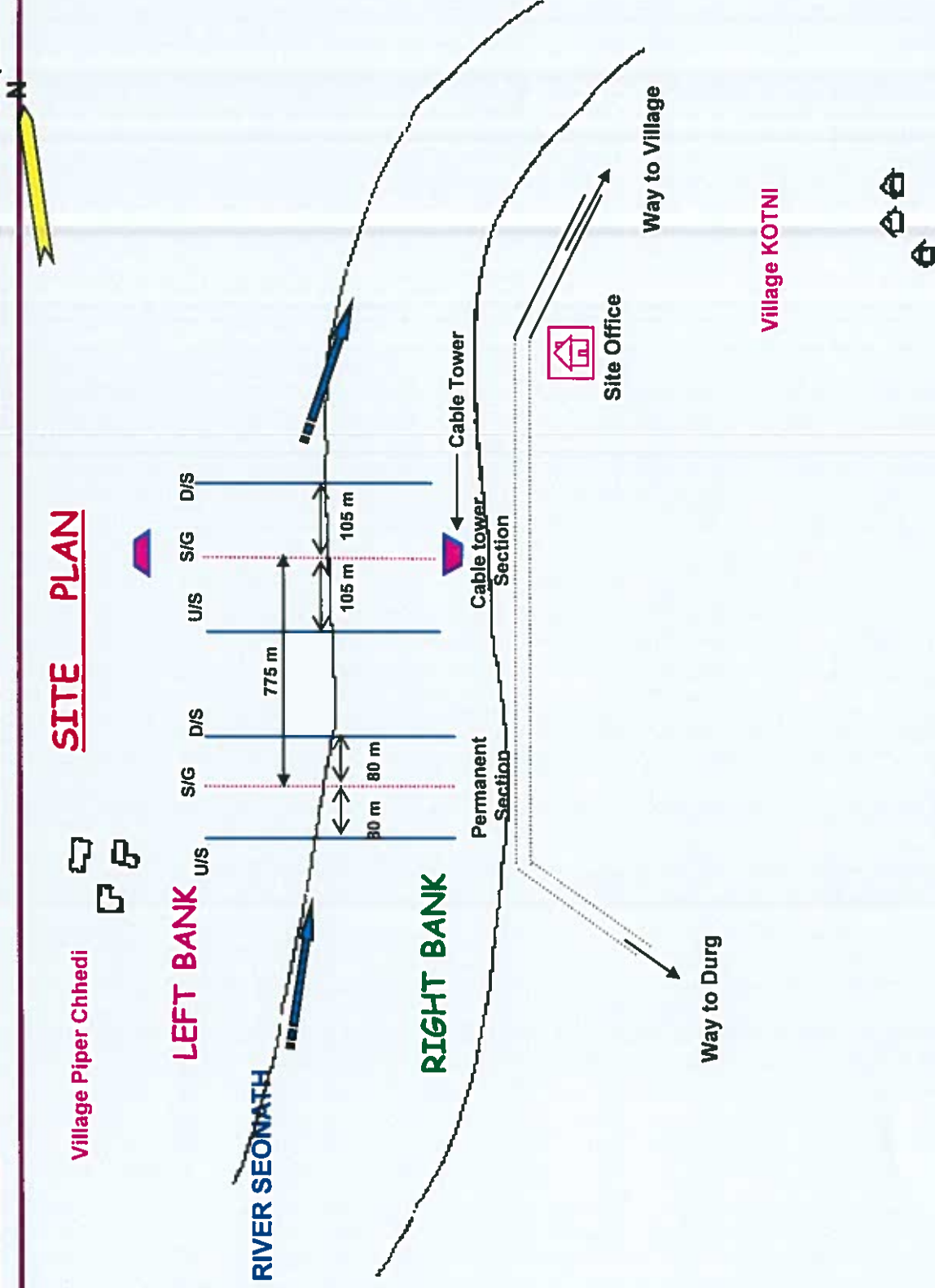


Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Kotni (EMP00P8)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur





SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Kotni (EMP00P8)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

Day	Jun				Jul				Aug			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly												
Total						0						0
												4606
												28727

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Kotni (EMP00P8)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	660.5	0.000	0.000	1.800	1.800	102720
2	0.000	0.000	0.000	0.000	0.000	0	610.2	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	592.6	0.000	0.000	0.540	0.540	27648
4	0.000	0.000	0.000	0.000	0.000	0	563.8	0.000	0.000	0.490	0.490	23867
5	0.000	0.000	0.000	0.000	0.000	0	407.7	0.000	0.000	0.430	0.430	15147
6	0.000	0.000	0.000	0.000	0.000	0	336.1	0.000	0.000	0.360	0.360	10455
7	0.000	0.000	0.000	0.000	0.000	0	323.7	0.000	0.000	0.400	0.400	11186
8	0.000	0.000	0.000	0.000	0.000	0	288.1	0.000	0.000	0.730	0.730	18169
9	0.000	0.000	0.000	0.000	0.000	0	406.5	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	728.4	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	685.6	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	632.3	0.000	0.000	0.000	0.000	0
13	682.9	0.000	0.000	0.025	0.025	1475	435.5	0.000	0.000	0.750	0.750	28285
14	866.4	0.000	0.000	0.014	0.014	1018	321.7	0.000	0.000	0.570	0.570	15844
15	371.4	0.000	0.000	0.025	0.025	802	361.1	0.000	0.000	0.320	0.320	9983
16	517.7	0.000	0.000	0.025	0.025	1118	333.9	0.000	0.000	0.000	0.000	0
17	407.7	0.000	0.000	0.620	0.620	21839	275.2	0.000	0.000	0.470	0.470	11175
18	392.4	0.000	0.000	0.000	0.000	0	188.9	0.000	0.000	0.190	0.190	3102
19	385.2	0.000	0.000	0.310	0.310	10318	164.3	0.000	0.000	0.420	0.420	5961
20	322.3	0.000	0.000	0.036	0.036	1003	134.8	0.000	0.000	0.330	0.330	3844
21	325.1	0.000	0.000	0.025	0.025	713	0.000	0.000	0.000	0.000	0.000	0
22	353.1	0.000	0.000	0.021	0.021	650	0.000	0.000	0.000	0.000	0.000	0
23	401.9	0.000	0.000	0.025	0.025	868	0.000	0.000	0.000	0.000	0.000	0
24	346.5	0.000	0.000	0.320	0.320	9580	0.000	0.000	0.000	0.000	0.000	0
25	337.8	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	492.1	0.000	0.000	0.051	0.051	2168	0.000	0.000	0.000	0.000	0.000	0
27	644.6	0.000	0.000	0.620	0.620	34531	0.000	0.000	0.000	0.000	0.000	0
28	941.8	0.000	0.000	0.320	0.320	26038	0.000	0.000	0.000	0.000	0.000	0
29	503.4	0.000	0.000	0.520	0.520	22617	0.000	0.000	0.000	0.000	0.000	0
30	584.7	0.000	0.000	0.420	0.420	21217	0.000	0.000	0.000	0.000	0.000	0
31							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	491.7	0.000	0.000	0.475	0.475	20919
Ten Daily II	394.6	0.000	0.000	0.105	0.105	3757	353.4	0.000	0.000	0.305	0.305	7819
Ten Daily III	493.1	0.000	0.000	0.232	0.232	11838	0.000	0.000	0.000	0.000	0.000	0
Monthly												
Total						155956						287385

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Kotni (EMP00P8)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

Day	Dec				Jan				Feb			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly Total						0						0

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Day	Mar					Apr					May							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load for period : 2014-2017**Station Name : Kotni (EMP00P8)****Division : MD,CWC,Burla****Local River : Seonath****Sub-Division : UMSD,CWC,Raipur**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2014-2015	2579566	0	2579566	1931
2015-2016	313282	0	313282	320
2016-2017	476675	0	476675	2049

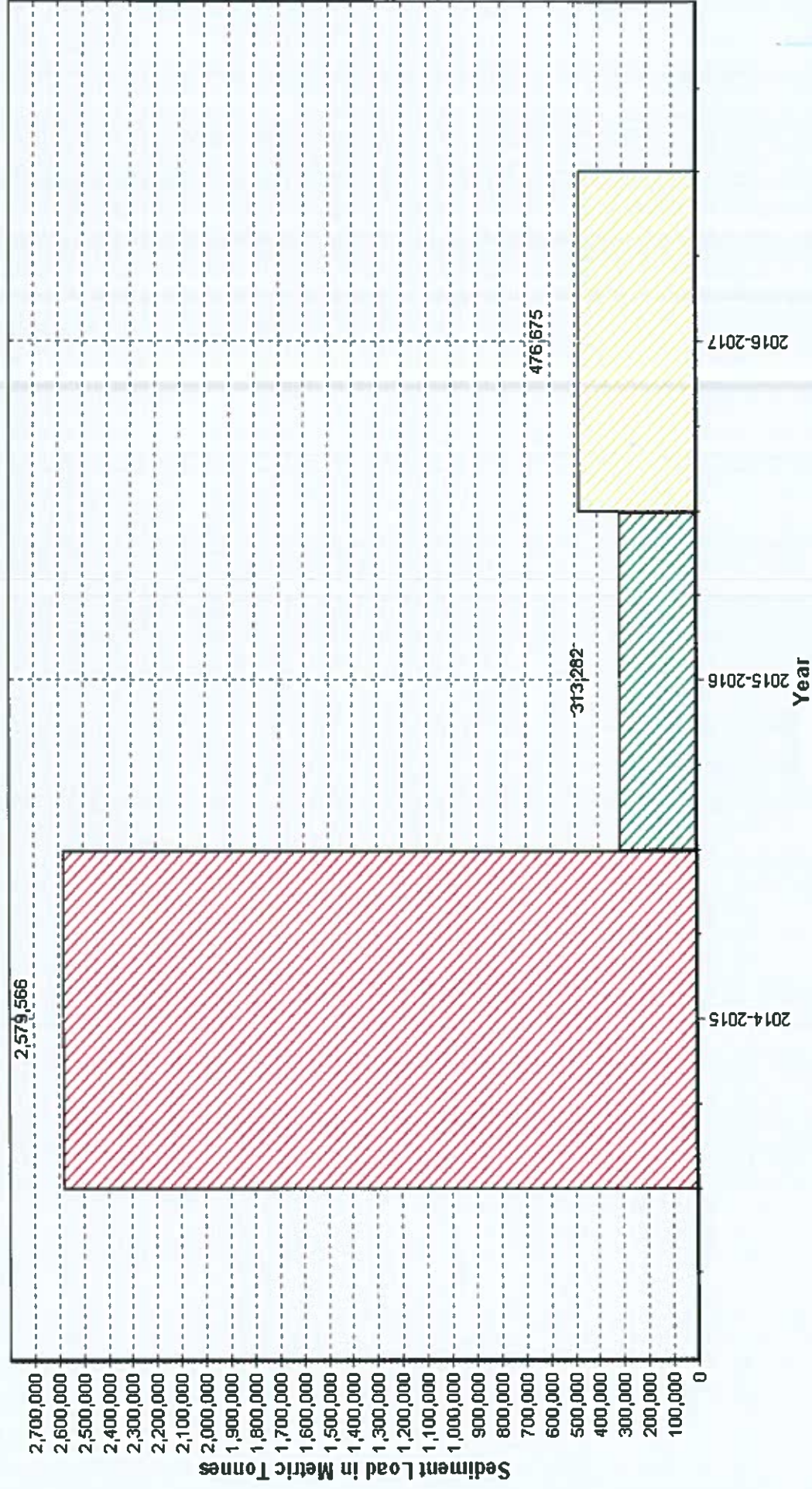
Annual Sediment Load for the period: 2014-2017

Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD,CWC,Burla

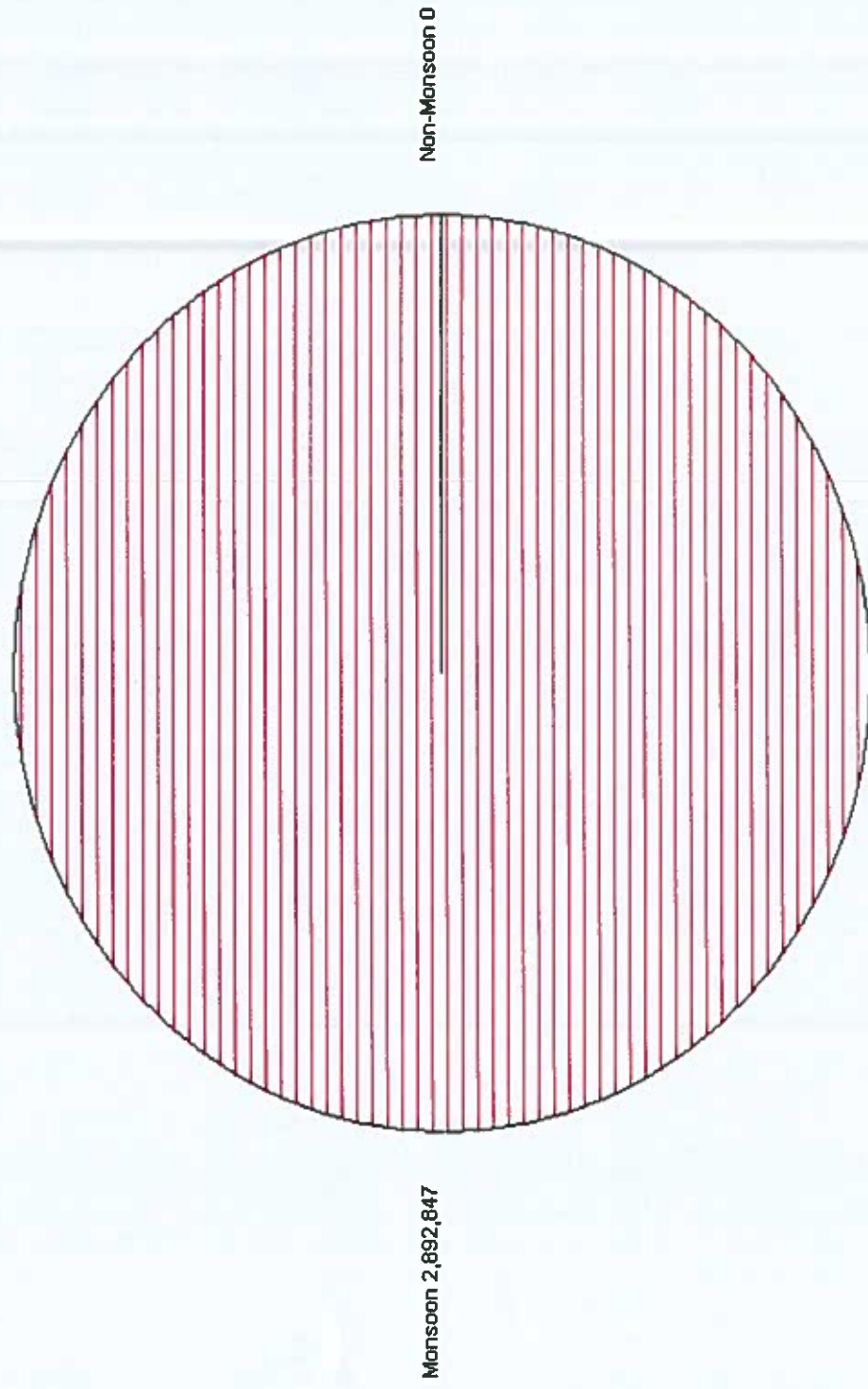
Sub-Division : UMSD,CWC,Raipur



Station Name : Kotni (EMP00P8)
Local River : Seonath

Seasonal Sediment Load for the period : 2014-2016

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



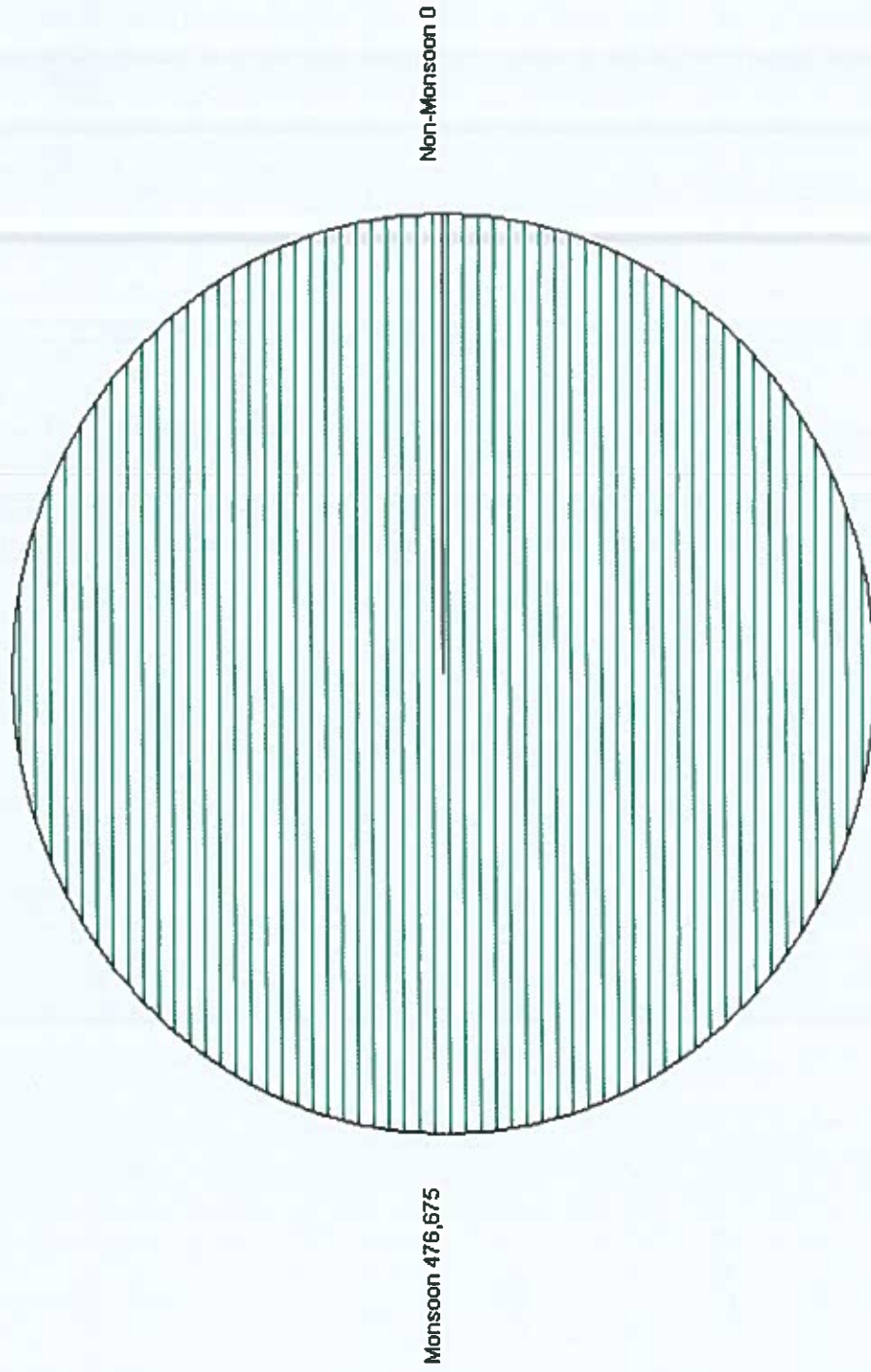
Seasonal Sediment Load for the Year: 2016-2017

Station Name : Kotni (EMP00P8)

Local River : Seonath

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Kotni (EMP00P8)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water Analysis

S.No	Parameters	01/06/2016	01/07/2016	01/08/2016	01/09/2016	01/10/2016	01/11/2016	01/12/2016	02/01/2017	01/02/2017	01/03/2017	01/04/2017	01/05/2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	0.000	0.000	0.000	660.5	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)			Clear	Clear	Light Brown							
3	EC_FLD (µmho/cm)			120	160	145							
4	EC_GEN (µmho/cm)			183	186	177							
5	Odour_Code (-)			odour free	odour free	odour free							
6	pH_FLD (pH units)			7.4	8.5	7.8							
7	pH_GEN (pH units)			7.1	8.3	7.6							
8	Temp (deg C)			31.0	29.0	28.0							
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0							
2	ALK-TOT (mgCaCO3/L)			100	159	180							
3	Ca (mg/L)			51	51	45							
4	Cl (mg/L)			21.0	17.0	26.0							
5	CO3 (mg/L)			0.0	0.0	0.0							
6	HCO3 (mg/L)			61	97	110							
7	K (mg/L)			15.2	20.6	15.8							
8	Mg (mg/L)			9.7	6.8	12.6							
9	Na (mg/L)			19.9	32.4	60.9							
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			1.1	1.0	0.5							
2	DO (mg/L)			6.5	7.2	5.5							
3	DO_SAT% (%)			87	94	70							
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			128	128	112							
2	HAR_Total (mgCaCO3/L)			169	157	165							
3	Na% (%)			19	28	42							
4	RSC (-)			0.0	0.0	0.0							
5	SAR (-)			0.7	1.1	2.1							
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Kotni (EMP00P8)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	941.8	0.000	64.98
2	EC_FLD (µmho/cm)	3	160	120	142
3	EC_GEN (µmho/cm)	3	186	177	182
4	pH_FLD (pH units)	3	8.5	7.4	7.9
5	pH_GEN (pH units)	3	8.3	7.1	7.7
6	Temp (deg C)	3	31.0	28.0	29.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	3	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	3	180	100	146
3	Ca (mg/L)	3	51	45	49
4	Cl (mg/L)	3	26.0	17.0	21.3
5	CO3 (mg/L)	3	0.0	0.0	0
6	HCO3 (mg/L)	3	110	61	89
7	K (mg/L)	3	20.6	15.2	17.2
8	Mg (mg/L)	3	12.6	6.8	9.7
9	Na (mg/L)	3	60.9	19.9	37.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	3	1.1	0.5	0.9
2	DO (mg/L)	3	7.2	5.5	6.4
3	DO_SAT% (%)	3	94	70	84
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	3	128	112	123
2	HAR_Total (mgCaCO3/L)	3	169	157	163
3	Na% (%)	3	42	19	29
4	RSC (-)	3	0.0	0.0	0
5	SAR (-)	3	2.1	0.7	1.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2015-2017

Station Name : Kotni (EMP00P8)

Division : MD,CWC,Burla

Local River : Seonath

River Water

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Flood Jun - Oct		Winter Nov - Feb		Summer Mar - May	
		2015	2016	2015-2016	2016-2017	2016	2017
	PHYSICAL						
1	Q (cumec)	26.10	132.1	0.000	0.000	0.000	0.000
2	EC_FLD ($\mu\text{mho/cm}$)	436	142				
3	EC_GEN ($\mu\text{mho/cm}$)	210	182				
4	pH_FLD (pH units)	7.5	7.9				
5	pH_GEN (pH units)	7.9	7.7				
6	Temp (deg C)	29.0	29.3				
	CHEMICAL						
1	ALK-TOT (mgCaCO ₃ /L)	199	146				
2	Ca (mg/L)	33	49				
3	Cl (mg/L)	23.3	21.3				
4	HCO ₃ (mg/L)	122	89				
5	K (mg/L)	7.0	17.2				
6	Mg (mg/L)	9.2	9.7				
7	Na (mg/L)	21.4	37.7				
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD ₃₋₂₇ (mg/L)	1.0	0.9				
2	DO (mg/L)	5.3	6.4				
3	DO_SAT% (%)	69	84				
	TRACE & TOXIC						
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO ₃ /L)	82	123				
2	HAR_Total (mgCaCO ₃ /L)	121	163				
3	Na% (%)	26	29				
4	SAR (-)	0.8	1.3				
	PESTICIDES						

SITE PATHARDIH

HISTORY SHEET

		Water Year : 2016-2017	
Site	: Pathardih	Code	: EMP70F3
State	: Chhattisgarh	District	: Raipur
Basin	: Mahanadi	Independent River	: Mahanadi
Tributary	: Seonath	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Kharun
Division	: MD,CWC,Burla	Sub-Division	: UMSD,CWC,Raipur
Drainage Area	: 2511 Sq. Km.	Bank	:
Latitude	: 21°20'28"	Longitude	: 81°35'48"
Zero of Gauge (m)	: 271 (m.s.l)	12/06/1987	- 12/06/2017
	Opening Date	Closing Date	
Gauge	: 12/06/1987		
Discharge	: 05/06/1989		
Sediment	:		
Water Quality	: 01/06/1995		

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1990-1991	1115	277.140	23/08/1990	0.080	272.110	17/04/1991
1991-1992	1170	277.190	24/08/1991	0.146	272.045	18/05/1992
1992-1993	1618	278.220	29/07/1992	0.050	272.085	30/04/1993
1993-1994	595.2	275.670	20/08/1993	0.125	272.200	12/05/1994
1994-1995	1695	279.210	12/07/1994	1.009	272.290	06/06/1994
1995-1996	1554	278.115	25/07/1995	0.113	272.165	12/06/1995
1996-1997	1163	279.145	02/08/1996	0.099	272.120	11/07/1996
1997-1998	1092	277.860	23/08/1997	0.215	272.170	29/05/1998
1998-1999	235.1	274.570	11/07/1998	0.028	272.200	22/02/1999
1999-2000	1255	277.485	31/08/1999	0.094	272.155	14/04/2000
2000-2001	875.4	276.830	20/07/2000	0.100	272.215	16/10/2000
2001-2002	968.3	276.475	10/07/2001	0.375	272.180	28/02/2002
2002-2003	350.0	274.830	18/08/2002	0.170	272.115	12/07/2002
2003-2004	1243	277.450	29/08/2003	0.139	272.180	17/02/2004
2004-2005	706.3	276.233	30/07/2004	0.060	272.360	28/02/2005
2005-2006	2000	278.600	14/09/2005	0.156	272.155	05/04/2006
2006-2007	1500	278.920	14/08/2006	0.130	272.160	28/02/2007
2007-2008	909.0	279.630	01/07/2007	0.451	272.085	18/12/2007
2008-2009	878.7	276.915	20/09/2008	0.594	272.490	25/11/2008
2009-2010	646.2	276.085	22/07/2009	1.090	272.235	09/11/2009
2010-2011	753.5	276.565	07/08/2010	0.430	272.140	03/12/2010
2011-2012	1441	277.865	08/09/2011	0.302	272.160	06/12/2011

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2012-2013	1103	277.505	04/08/2012	0.338	272.065	12/11/2012
2013-2014	1300	278.270	01/08/2013	0.806	272.110	15/11/2013
2014-2015	1284	278.705	23/07/2014	0.000	272.035	08/02/2015
2015-2016	321.9	274.810	18/09/2015	0.000	272.150	26/01/2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Local River : Kharun

Sub-Division : UMSD,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	272.110	0.000 *	271.000	0.000 *	272.650	26.13	272.533	17.30	274.520	304.9	272.125	2.711
2	272.110	0.000 *	271.000	0.000 *	272.805	24.00	272.363	19.35	273.980	170.6 *	272.100	0.000 *
3	272.110	0.000 *	271.000	0.000 *	272.800	23.76	272.510	16.27	273.633	140.6	272.080	0.000 *
4	272.110	0.000 *	271.000	0.000 *	272.533	18.35	272.400	12.20 *	273.565	115.8	272.040	0.000 *
5	272.105	0.000 *	271.000	0.000 *	272.585	19.28	272.840	25.84 *	273.428	98.81	272.030	0.000 *
6	272.100	0.000 *	271.000	0.000 *	274.830	303.5	272.810	24.67	273.303	101.4	272.020	0.000 *
7	272.080	0.000 *	272.995	35.00	276.810	1008 *	272.865	27.21	273.180	90.96	272.080	0.000 *
8	272.075	0.000 *	273.100	82.81	276.390	920.3	272.725	28.32	274.245	236.4	272.070	0.000 *
9	272.085	0.000 *	273.385	105.1	274.810	301.0	272.630	24.12	274.420	295.7 *	272.110	0.000 *
10	272.095	0.000 *	273.520	131.5 *	273.670	149.9	272.630	24.12	274.840	378.8 *	272.120	0.000 *
11	272.100	0.000 *	273.430	96.93	274.190	224.4	272.955	35.83 *	274.690	350.5 *	272.125	0.000 *
12	272.105	0.000 *	273.270	78.97	273.970	200.9	275.085	388.2 *	274.030	185.9 *	272.140	0.000 *
13	272.110	0.000 *	273.220	78.65	273.345	109.3	276.258	894.7	273.500	107.5	272.145	0.000 *
14	272.115	0.000 *	273.048	47.29	273.180	86.50 *	275.075	386.8	273.285	99.42	272.150	0.000 *
15	272.110	0.000 *	272.800	17.23	272.930	29.35 *	274.473	292.4	273.100	60.83	272.155	0.000 *
16	272.110	0.000 *	272.965	24.05	272.610	22.28	273.563	115.2	272.905	45.20 *	272.145	0.000 *
17	272.105	0.000 *	272.970	24.00 *	272.537	17.34	273.305	102.1	272.710	27.48	272.140	0.000 *
18	272.100	0.000 *	272.910	43.45	272.460	15.10	273.275	99.98 *	272.565	18.65	272.145	0.000 *
19	272.100	0.000 *	272.663	25.93	272.470	16.61	273.300	101.2	272.550	17.93	272.170	0.000 *
20	272.095	0.000 *	272.560	22.96	272.400	12.51	273.655	146.3	272.480	16.37	272.180	0.000 *
21	272.105	0.000 *	274.120	182.4	272.350	10.25 *	273.745	155.3	272.545	17.53	272.175	0.000 *
22	272.110	0.000 *	274.140	193.5	272.280	7.084	273.515	109.5	272.308	7.545	272.170	0.000 *
23	272.115	0.000 *	274.260	236.9	272.300	7.533	273.293	100.8	272.385	9.810 *	272.160	0.000 *
24	272.125	0.000 *	274.060	176.5 *	272.315	9.856	273.100	61.02	272.310	7.614	272.190	0.000 *
25	272.320	0.000 *	273.945	168.8	272.330	10.66	272.200	15.35 *	272.185	4.142	272.180	0.000 *
26	272.390	0.000 *	274.080	181.7	272.510	17.55	274.865	317.8	272.170	4.012	272.175	0.000 *
27	272.360	0.000 *	273.853	163.9	272.990	51.22	275.323	412.4	272.190	4.242	272.170	0.000 *
28	272.350	0.000 *	273.515	112.1	273.540	132.5 *	275.720	532.0	272.345	10.66	272.180	0.000 *
29	272.370	0.000 *	273.245	74.76	273.340	107.8	275.165	408.4	272.280	7.115	272.200	0.000 *
30	272.350	0.000 *	273.100	60.91	273.008	52.96	275.100	373.0	272.200	4.260 *	272.210	0.000 *
31			272.875	39.80 *	272.665	27.09			272.140	3.662		
Ten-Daily Mean												
I Ten-Daily	272.098	0.000	271.900	35.45	273.988	279.4	272.631	21.94	273.911	193.4	272.077	0.271
II Ten-Daily	272.105	0.000	272.983	45.95	273.009	73.43	274.094	256.3	273.181	92.98	272.149	0.000
III Ten-Daily	272.260	0.000	273.745	144.7	272.693	39.50	274.203	248.6	272.278	7.327	272.181	0.000
Monthly												
Min.	272.075	0.000	271.000	0.000	272.280	7.084	272.200	12.20	272.140	3.662	272.020	0.000
Max.	272.390	0.000	274.260	236.9	276.810	1008	276.258	894.7	274.840	378.8	272.210	2.711
Mean	272.154	0	272.904	77.59	273.213	127.8	273.642	175.6	273.096	94.98	272.136	0.09

Annual Runoff in MCM = 1260 Annual Runoff in mm = 502

Peak Observed Discharge = 920.3 cumecs on 08/08/2016 Corres. Water Level :276.39 m

Lowest Observed Discharge = 2.711 cumecs on 01/11/2016 Corres. Water Level :272.125 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

111 170

Stage-Discharge Data for the period 2016 - 2017

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Local River : Kharun

Sub-Division : UMSD,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	272.220	0.000 *	272.170	0.000 *	272.095	0.000 *	272.240	0.000 *	272.205	0.000 *	272.195	0.000 *
2	272.210	0.000 *	272.180	0.000 *	272.090	0.000 *	272.235	0.000 *	272.200	0.000 *	272.190	0.000 *
3	272.200	0.000 *	272.185	0.000 *	272.070	0.000 *	272.230	0.000 *	272.205	0.000 *	272.185	0.000 *
4	272.185	0.000 *	272.190	0.000 *	272.060	0.000 *	272.225	0.000 *	272.220	0.000 *	272.190	0.000 *
5	272.180	0.000 *	272.200	0.000 *	272.085	0.000 *	272.220	0.000 *	272.230	0.000 *	272.210	0.000 *
6	272.190	0.000 *	272.210	0.000 *	272.090	0.000 *	272.210	0.000 *	272.240	0.000 *	272.215	0.000 *
7	272.170	0.000 *	272.200	0.000 *	272.110	0.000 *	272.205	0.000 *	272.230	0.000 *	272.230	0.000 *
8	272.160	0.000 *	272.210	0.000 *	272.130	0.000 *	272.220	0.000 *	272.225	0.000 *	272.235	0.000 *
9	272.150	0.000 *	272.195	0.000 *	272.120	0.000 *	272.240	0.000 *	272.220	0.000 *	272.230	0.000 *
10	272.150	0.000 *	272.205	0.000 *	272.115	0.000 *	272.255	0.000 *	272.210	0.000 *	272.225	0.000 *
11	272.155	0.000 *	272.210	0.000 *	272.100	0.000 *	272.265	0.000 *	272.200	0.000 *	272.230	0.000 *
12	272.160	0.000 *	272.190	0.000 *	272.110	0.000 *	272.270	0.000 *	272.195	0.000 *	272.240	0.000 *
13	272.150	0.000 *	272.185	0.000 *	272.100	0.000 *	272.280	0.000 *	272.190	0.000 *	272.235	0.000 *
14	272.140	0.000 *	272.180	0.000 *	272.140	0.000 *	272.290	0.000 *	272.180	0.000 *	272.230	0.000 *
15	272.135	0.000 *	272.170	0.000 *	272.180	0.000 *	272.300	0.000 *	272.185	0.000 *	272.235	0.000 *
16	272.130	0.000 *	272.160	0.000 *	272.160	0.000 *	272.280	0.000 *	272.200	0.000 *	272.255	0.000 *
17	272.110	0.000 *	272.150	0.000 *	272.150	0.000 *	272.285	0.000 *	272.210	0.000 *	272.250	0.000 *
18	272.090	0.000 *	272.135	0.000 *	272.165	0.000 *	272.290	0.000 *	272.215	0.000 *	272.245	0.000 *
19	272.115	0.000 *	272.130	0.000 *	272.170	0.000 *	272.285	0.000 *	272.220	0.000 *	272.240	0.000 *
20	272.135	0.000 *	272.140	0.000 *	272.200	0.000 *	272.280	0.000 *	272.230	0.000 *	272.235	0.000 *
21	272.120	0.000 *	272.170	0.000 *	272.190	0.000 *	272.270	0.000 *	272.240	0.000 *	272.230	0.000 *
22	272.110	0.000 *	272.190	0.000 *	272.185	0.000 *	272.260	0.000 *	272.250	0.000 *	272.225	0.000 *
23	272.100	0.000 *	272.190	0.000 *	272.170	0.000 *	272.255	0.000 *	272.260	0.000 *	272.220	0.000 *
24	272.090	0.000 *	272.200	0.000 *	272.200	0.000 *	272.250	0.000 *	272.255	0.000 *	272.225	0.000 *
25	272.080	0.000 *	272.180	0.000 *	272.220	0.000 *	272.245	0.000 *	272.250	0.000 *	272.220	0.000 *
26	272.060	0.000 *	272.175	0.000 *	272.260	0.000 *	272.240	0.000 *	272.245	0.000 *	272.215	0.000 *
27	272.080	0.000 *	272.170	0.000 *	272.255	0.000 *	272.235	0.000 *	272.230	0.000 *	272.210	0.000 *
28	272.110	0.000 *	272.150	0.000 *	272.250	0.000 *	272.225	0.000 *	272.220	0.000 *	272.215	0.000 *
29	272.130	0.000 *	272.130	0.000 *			272.220	0.000 *	272.210	0.000 *	272.215	0.000 *
30	272.140	0.000 *	272.120	0.000 *			272.220	0.000 *	272.200	0.000 *	272.210	0.000 *
31	272.150	0.000 *	272.110	0.000 *			272.210	0.000 *			272.205	0.000 *
Ten-Daily Mean												
I Ten-Daily	272.181	0.000	272.195	0.000	272.096	0.000	272.228	0.000	272.218	0.000	272.211	0.000
II Ten-Daily	272.132	0.000	272.165	0.000	272.147	0.000	272.283	0.000	272.202	0.000	272.240	0.000
III Ten-Daily	272.106	0.000	272.162	0.000	272.216	0.000	272.239	0.000	272.236	0.000	272.217	0.000
Monthly												
Min.	272.060	0.000	272.110	0.000	272.060	0.000	272.205	0.000	272.180	0.000	272.185	0.000
Max.	272.220	0.000	272.210	0.000	272.260	0.000	272.300	0.000	272.260	0.000	272.255	0.000
Mean	272.139	0	272.174	0	272.149	0	272.250	0	272.219	0	272.222	0

Peak Computed Discharge = 1008 cumecs on 07/08/2016

Corres. Water Level :276.81 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :272.11 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

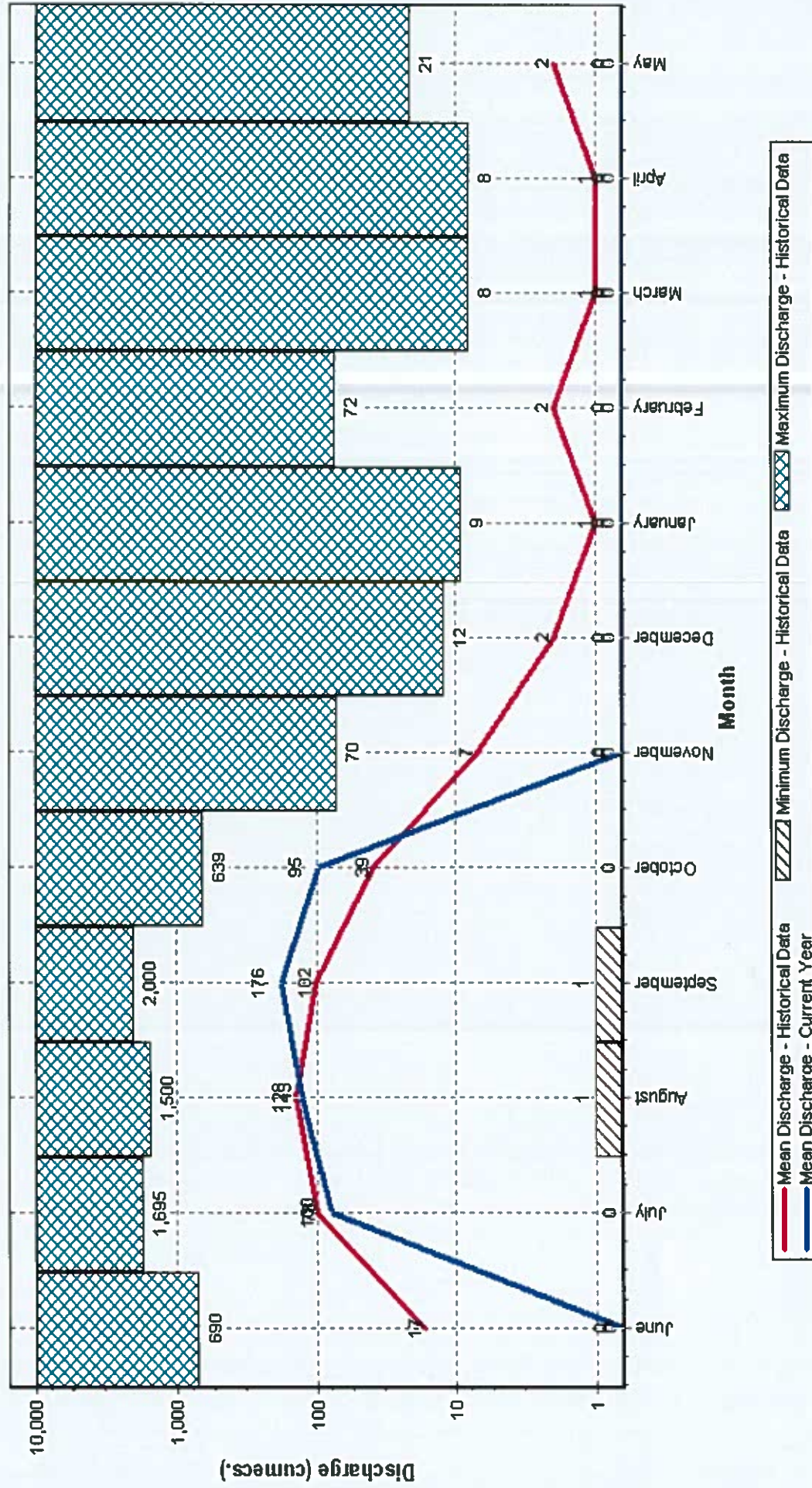
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Data considered : 1990-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

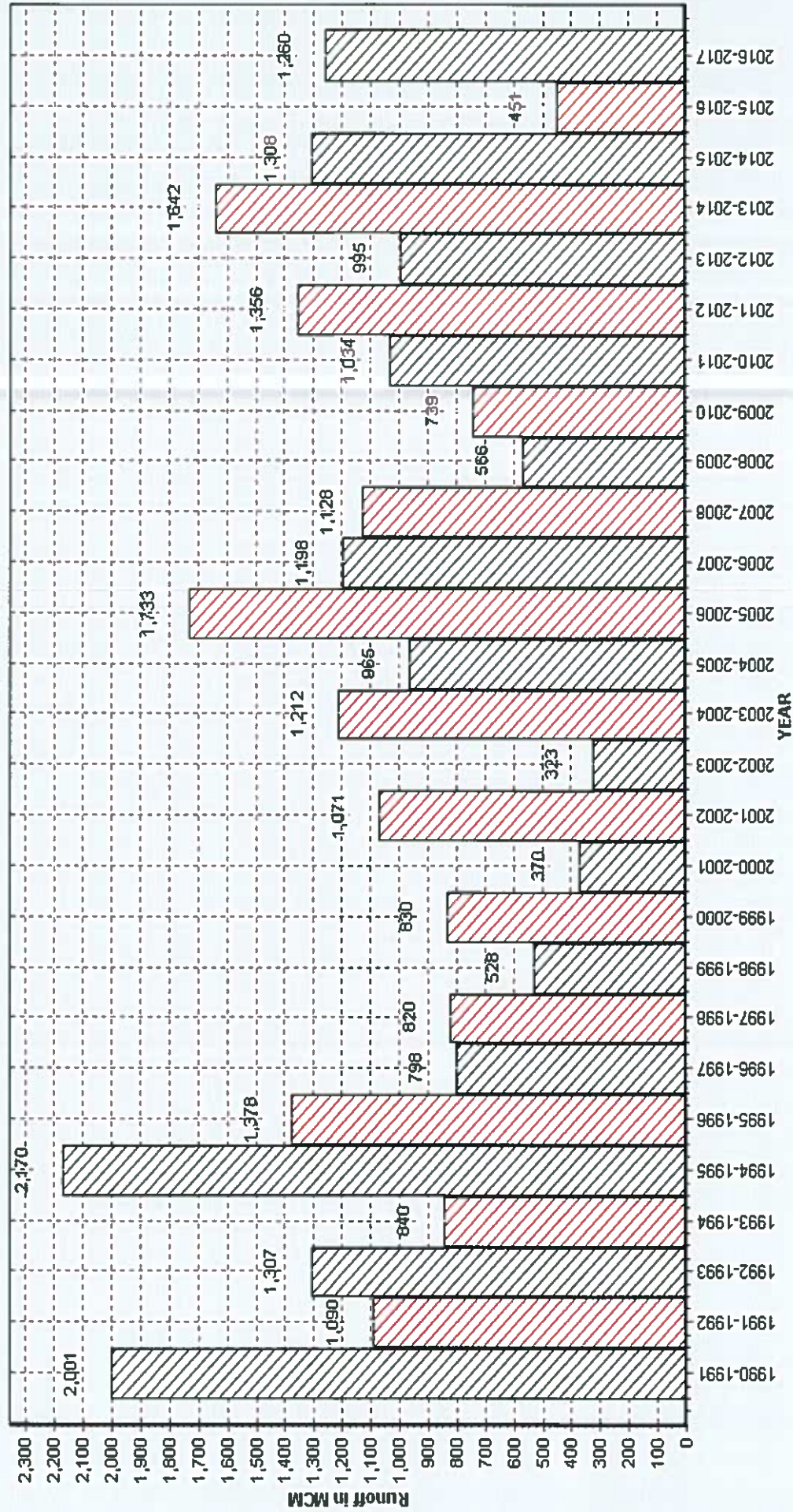


Annual Runoff Values for the period: 1990 - 2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



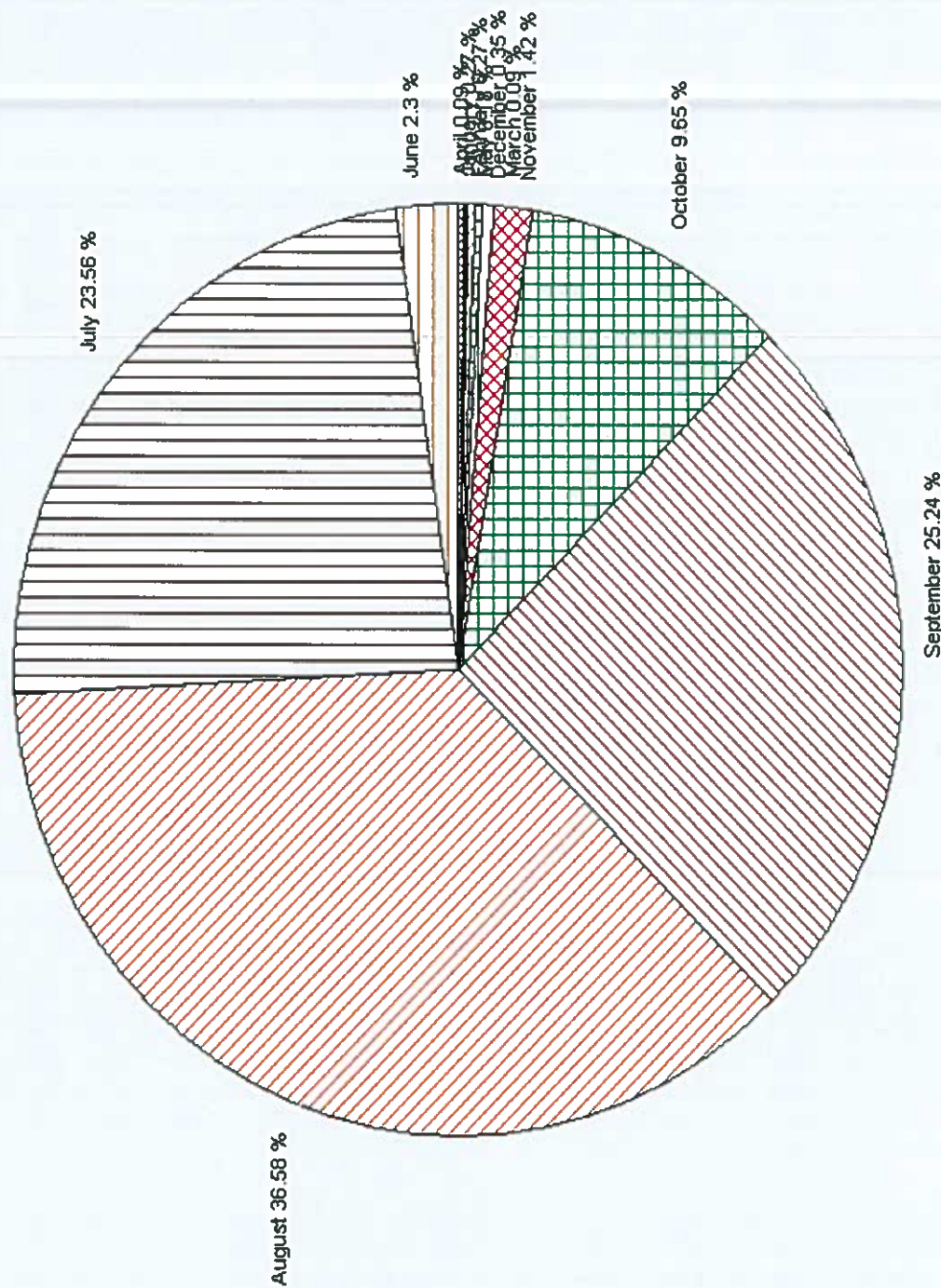
Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1990-2016

Station Name : Pathardih (EMP70F3)
Local River : Kharun

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

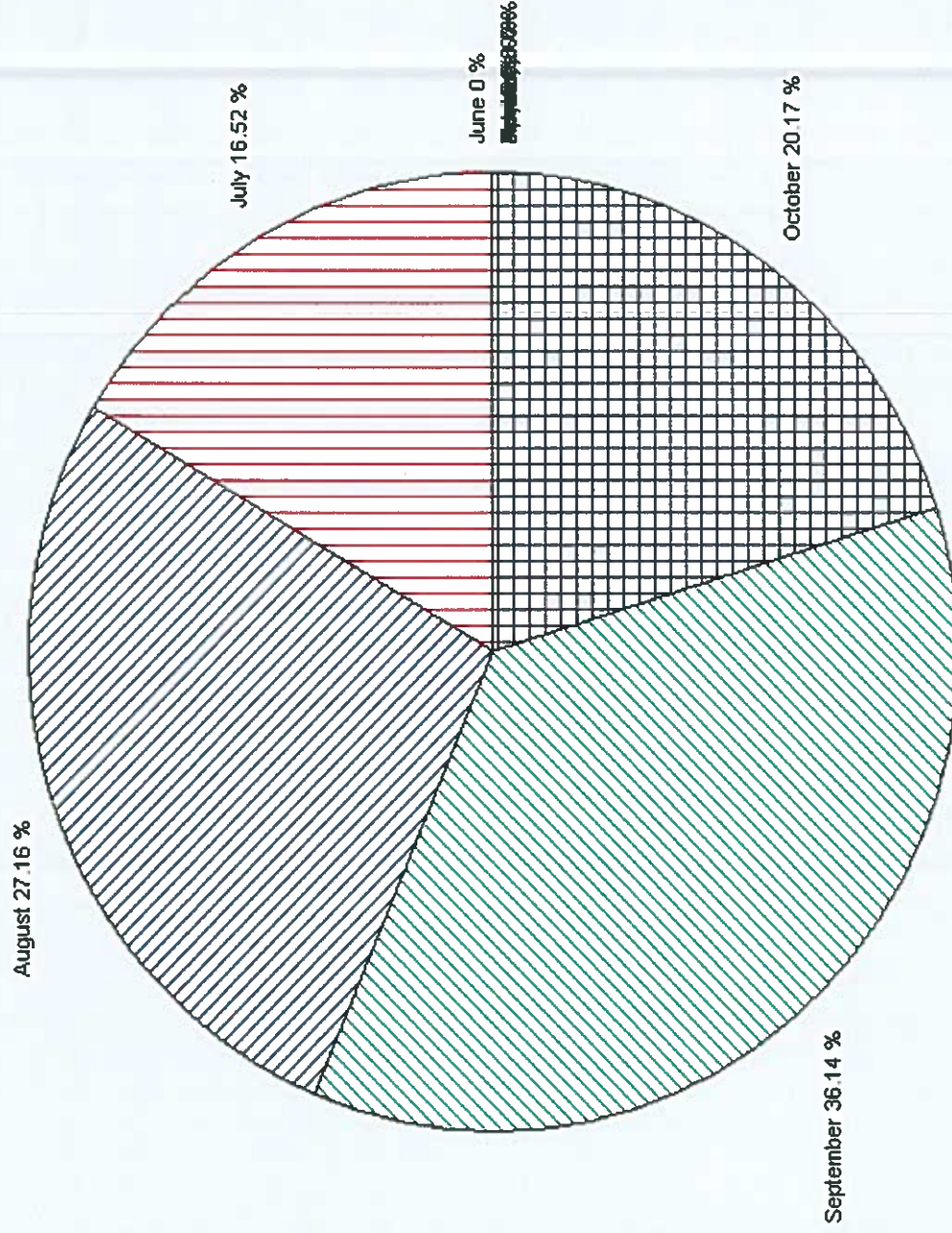
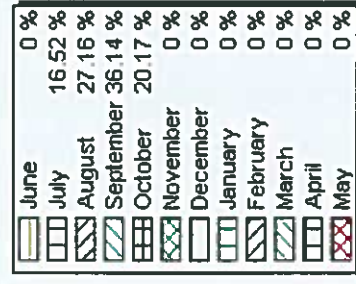
June	2.3 %
July	23.56 %
August	36.58 %
September	25.24 %
October	9.65 %
November	1.42 %
December	0.35 %
January	0.27 %
February	0.27 %
March	0.09 %
April	0.09 %
May	0.18 %



Monthly Runoff for the Year : 2016-2017

Station Name : Pathardih (EMP70F3)
Local River : Kharun

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

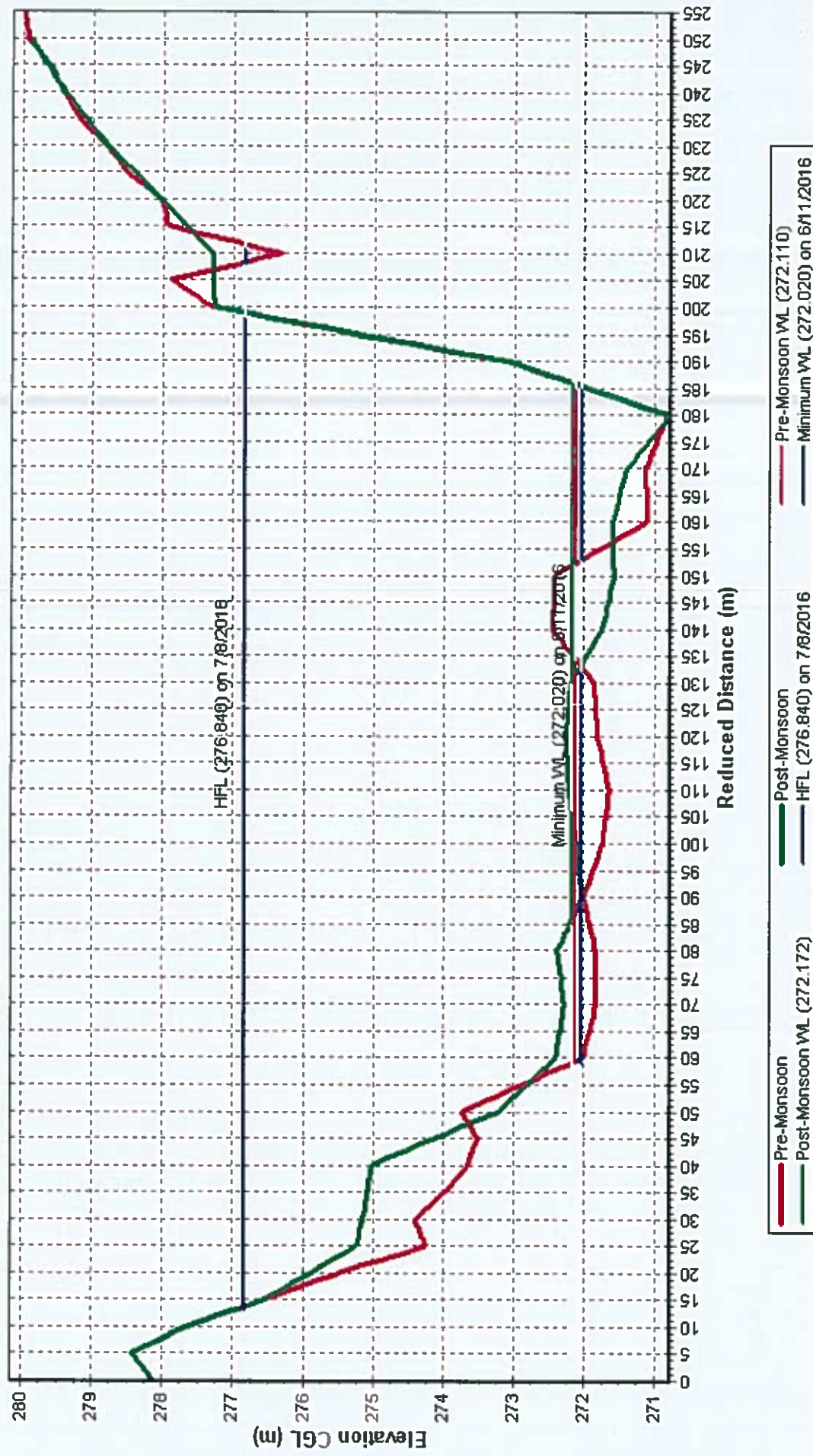


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



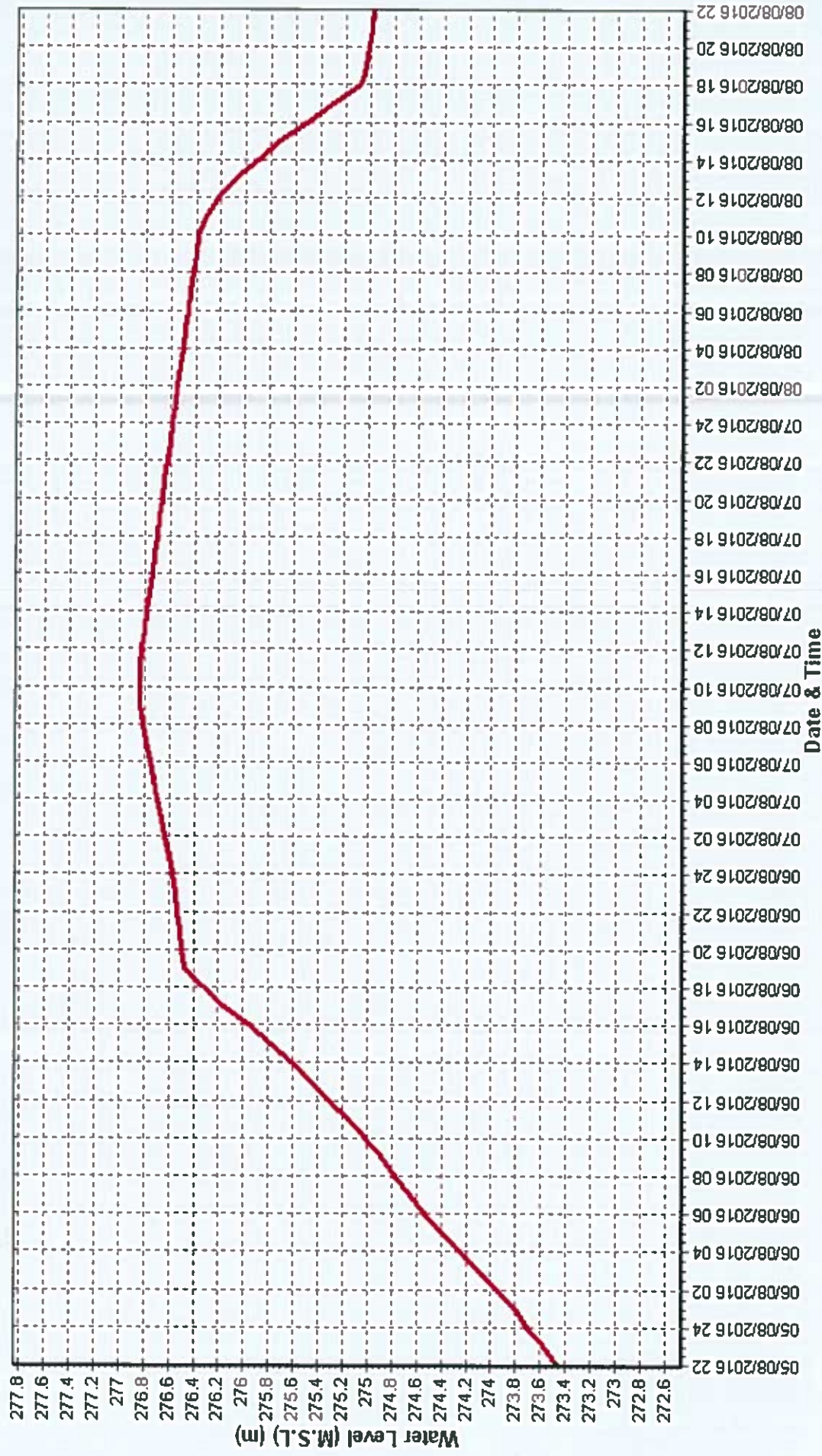
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur



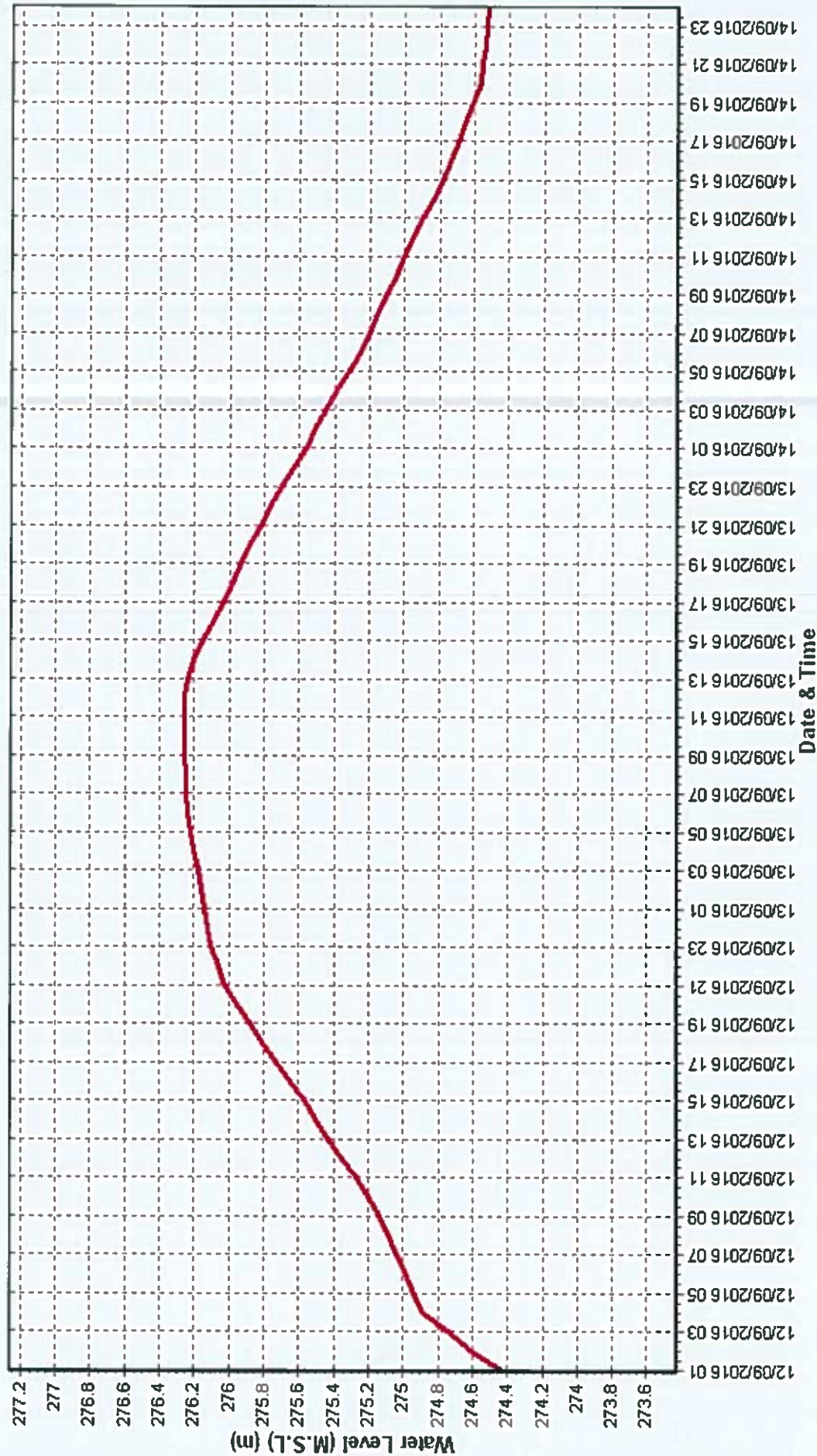
Time Span: 72 Hrs

Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

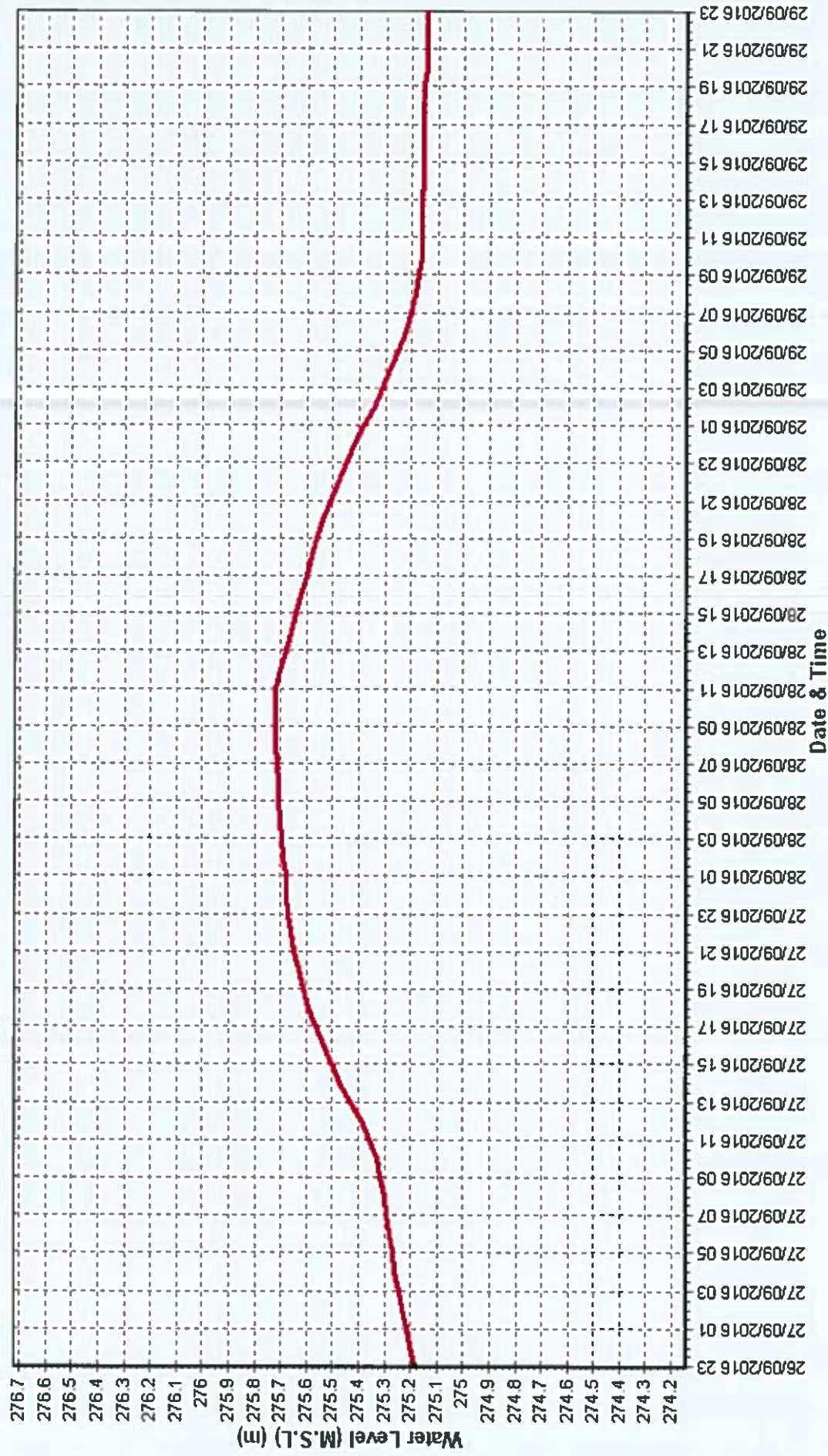
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



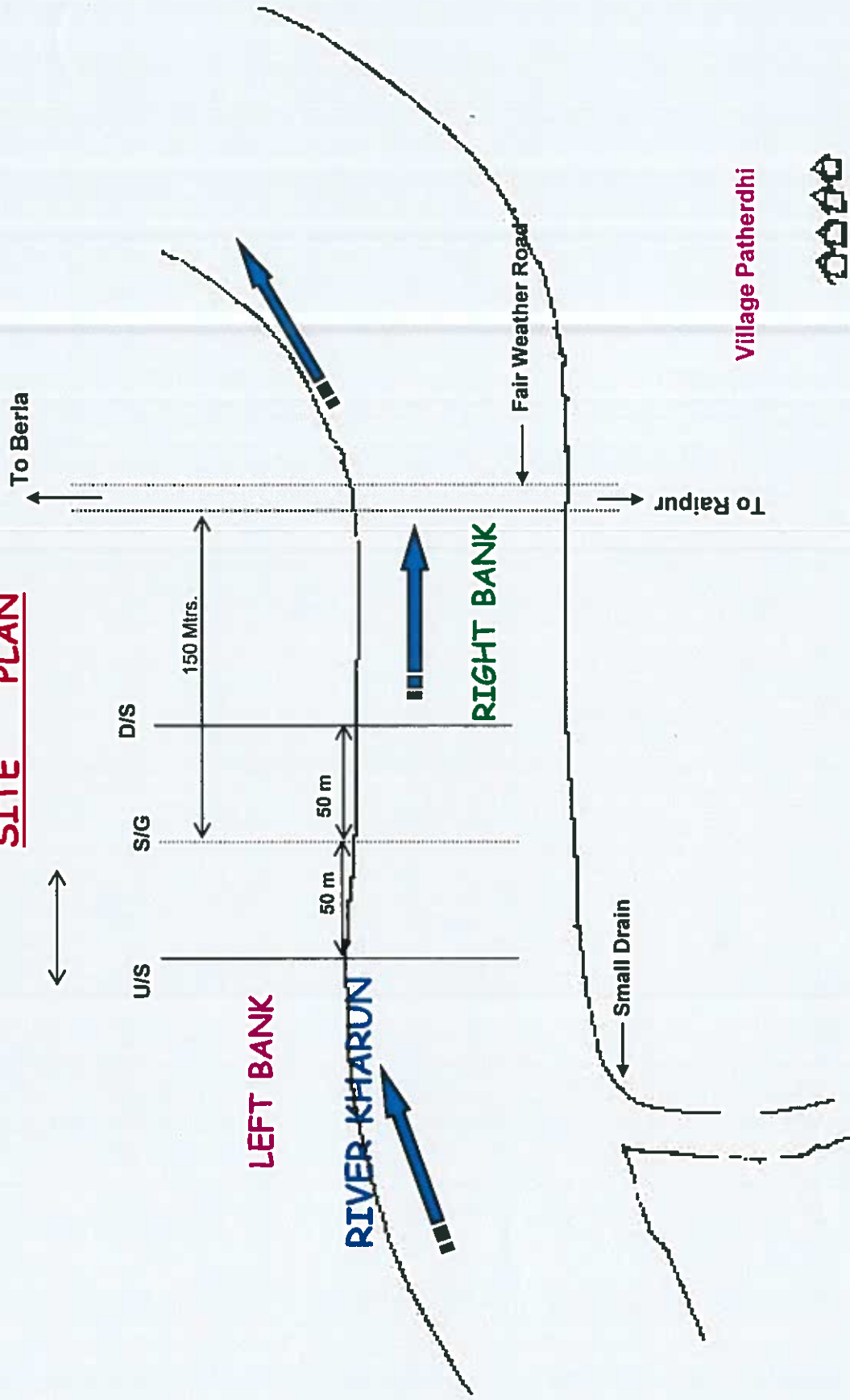
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Pathardih (EMP70F3)
Local River : Kharun

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



SITE PLAN



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	26.13	17.30	304.9	2.711	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)			Brown	Clear	Brown	Clear						
3	EC_FLD (µmho/cm)			104	102	108							
4	EC_GEN (µmho/cm)			272	245	107	346						
5	Odour_Code (-)			odour free	odour free	odour free	odour free						
6	pH_FLD (pH units)			8.0	8.4	7.4	8.6						
7	pH_GEN (pH units)			6.9	7.4	6.9	8.3						
8	Temp (deg C)			30.7	32.3	28.4	25.3						
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0						
2	ALK-TOT (mgCaCO3/L)			204	140	160	140						
3	Ca (mg/L)			56	50	58	51						
4	Cl (mg/L)			25.0	28.0	41.0	35.0						
5	CO3 (mg/L)			0.0	0.0	0.0	0.0						
6	HCO3 (mg/L)			124	85	98	85						
7	K (mg/L)			9.9	10.4	7.4	11.3						
8	Mg (mg/L)			3.9	19.4	5.8	12.6						
9	Na (mg/L)			12.9	21.8	18.8	23.0						
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			2.5	1.5	0.4	0.6						
2	DO (mg/L)			5.1	6.1	5.9	7.0						
3	DO_SAT% (%)			68	84	75	85						
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			140	124	144	128						
2	HAR_Total (mgCaCO3/L)			156	205	169	181						
3	Na% (%)			14	18	19	20						
4	RSC (-)			0.0	0.0	0.0	0.0						
5	SAR (-)			0.4	0.7	0.6	0.7						
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Local River : Kharun

Sub-Division : UMSD,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	1008	0.000	39.95
2	EC_FLD (µmho/cm)	3	108	102	105
3	EC_GEN (µmho/cm)	4	346	107	243
4	pH_FLD (pH units)	4	8.6	7.4	8.1
5	pH_GEN (pH units)	4	8.3	6.9	7.4
6	Temp (deg C)	4	32.3	25.3	29.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	204	140	161
3	Ca (mg/L)	4	58	50	54
4	Cl (mg/L)	4	41.0	25.0	32.3
5	CO3 (mg/L)	4	0.0	0.0	0
6	HCO3 (mg/L)	4	124	85	98
7	K (mg/L)	4	11.3	7.4	9.7
8	Mg (mg/L)	4	19.4	3.9	10.5
9	Na (mg/L)	4	23.0	12.9	19.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	4	2.5	0.4	1.3
2	DO (mg/L)	4	7.0	5.1	6
3	DO_SAT% (%)	4	85	68	78
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	4	144	124	134
2	HAR_Total (mgCaCO3/L)	4	205	156	178
3	Na% (%)	4	20	14	18
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	0.7	0.4	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Local River : Kharun

River Water

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Flood Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	32.30	113.5	62.85	392.7	299.8	222.4	43.70	83.23	91.14	190.6	158.5	378.6	40.48	10.44	69.66
2	EC_FLD (µmho/cm)	263	203	555	308	224	241								131	105
3	EC_GEN (µmho/cm)	263	203	555	308	224	216	341	285	268	313	313	276	393	284	208
4	pH_FLD (pH units)	8.1	7.7	7.7	7.4	7.6	7.6	7.6	7.9	7.4	7.6	7.3	7.0	7.5	7.9	7.9
5	pH_GEN (pH units)	8.1	7.7	7.7	7.4	7.6	7.6	7.6	7.9	7.4	7.6	7.5	8.2	7.7	7.6	7.1
6	Temp (deg C)	28.8	29.5	30.0	29.4	26.1	29.0	25.5	27.0	29.2	27.5	28.8	30.8	32.4	30.3	30.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	2.2	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0
2	ALK-TOT (mgCaCO3/L)	153	199	222	171		162	255	191	187	219	222	208	235	251	168
3	B (mg/L)				0.05		0.01	0.01	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	21	22	30	22		18	25	20	20	24	28	29	35	41	55
5	Cl (mg/L)	7.9	34.0	14.7	35.2		13.7	20.8	13.3	8.7	11.6	12.6	33.0	28.3	38.8	31.3
6	CO3 (mg/L)	2.7	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0
7	F (mg/L)		1.62		0.30		0.13	0.15	0.21	0.18	0.22	0.26				
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1				
9	HCO3 (mg/L)	90	121	166	104		99	155	117	114	134	136	127	143	149	102
10	K (mg/L)	5.7			5.1		2.4	4.1	3.6	4.9	4.9	3.4	6.8	10.8	8.5	9.2
11	Mg (mg/L)	5.7	4.0	24.3	7.5		6.8	15.2	13.3	12.6	14.6	15.6	10.0	11.4	13.6	9.7
12	Na (mg/L)	9.6			19.5		15.4	12.9	14.6	17.5	13.5	9.9	13.3	17.1	24.8	17.8
13	NO2+NO3 (mg N/L)	0.64			0.13	0.13	0.10	0.80								
14	NO2-N (mgN/L)				0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05				
15	NO3-N (mgN/L)				0.12	0.09	0.09	0.79								
16	P-Tot (mgP/L)		0.020		0.023		0.017	0.053	0.047	0.070	0.053	0.103				
17	SiO2 (mg/L)				8.5		14.8	18.3	21.9	15.3	17.3	20.5				
18	SO4 (mg/L)	12.0	16.1	8.0	23.0		14.3	17.3	16.7	15.9	23.5	24.2				

183

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Local River : Kharun

River Water

Sub-Division : UMSD,CWC,Raipur

S.No		Parameters		Flood												
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
BIOLOGICAL/BACTERIOLOGICAL																
1	BOD3-27 (mg/L)	0.7	1.5	1.0	1.1		1.4	0.9	1.7	0.7	1.1	2.0	1.1	1.2	0.8	1.5
2	COD (mg/L)						17.6	19.0	25.3	38.7	29.3	26.7				
3	DO (mg/L)	7.8	5.9	5.2	4.5		7.1	6.1	6.7	5.6	4.8	6.9	5.5	1.2	4.3	5.7
4	DO_SAT% (%)	101	71	69	60		92	75	84	73	61	89	74	16	56	76
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	54	56	74	55		44	62	51	50	61	69	73	87	103	136
2	HAR_Total (mgCaCO3/L)	77	72	174	86		72	126	106	103	122	134	115	135	160	177
3	Na% (%)	18			31		33	18	23	25	18	14	18	20	24	17
4	RSC (-)	0.2	0.6	0.0	0.0		0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
5	SAR (-)	0.5			0.9		0.8	0.5	0.6	0.7	0.5	0.4	0.5	0.6	0.9	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

River Water

Division : MD, CWC, Buria

Sub-Division : UMSD, CWC, Raipur

S.No	Parameters	Winter																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	4.861	6.353	9.876	5.384	3.179	7.031	5.472	1.344	7.186	5.622	4.050	26.06	4.017	0.803	0.678		
2	EC_FLD (µmho/cm)	290	430	629	510	337	428								170			
3	EC_GEN (µmho/cm)	290	430	629	510	337	445	489	490	407	396	451	286	362	455	346		
4	pH_FLD (pH units)	8.3	8.0	7.7	7.4	8.1	7.7			7.3	7.6		7.7	7.9	8.0	8.6		
5	pH_GEN (pH units)	8.3	8.0	7.7	7.3	8.1	7.7	8.0	7.9	7.5	7.8	8.2	7.7	8.1	7.6	8.3		
6	Temp (deg C)	27.0	22.5	23.3	24.8	24.0	24.8	17.7	25.0	24.6	25.8	24.0	28.9	27.0	26.1	25.3		
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	9.7	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)	207	425	341	334		323	316	325	281	274	335	248	280	252	140		
3	B (mg/L)				0.05		0.01	0.00	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	29	41	42	28		27	35	34	30	30	14	35	45	55	51		
5	Cl (mg/L)	7.0	29.6	28.2	61.9		43.2	61.3	27.8	38.9	36.7	19.2	25.0	39.0	43.0	35.0		
6	CO3 (mg/L)	11.6	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
7	F (mg/L)		1.36	1.33	0.14		0.33	0.13	0.14	0.21	0.25	0.32						
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0						
9	HCO3 (mg/L)	114	256	208	204		197	192	198	171	167	204	151	171	154	85		
10	K (mg/L)			8.9	7.3		7.7	7.9	5.4	6.6	6.2	4.8	27.1	6.2	6.0	11.3		
11	Mg (mg/L)	6.0	16.5	19.4	20.8		18.2	18.3	19.4	17.5	16.6	9.2	10.7	15.6	15.1	12.6		
12	Na (mg/L)			43.0	35.1		23.4	42.9	27.6	17.0	24.1	59.4	19.6	15.3	23.7	23.0		
13	NO2+NO3 (mg N/L)			0.79	0.39	0.20	0.32	1.56										
14	NO2-N (mgN/L)				0.00	0.01	0.01	0.03	0.05	0.06	0.03	0.04						
15	NO3-N (mgN/L)				0.39	0.20	0.31	1.53										
16	P-Tot (mgP/L)		0.080	0.020	0.018		0.025	0.163	0.011	0.070	0.200	0.060						
17	SiO2 (mg/L)				12.1		21.4	19.5	21.0	16.1	15.0	18.4						
18	SO4 (mg/L)		49.8	58.2	44.9		32.5	33.5	12.0	29.6	28.9	19.8						

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Local River : Kharun

River Water

S.No		Parameters														Winter														SAR-DIVISION : DWSD/CWC, Raipur													
																Nov - Feb																											
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017																											
BIOLOGICAL/BACTERIOLOGICAL																																											
1	BOD3-27 (mg/L)	1.7	1.1	2.0	1.1		0.8	0.7	1.1	0.8	1.4	1.8	1.3	4.1	0.8	0.6																											
2	COD (mg/L)						34.0	32.0	48.0	130.0	20.0	24.0																															
3	DO (mg/L)	8.1	5.1	7.2	6.1		7.3	6.9	9.6	6.3	7.6	7.5	7.3	4.1	3.0	7.0																											
4	DO_SAT% (%)	102	62	84	74		87	73	116	75	92	89	93	51	37	85																											
TRACE & TOXIC																																											
CHEMICAL INDICES																																											
1	HAR_Ca (mgCaCO3/L)	72	102	106	71		68	87	84	75	74	36	88	112	136	128																											
2	HAR_Total (mgCaCO3/L)	97	170	186	158		144	163	165	148	143	74	133	177	199	181																											
3	Na% (%)			33	32		25	35	26	19	26	62	20	15	20	20																											
4	RSC (-)	0.3	0.4	0.5	0.3		0.4	0.1	0.0	0.0	0.1	1.9	0.0	0.0	0.0	0.0																											
5	SAR (-)			1.4	1.3		0.8	1.5	0.9	0.6	0.9	3.0	0.7	0.5	0.7	0.7																											
PESTICIDES																																											

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Pathardih (EMP70F3)

Local River : Kharun

River Water

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Summer														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)				0.565											
2	EC_FLD (µmho/cm)				581											
3	EC_GEN (µmho/cm)				581		426									
4	pH_FLD (pH units)				6.9		7.9									
5	pH_GEN (pH units)				6.9		8.1									
6	Temp (deg C)				30.5		23.5									
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)				0.0		2.7									
2	ALK-TOT (mgCaCO3/L)				398		256									
3	B (mg/L)				0.08		0.01									
4	Ca (mg/L)				56		28									
5	Cl (mg/L)				61.5		79.8									
6	CO3 (mg/L)				0.0		3.3									
7	F (mg/L)				0.12		0.16									
8	Fe (mg/L)				0.5		0.1									
9	HCO3 (mg/L)				243		153									
10	K (mg/L)				8.5		9.0									
11	Mg (mg/L)				17.7		9.2									
12	Na (mg/L)				36.5		34.9									
13	NO2+NO3 (mg N/L)				0.19		0.22									
14	NO2-N (mgN/L)				0.01		0.01									
15	NO3-N (mgN/L)				0.18		0.21									
16	P-Tot (mgP/L)				0.015		0.025									
17	SiO2 (mg/L)				16.5		20.0									
18	SO4 (mg/L)				29.3		25.5									

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Pathardih (EMP70F3)

Division : MD,CWC,Burla

Local River : Kharun

Sub-Division : UMSD,CWC,Raipur

River Water

S.No		Parameters										Summer					
												Mar - May					
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
BIOLOGICAL/BACTERIOLOGICAL																	
1	BOD3-27 (mg/L)				0.8		2.0										
2	COD (mg/L)						26.0										
3	DO (mg/L)				7.2		6.9										
4	DO_SAT% (%)				95		81										
TRACE & TOXIC																	
CHEMICAL INDICES																	
1	HAR_Ca (mgCaCO3/L)				139		71										
2	HAR_Total (mgCaCO3/L)				213		109										
3	Na% (%)				27		37										
4	RSC (-)				0.0		0.4										
5	SAR (-)				1.1		1.5										
PESTICIDES																	

SITE SIMGA

HISTORY SHEET

		Water Year : 2016-2017	
Site	: Simga	Code	: EMP00J1
State	: Chhattisgarh	District	: Baloda Bazar
Basin	: Mahanadi	Independent River	: Mahanadi
Tributary	: Seonath	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Seonath
Division	: MD,CWC,Burla	Sub-Division	: UMSD,CWC,Raipur
Drainage Area	: 30761 Sq. Km.	Bank	:
Latitude	: 21°37'33"	Longitude	: 81°41'36"
Zero of Gauge (m)	: 244 (m.s.l)	29-09-1971	- 29-09-2071
	Opening Date	Closing Date	
Gauge	: 29-07-1971		
Discharge	:		
Sediment	: 30-12-1972		
Water Quality	: 01-09-1972		

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1972-1973	1703	250.860	24-08-1972	0.800	245.895	14-06-1972
1973-1974	6320	256.305	10-07-1973	1.000	245.935	19-05-1974
1974-1975	3484	252.675	18-08-1974	0.217	246.375	26-05-1975
1975-1976	5761	254.045	16-08-1975	0.780	246.385	09-05-1976
1976-1977	3423	253.140	15-08-1976	1.142	245.905	26-05-1977
1977-1978	6253	255.065	08-08-1977	0.902	245.880	06-06-1977
1978-1979	6965	256.730	31-08-1978	1.650	245.957	09-06-1978
1979-1980	4392	255.150	10-08-1979	1.160	245.945	28-04-1980
1980-1981	6626	255.600	15-09-1980	1.998	245.975	03-06-1980
1981-1982	4210	254.030	11-08-1981	3.047	246.005	11-05-1982
1982-1983	2876	253.490	09-08-1982	3.006	245.945	03-05-1983
1983-1984	3200	251.415	09-08-1983	2.937	245.955	09-06-1983
1984-1985	5339	254.465	04-08-1984	4.600	245.945	31-05-1985
1985-1986	6150	254.660	13-09-1985	5.300	245.945	02-06-1985
1986-1987	5615	254.780	26-06-1986	4.345	245.970	01-05-1987
1987-1988	1208	249.600	30-08-1987	4.500	245.980	12-05-1988
1988-1989	858.3	248.860	02-08-1988	0.330	245.850	18-05-1989
1989-1990	1157	249.700	03-07-1989	0.230	245.830	07-06-1989
1990-1991	5909	254.480	15-09-1990	1.925	245.940	14-05-1991
1991-1992	5447	254.320	25-08-1991	1.236	245.855	13-05-1992
1992-1993	5799	254.600	22-08-1992	0.083	245.695	12-05-1993
1993-1994	2353	251.450	18-08-1993	0.387	245.865	23-05-1994

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1994-1995	10821	257.590	13-07-1994	2.264	245.910	08-06-1994
1995-1996	5024	254.780	26-07-1995	1.190	245.940	16-06-1995
1996-1997	3564	253.120	02-08-1996	0.392	245.800	26-05-1997
1997-1998	4917	253.960	23-08-1997	0.306	245.820	05-06-1997
1998-1999	2189	251.540	14-09-1998	0.036	245.790	13-05-1999
1999-2000	2216	251.600	31-08-1999	0.186	245.780	12-05-2000
2000-2001	2824	251.910	20-07-2000	0.016	245.785	17-04-2001
2001-2002	3513	252.220	22-08-2001	0.014	245.680	14-05-2002
2002-2003	1950	250.750	18-08-2002	0.057	245.730	07-05-2003
2003-2004	4865	253.810	30-08-2003	0.092	245.820	05-05-2004
2004-2005	1697	250.650	30-07-2004	0.197	245.830	16-04-2005
2005-2006	11000	256.950	16-09-2005	0.517	245.790	06-03-2006
2006-2007	7200	255.890	15-08-2006	0.260	245.785	16-04-2007
2007-2008	11332	256.790	02-07-2007	0.109	245.765	05-06-2007
2008-2009	2977	252.035	20-09-2008	0.080	245.910	05-02-2009
2009-2010	3039	251.960	17-07-2009	0.000	245.610	04-05-2010
2010-2011	3349	252.120	09-09-2010	0.000	244.000	15-06-2010
2011-2012	7359	255.610	09-09-2011	0.000	245.750	09-05-2012
2012-2013	2995	252.390	06-09-2012	0.000	245.800	07-06-2012
2013-2014	6844	255.750	02-08-2013	0.000	245.720	06-06-2013
2014-2015	9572	256.640	24-07-2014	0.000	245.830	11-05-2015
2015-2016	1177	249.680	19-09-2015	0.000	245.540	02-05-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Simga (EMP00J1)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	245.400	0.000 *	245.995	11.98	246.840	258.5	246.890	256.1	250.190	1145	246.430	54.83
2	245.400	0.000 *	245.980	11.18	246.810	246.7	247.165	322.1	249.460	1010 *	246.425	47.34
3	245.395	0.000 *	246.040	16.54 *	246.940	277.7	247.200	341.6	248.870	753.9	246.420	38.59
4	245.390	0.000 *	246.210	22.36	247.150	329.1	247.320	355.6 *	248.490	704.9	246.420	40.59
5	245.390	0.000 *	246.120	18.25	247.160	329.8	247.250	342.1 *	248.250	619.8	246.400	34.78
6	245.390	0.000 *	246.190	21.50 *	249.970	1059	247.390	375.0	247.940	559.8	246.385	33.56 *
7	245.380	0.000 *	246.670	91.07	250.570	1220 *	247.250	342.2	247.740	463.1	246.330	32.99
8	245.380	0.000 *	246.610	89.08	250.700	1331	247.140	323.7	248.180	589.0	246.300	29.44
9	245.370	0.000 *	246.395	84.92	248.900	755.9	247.005	279.0	248.840	730.3 *	246.290	27.85
10	245.370	0.000 *	246.570	78.65 *	247.350	362.9	247.005	286.1	249.950	1101 *	246.290	28.35
11	245.360	0.000 *	247.275	317.2	247.290	346.9	247.250	342.3 *	249.860	1084 *	246.280	27.80
12	245.315	0.000 *	248.320	672.8	247.380	368.3	247.330	356.0	248.900	780.8 *	246.690	76.76
13	245.275	0.000 *	248.010	595.0	247.600	457.4	252.360	1547 *	248.400	664.5	246.690	76.78 *
14	245.240	0.000 *	247.730	514.6	247.590	420.0 *	250.025	1115	247.980	570.1	246.680	75.52 *
15	245.205	0.000 *	247.430	382.6	247.430	370.0 *	249.070	849.5	247.700	463.2	246.660	72.80
16	245.180	0.000 *	246.940	276.0	247.315	373.1	248.275	647.6	247.530	420.2 *	246.640	23.85
17	245.165	0.000 *	247.390	348.5 *	246.880	248.5	247.850	540.6	247.455	409.6	246.640	21.66
18	245.165	0.000 *	247.320	338.6	246.800	239.7	247.640	455.6 *	247.280	346.0	246.630	21.26
19	245.170	0.000 *	246.900	264.1	246.775	233.5	247.690	465.2	247.125	317.4	246.630	21.26
20	245.160	0.000 *	246.760	259.5	246.790	236.3	247.620	450.8	247.080	311.0	246.625	21.42 *
21	245.135	0.000 *	246.690	220.4	246.785	210.0 *	247.780	493.7	247.020	289.1	246.570	0.000 *
22	245.195	0.000 *	246.870	278.0	246.730	219.8	247.695	459.9	246.930	288.1	246.570	0.000 *
23	245.200	0.000 *	248.220	644.6	246.670	67.27	247.500	418.1	246.890	275.3 *	246.570	0.000 *
24	245.190	0.000 *	248.210	636.8 *	246.610	59.78	247.390	371.4	246.850	263.2	246.570	0.000 *
25	245.180	0.000 *	248.155	574.5	246.590	59.25	247.330	369.7 *	246.810	247.0	246.570	0.000 *
26	245.170	0.000 *	247.880	556.7	246.650	77.24	248.210	637.0	246.770	236.4	246.570	0.000 *
27	245.580	0.000 *	247.870	552.7	246.930	268.9	250.190	1146	246.725	75.14	246.570	0.000 *
28	246.080	0.000 *	247.530	434.5	247.350	380.0 *	250.530	1253	246.670	72.76	246.570	0.000 *
29	246.170	0.000 *	247.340	357.6	247.415	392.0	250.360	1164	246.610	70.78	246.560	0.000 *
30	246.010	0.000 *	247.200	339.8	247.160	326.4	250.390	1183	246.530	64.58 *	246.560	0.000 *
31			247.030	282.5 *	247.055	303.5			246.465	57.97		
Ten-Daily Mean												
I Ten-Daily	245.387	0.000	246.278	44.55	248.239	617.0	247.161	322.3	248.791	767.6	246.369	36.83
II Ten-Daily	245.223	0.000	247.407	396.9	247.185	329.4	248.511	677.0	247.931	536.7	246.617	43.91
III Ten-Daily	245.491	0.000	247.545	443.5	246.904	214.9	248.738	749.5	246.752	176.4	246.568	0.000
Monthly												
Min.	245.135	0.000	245.980	11.18	246.590	59.25	246.890	256.1	246.465	57.97	246.280	0.000
Max.	246.170	0.000	248.320	672.8	250.700	1331	252.360	1547	250.190	1145	246.690	76.78
Mean	245.367	0	247.092	299.8	247.425	381.5	248.137	583	247.790	483.3	246.518	26.91

Annual Runoff in MCM = 4700 Annual Runoff in mm = 153

Peak Observed Discharge = 1331 cumecs on 08/08/2016 Corres. Water Level :250.7 m

Lowest Observed Discharge = 11.18 cumecs on 02/07/2016 Corres. Water Level :245.98 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Simga (EMP00J1)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	246.560	0.000 *	246.310	0.000 *	246.240	0.000 *	246.120	0.000 *	246.160	0.000 *	246.090	0.000 *
2	246.560	0.000 *	246.300	0.000 *	246.240	0.000 *	246.120	0.000 *	246.160	0.000 *	246.090	0.000 *
3	246.560	0.000 *	246.280	0.000 *	246.220	0.000 *	246.110	0.000 *	246.160	0.000 *	246.090	0.000 *
4	246.560	0.000 *	246.250	0.000 *	246.220	0.000 *	246.110	0.000 *	246.150	0.000 *	246.080	0.000 *
5	246.560	0.000 *	246.230	0.000 *	246.210	0.000 *	246.100	0.000 *	246.150	0.000 *	246.080	0.000 *
6	246.550	0.000 *	246.220	0.000 *	246.210	0.000 *	246.100	0.000 *	246.150	0.000 *	246.080	0.000 *
7	246.550	0.000 *	246.200	0.000 *	246.200	0.000 *	246.100	0.000 *	246.140	0.000 *	246.080	0.000 *
8	246.550	0.000 *	246.190	0.000 *	246.200	0.000 *	246.090	0.000 *	246.140	0.000 *	246.080	0.000 *
9	246.540	0.000 *	246.180	0.000 *	246.200	0.000 *	246.090	0.000 *	246.140	0.000 *	246.080	0.000 *
10	246.540	0.000 *	246.170	0.000 *	246.200	0.000 *	246.090	0.000 *	246.140	0.000 *	246.070	0.000 *
11	246.540	0.000 *	246.170	0.000 *	246.200	0.000 *	246.080	0.000 *	246.130	0.000 *	246.070	0.000 *
12	246.540	0.000 *	246.170	0.000 *	246.200	0.000 *	246.070	0.000 *	246.130	0.000 *	246.070	0.000 *
13	246.530	0.000 *	246.170	0.000 *	246.200	0.000 *	246.060	0.000 *	246.130	0.000 *	246.070	0.000 *
14	246.530	0.000 *	246.170	0.000 *	246.190	0.000 *	246.050	0.000 *	246.125	0.000 *	246.080	0.000 *
15	246.530	0.000 *	246.180	0.000 *	246.190	0.000 *	246.040	0.000 *	246.120	0.000 *	246.090	0.000 *
16	246.510	0.000 *	246.200	0.000 *	246.190	0.000 *	246.040	0.000 *	246.120	0.000 *	246.090	0.000 *
17	246.500	0.000 *	246.230	0.000 *	246.180	0.000 *	246.030	0.000 *	246.120	0.000 *	246.090	0.000 *
18	246.490	0.000 *	246.260	0.000 *	246.180	0.000 *	246.020	0.000 *	246.110	0.000 *	246.090	0.000 *
19	246.470	0.000 *	246.280	0.000 *	246.180	0.000 *	246.020	0.000 *	246.110	0.000 *	246.080	0.000 *
20	246.450	0.000 *	246.280	0.000 *	246.180	0.000 *	246.020	0.000 *	246.110	0.000 *	246.080	0.000 *
21	246.440	0.000 *	246.280	0.000 *	246.160	0.000 *	246.010	0.000 *	246.110	0.000 *	246.070	0.000 *
22	246.430	0.000 *	246.270	0.000 *	246.150	0.000 *	246.010	0.000 *	246.100	0.000 *	246.070	0.000 *
23	246.420	0.000 *	246.270	0.000 *	246.140	0.000 *	246.010	0.000 *	246.100	0.000 *	246.070	0.000 *
24	246.420	0.000 *	246.260	0.000 *	246.140	0.000 *	246.070	0.000 *	246.100	0.000 *	246.070	0.000 *
25	246.420	0.000 *	246.260	0.000 *	246.140	0.000 *	246.070	0.000 *	246.100	0.000 *	246.070	0.000 *
26	246.420	0.000 *	246.260	0.000 *	246.130	0.000 *	246.070	0.000 *	246.100	0.000 *	246.070	0.000 *
27	246.410	0.000 *	246.260	0.000 *	246.130	0.000 *	246.070	0.000 *	246.100	0.000 *	246.070	0.000 *
28	246.380	0.000 *	246.260	0.000 *	246.130	0.000 *	246.120	0.000 *	246.100	0.000 *	246.070	0.000 *
29	246.330	0.000 *	246.260	0.000 *			246.150	0.000 *	246.090	0.000 *	246.070	0.000 *
30	246.340	0.000 *	246.240	0.000 *			246.160	0.000 *	246.090	0.000 *	246.070	0.000 *
31	246.320	0.000 *	246.240	0.000 *			246.160	0.000 *			246.070	0.000 *
Ten-Daily Mean												
I Ten-Daily	246.553	0.000	246.233	0.000	246.214	0.000	246.103	0.000	246.149	0.000	246.082	0.000
II Ten-Daily	246.509	0.000	246.211	0.000	246.189	0.000	246.043	0.000	246.121	0.000	246.081	0.000
III Ten-Daily	246.394	0.000	246.260	0.000	246.140	0.000	246.082	0.000	246.099	0.000	246.070	0.000
Monthly												
Min.	246.320	0.000	246.170	0.000	246.130	0.000	246.010	0.000	246.090	0.000	246.070	0.000
Max.	246.560	0.000	246.310	0.000	246.240	0.000	246.160	0.000	246.160	0.000	246.090	0.000
Mean	246.482	0	246.235	0	246.184	0	246.076	0	246.123	0	246.077	0

Peak Computed Discharge = 1547 cumecs on 13/09/2016

Corres. Water Level :252.36 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :245.4 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

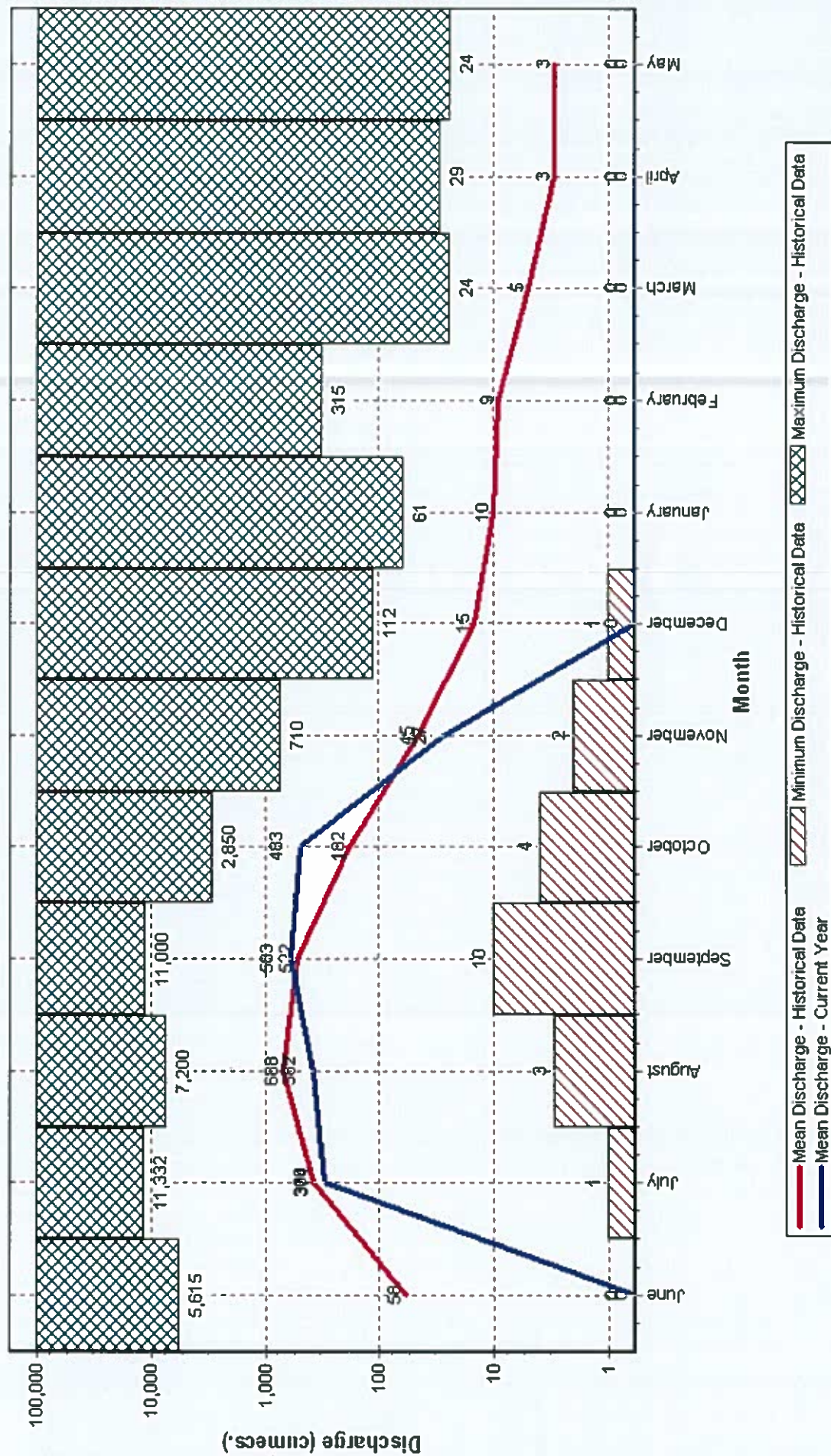
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : Simga (EMP00011)

Local River : Seonath

Data considered : 1972-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

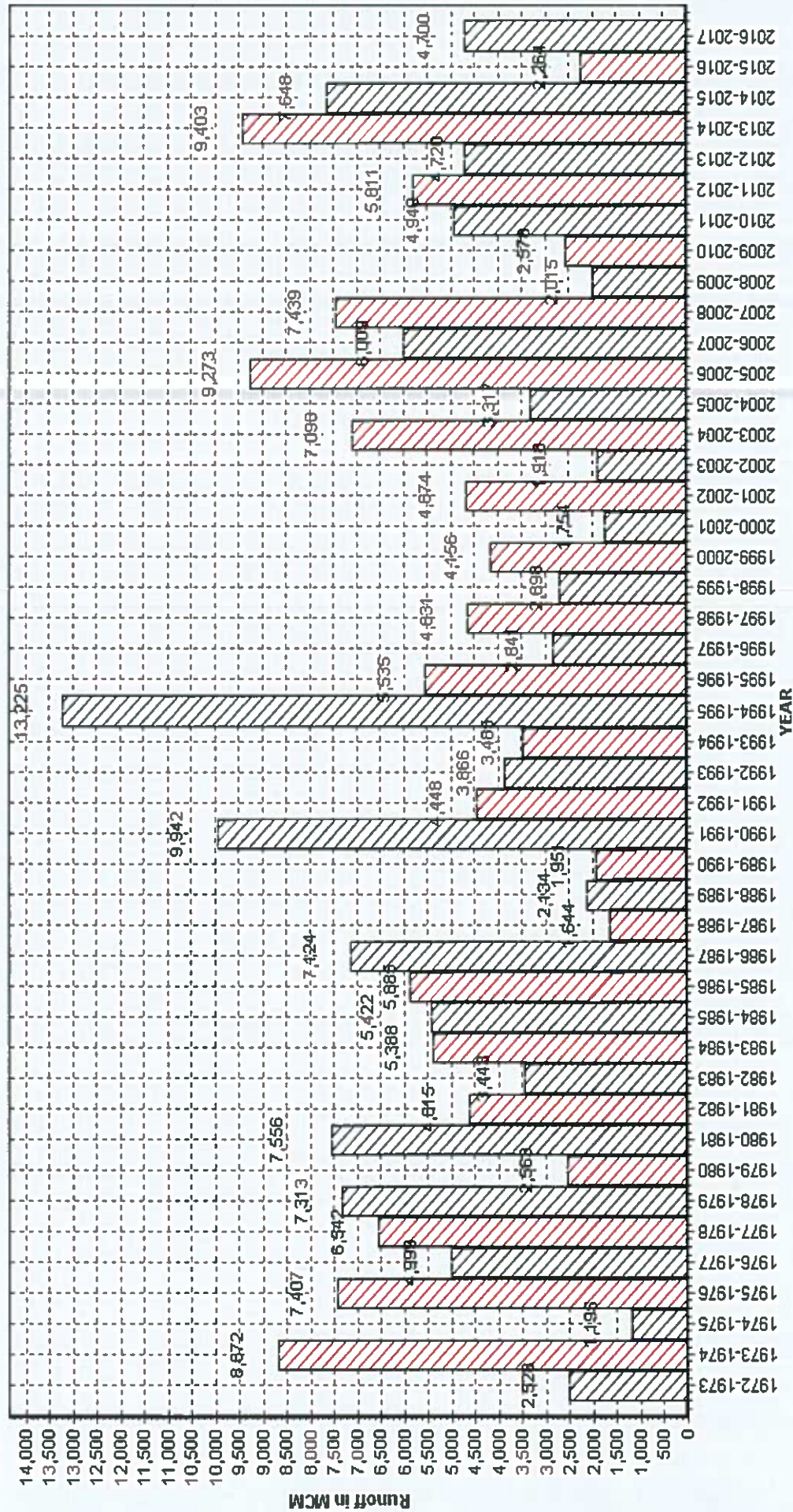


Annual Runoff Values for the period: 1972 - 2017

Station Name : Simga (EMP00J1)

Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

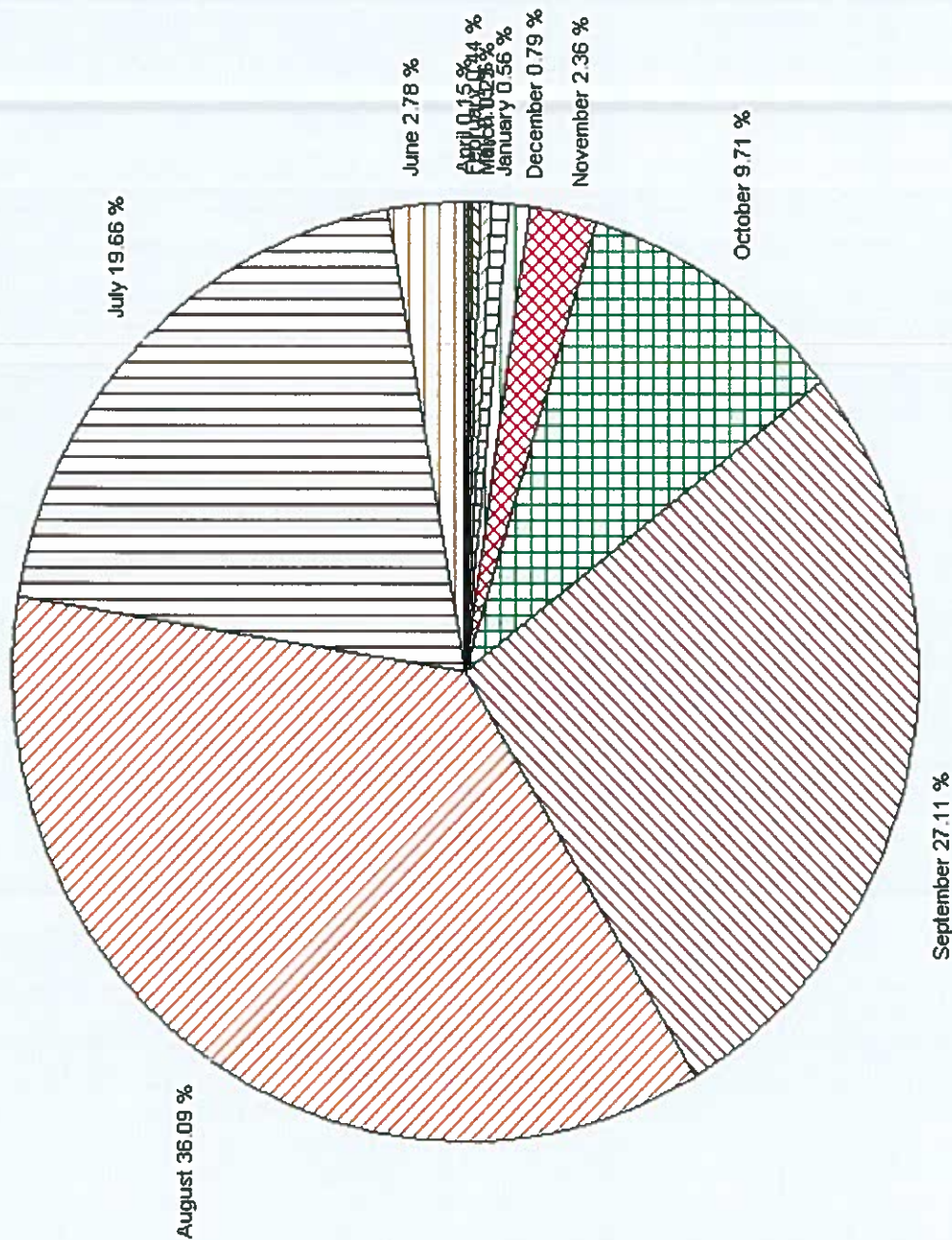


Monthly Average Runoff based on period : 1972-2016

Station Name : Simga (EMP000J1)
Local River : Seonath

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

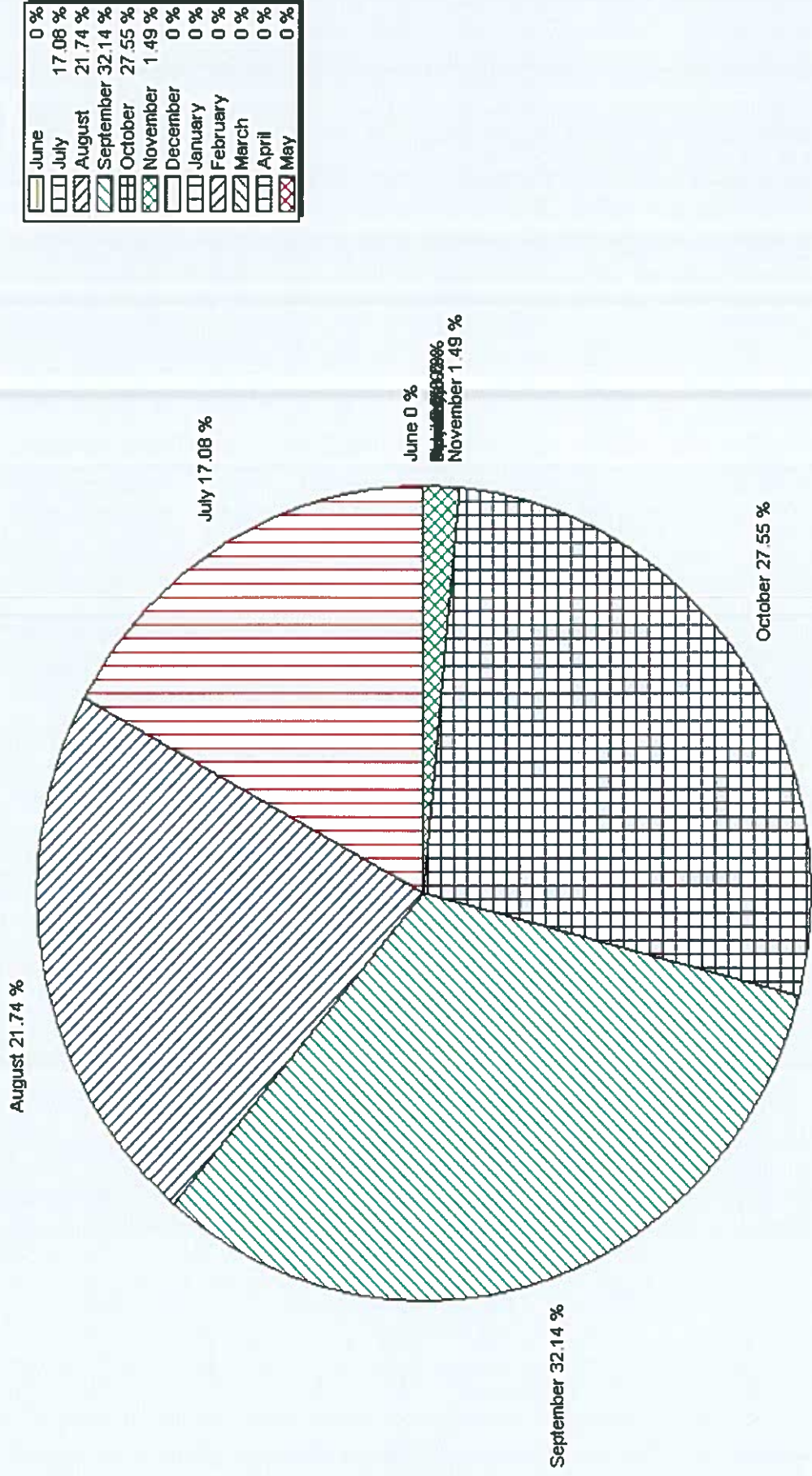
June	2.78 %
July	19.66 %
August	36.09 %
September	27.11 %
October	9.71 %
November	2.36 %
December	0.79 %
January	0.56 %
February	0.44 %
March	0.23 %
April	0.15 %
May	0.13 %



Monthly Runoff for the Year : 2016-2017

Station Name : Simga (EMP000J1)
Local River : Seonath

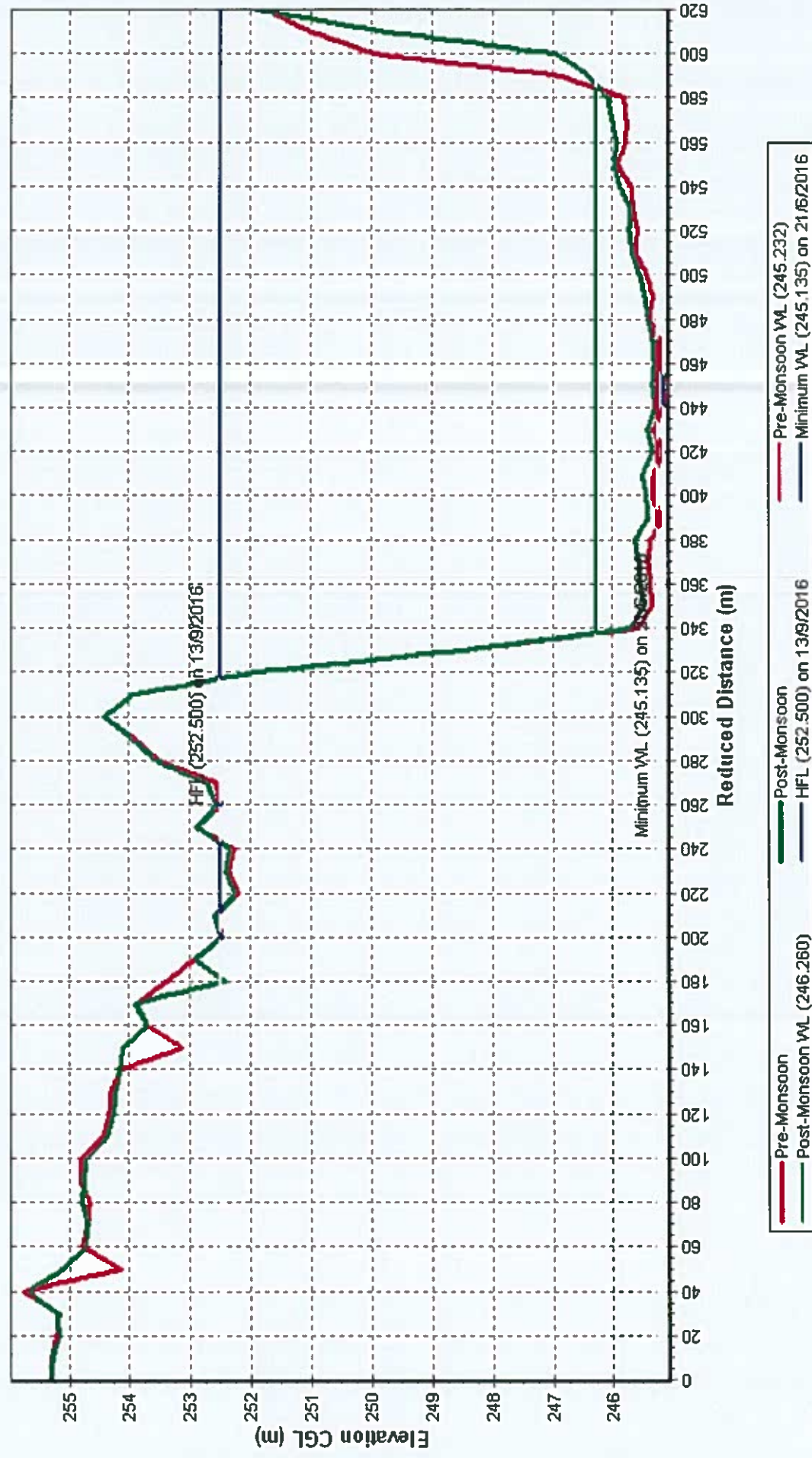
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Simga (EMP00J1)
Local River : Seonath

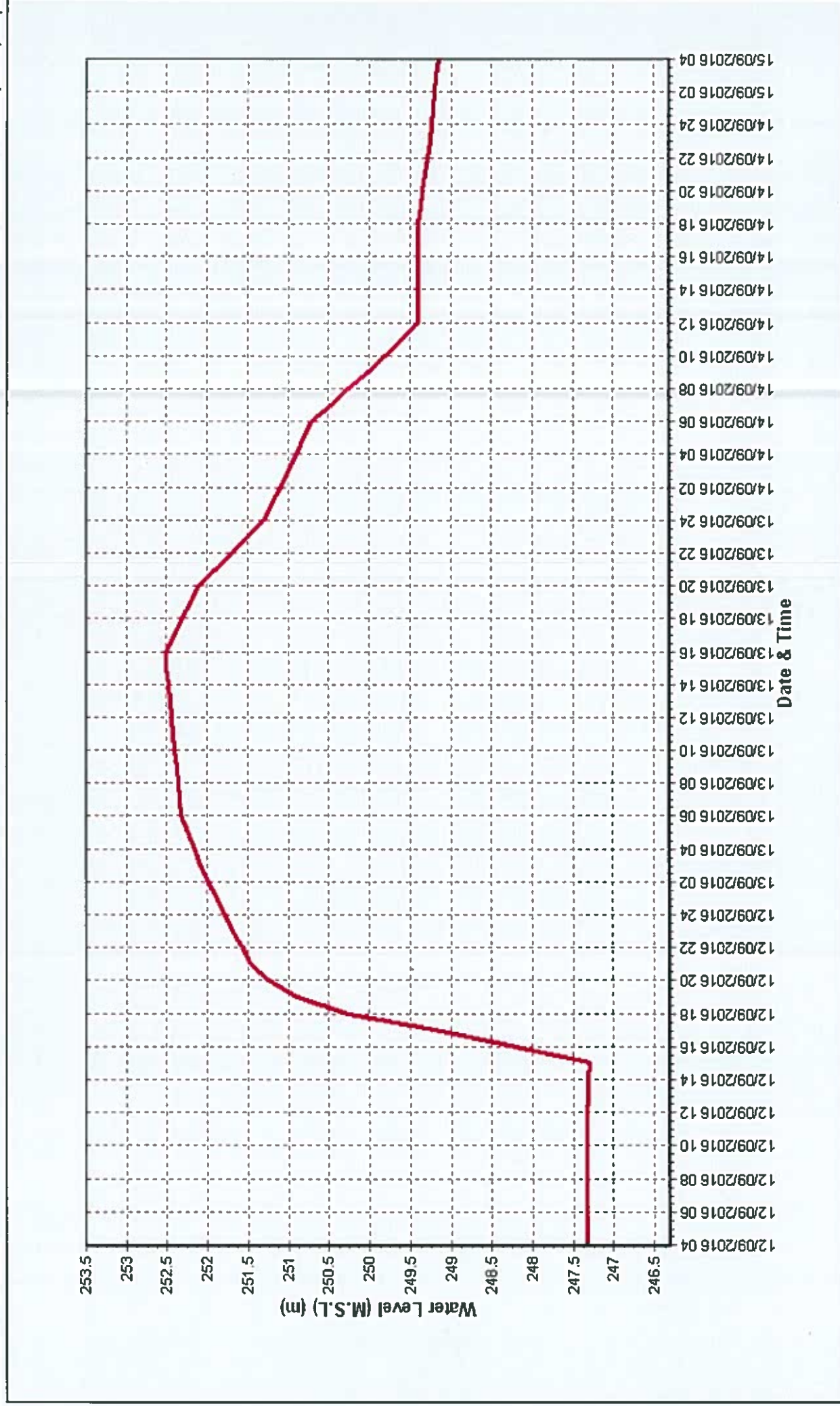
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Simga (EMP001J)
Local River : Seonath

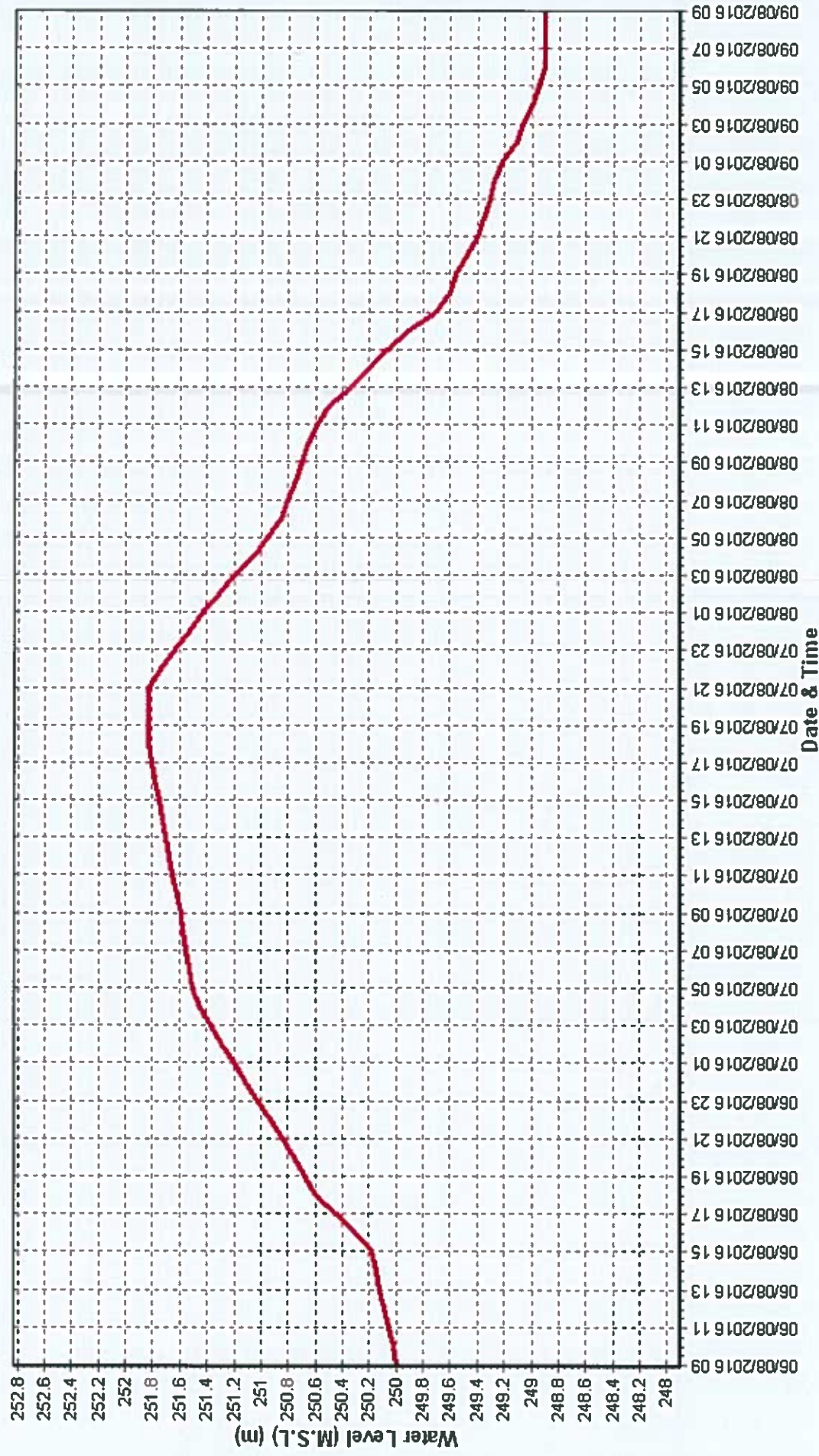
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Simga (EMP000J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



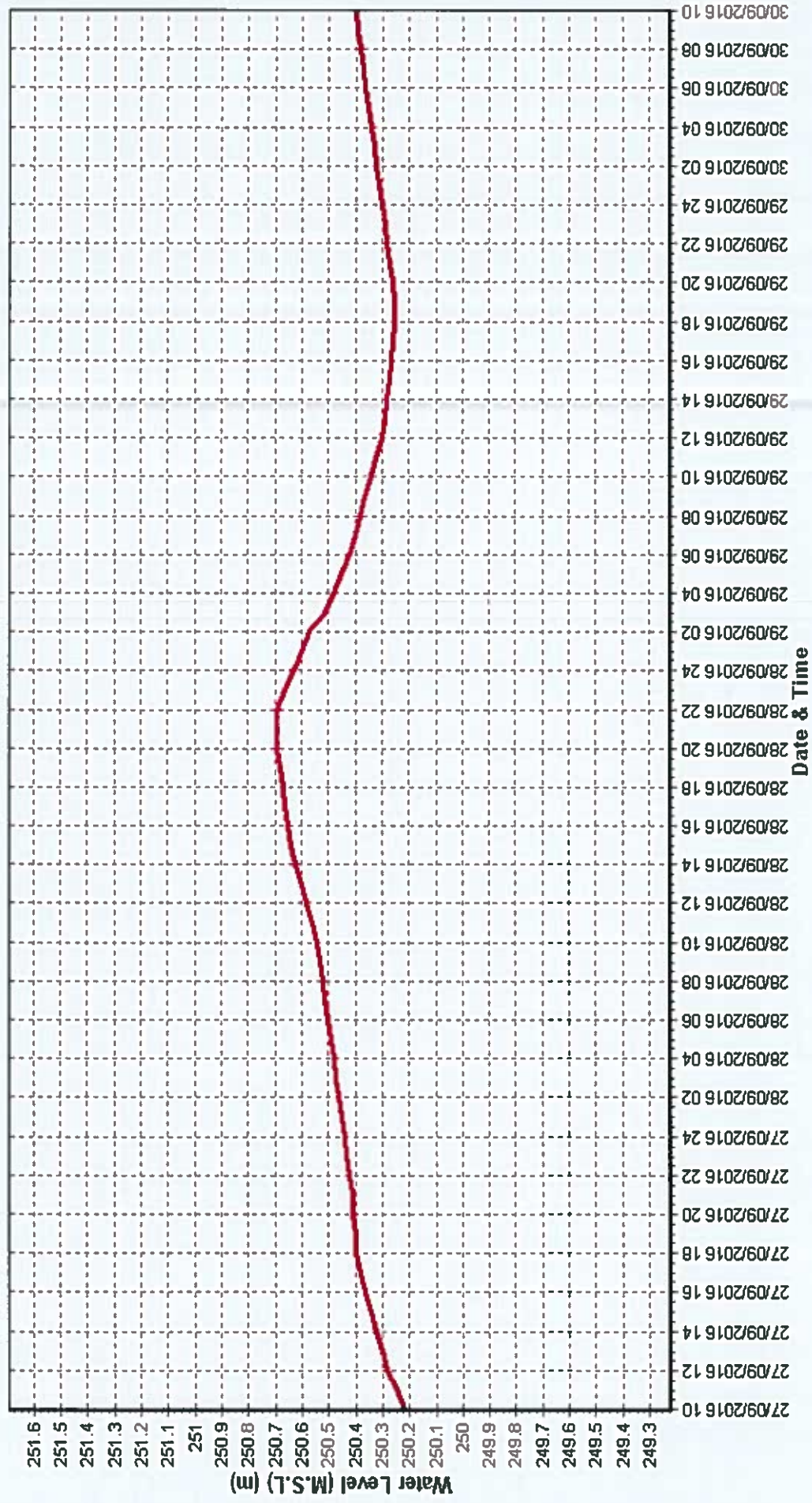
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

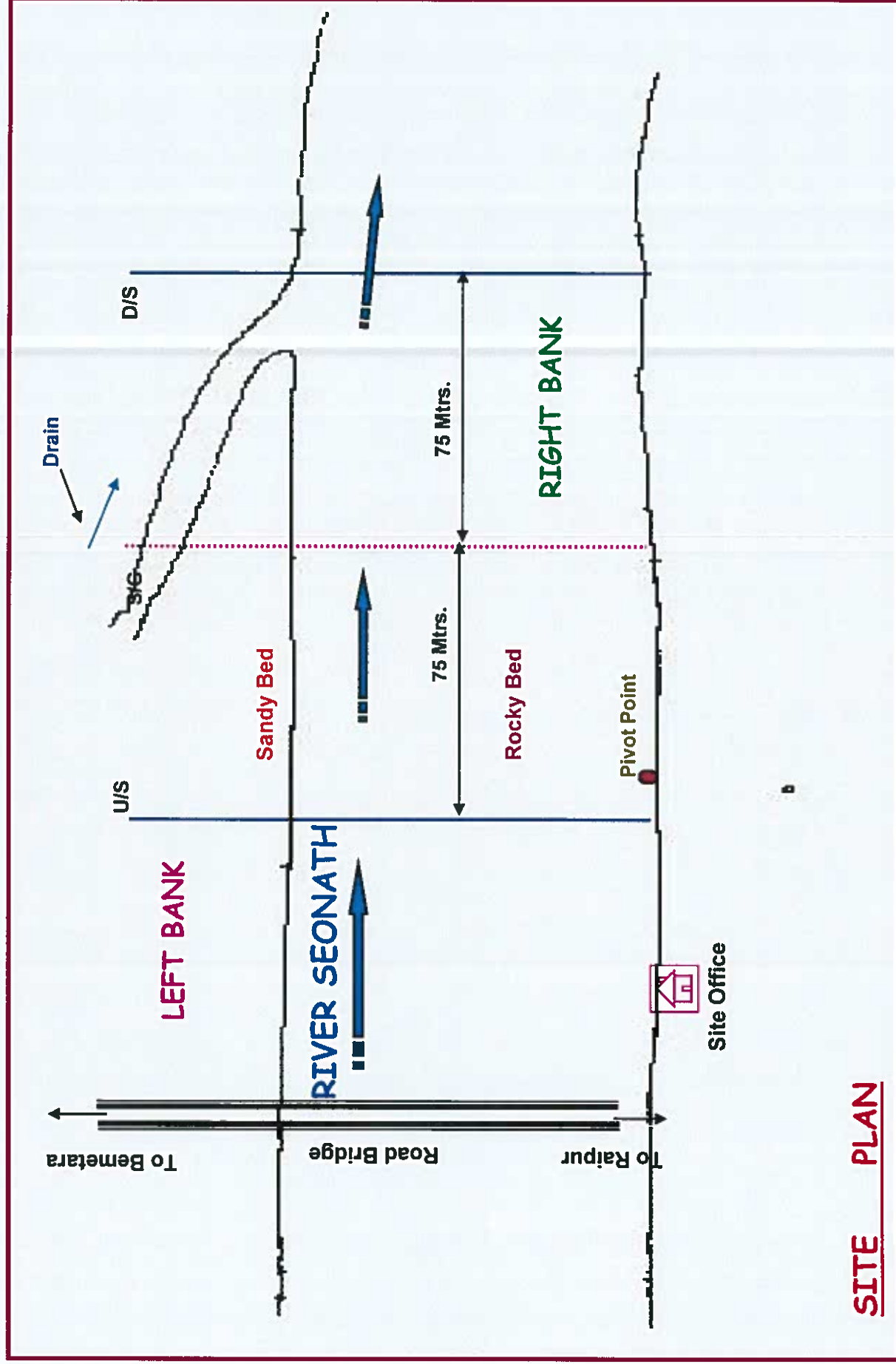
Station Name : Simga (EMP000J1)

Local River : Seonath

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur





SITE PLAN

SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day	Jun					Jul					Aug								
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	0.000	0.000	0.000	0.000	0.000	0	11.98	0.000	0.000	0.002	0.002	2	258.5	0.000	0.000	0.000	0.190	0.190	4244
2	0.000	0.000	0.000	0.000	0.000	0	11.18	0.000	0.000	0.002	0.002	2	246.7	0.000	0.000	0.000	0.180	0.180	3836
3	0.000	0.000	0.000	0.000	0.000	0	16.54	0.000	0.000	0.000	0.000	0	277.7	0.000	0.000	0.000	0.170	0.170	4078
4	0.000	0.000	0.000	0.000	0.000	0	22.36	0.000	0.000	0.019	0.019	37	329.1	0.000	0.000	0.000	0.149	0.149	4231
5	0.000	0.000	0.000	0.000	0.000	0	18.25	0.000	0.000	0.015	0.015	24	329.8	0.000	0.000	0.000	0.149	0.149	4246
6	0.000	0.000	0.000	0.000	0.000	0	21.50	0.000	0.000	0.000	0.000	0	1059	0.000	0.000	0.000	0.343	0.343	31344
7	0.000	0.000	0.000	0.000	0.000	0	91.07	0.000	0.000	0.123	0.123	964	1220	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	89.08	0.000	0.000	0.121	0.121	931	1331	0.000	0.000	0.000	0.398	0.398	45698
9	0.000	0.000	0.000	0.000	0.000	0	84.92	0.000	0.000	0.119	0.119	873	755.9	0.000	0.000	0.000	0.210	0.210	13714
10	0.000	0.000	0.000	0.000	0.000	0	78.65	0.000	0.000	0.000	0.000	0	362.9	0.000	0.000	0.000	0.209	0.209	6554
11	0.000	0.000	0.000	0.000	0.000	0	317.2	0.000	0.000	0.222	0.222	6070	346.9	0.000	0.000	0.000	0.205	0.205	6144
12	0.000	0.000	0.000	0.000	0.000	0	672.8	0.000	0.000	0.392	0.392	22789	368.3	0.000	0.000	0.000	0.268	0.268	8513
13	0.000	0.000	0.000	0.000	0.000	0	595.0	0.000	0.000	0.357	0.357	18352	457.4	0.000	0.000	0.000	0.303	0.303	11954
14	0.000	0.000	0.000	0.000	0.000	0	514.6	0.000	0.000	0.301	0.301	13384	420.0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	382.6	0.000	0.000	0.253	0.253	8360	370.0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	276.0	0.000	0.000	0.236	0.236	5628	373.1	0.000	0.000	0.000	0.215	0.215	6930
17	0.000	0.000	0.000	0.000	0.000	0	348.5	0.000	0.000	0.000	0.000	0	248.5	0.000	0.000	0.000	0.181	0.181	3892
18	0.000	0.000	0.000	0.000	0.000	0	338.6	0.000	0.000	0.321	0.321	9376	239.7	0.000	0.000	0.000	0.163	0.163	3381
19	0.000	0.000	0.000	0.000	0.000	0	264.1	0.000	0.000	0.132	0.132	3012	233.5	0.000	0.000	0.000	0.160	0.160	3227
20	0.000	0.000	0.000	0.000	0.000	0	259.5	0.000	0.000	0.130	0.130	2915	236.3	0.000	0.000	0.000	0.168	0.168	3429
21	0.000	0.000	0.000	0.000	0.000	0	220.4	0.000	0.000	0.064	0.064	1219	210.0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	278.0	0.000	0.000	0.084	0.084	2017	219.8	0.000	0.000	0.000	0.163	0.163	3096
23	0.000	0.000	0.000	0.000	0.000	0	644.6	0.000	0.000	0.075	0.075	4177	67.27	0.000	0.000	0.000	0.138	0.138	799
24	0.000	0.000	0.000	0.000	0.000	0	636.8	0.000	0.000	0.000	0.000	0	59.78	0.000	0.000	0.000	0.134	0.134	691
25	0.000	0.000	0.000	0.000	0.000	0	574.5	0.000	0.000	0.071	0.071	3499	59.25	0.000	0.000	0.000	0.100	0.100	512
26	0.000	0.000	0.000	0.000	0.000	0	556.7	0.000	0.000	0.070	0.070	3343	77.24	0.000	0.000	0.000	0.202	0.202	1345
27	0.000	0.000	0.000	0.000	0.000	0	552.7	0.000	0.000	0.060	0.060	2865	268.9	0.000	0.000	0.000	0.276	0.276	6419
28	0.000	0.000	0.000	0.000	0.000	0	434.5	0.000	0.000	0.059	0.059	2215	380.0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	357.6	0.000	0.000	0.054	0.054	1653	392.0	0.000	0.000	0.000	0.304	0.304	10289
30	0.000	0.000	0.000	0.000	0.000	0	339.8	0.000	0.000	0.053	0.053	1547	326.4	0.000	0.000	0.000	0.261	0.261	7360
31							282.5	0.000	0.000	0.000	0.000	0	303.5	0.000	0.000	0.000	0.222	0.222	5828
Ten Daily Mean																			
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	44.55	0.000	0.000	0.040	0.040	283	617.0	0.000	0.000	0.000	0.200	0.200	11795
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	396.9	0.000	0.000	0.234	0.234	8989	329.4	0.000	0.000	0.000	0.166	0.166	4747
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	443.5	0.000	0.000	0.053	0.053	2049	214.9	0.000	0.000	0.000	0.164	0.164	3304
Monthly																			
Total						0						115255							201755

Annual Sediment Load (Metric Tonnes) : 848447

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	256.1	0.000	0.000	0.167	0.167	3695	1145	0.000	0.000	0.263	0.263	25966
2	322.1	0.000	0.000	0.150	0.150	4174	1010	0.000	0.000	0.000	0.000	0
3	341.6	0.000	0.000	0.192	0.192	5667	753.9	0.000	0.000	0.253	0.253	16447
4	355.6	0.000	0.000	0.000	0.000	0	704.9	0.000	0.000	0.251	0.251	15288
5	342.1	0.000	0.000	0.000	0.000	0	619.8	0.000	0.000	0.208	0.208	11139
6	375.0	0.000	0.000	0.265	0.265	8586	559.8	0.000	0.000	0.193	0.193	9326
7	342.2	0.000	0.000	0.259	0.259	7658	463.1	0.000	0.000	0.193	0.193	7702
8	323.7	0.000	0.000	0.149	0.149	4165	589.0	0.000	0.000	0.167	0.167	8499
9	279.0	0.000	0.000	0.129	0.129	3109	730.3	0.000	0.000	0.000	0.000	0
10	286.1	0.000	0.000	0.128	0.128	3164	1101	0.000	0.000	0.000	0.000	0
11	342.3	0.000	0.000	0.000	0.000	0	1084	0.000	0.000	0.000	0.000	0
12	356.0	0.000	0.000	0.218	0.218	6706	780.8	0.000	0.000	0.000	0.000	0
13	1547	0.000	0.000	0.000	0.000	0	664.5	0.000	0.000	0.242	0.242	13894
14	1115	0.000	0.000	0.392	0.392	37779	570.1	0.000	0.000	0.225	0.225	11058
15	849.5	0.000	0.000	0.329	0.329	24147	463.2	0.000	0.000	0.220	0.220	8805
16	647.6	0.000	0.000	0.208	0.208	11610	420.2	0.000	0.000	0.000	0.000	0
17	540.6	0.000	0.000	0.192	0.192	8972	409.6	0.000	0.000	0.210	0.210	7432
18	455.6	0.000	0.000	0.000	0.000	0	346.0	0.000	0.000	0.198	0.198	5904
19	465.2	0.000	0.000	0.221	0.221	8886	317.4	0.000	0.000	0.172	0.172	4713
20	450.8	0.000	0.000	0.219	0.219	8510	311.0	0.000	0.000	0.170	0.170	4568
21	493.7	0.000	0.000	0.262	0.262	11185	289.1	0.000	0.000	0.169	0.169	4221
22	459.9	0.000	0.000	0.260	0.260	10331	288.1	0.000	0.000	0.131	0.131	3261
23	418.1	0.000	0.000	0.208	0.208	7496	275.3	0.000	0.000	0.000	0.000	0
24	371.4	0.000	0.000	0.188	0.188	6017	263.2	0.000	0.000	0.141	0.141	3207
25	369.7	0.000	0.000	0.000	0.000	0	247.0	0.000	0.000	0.139	0.139	2971
26	637.0	0.000	0.000	0.209	0.209	11502	236.4	0.000	0.000	0.124	0.124	2523
27	1146	0.000	0.000	0.383	0.383	37870	75.14	0.000	0.000	0.123	0.123	799
28	1253	0.000	0.000	0.401	0.401	43398	72.76	0.000	0.000	0.122	0.122	767
29	1164	0.000	0.000	0.392	0.392	39437	70.78	0.000	0.000	0.122	0.122	744
30	1183	0.000	0.000	0.401	0.401	40994	64.58	0.000	0.000	0.000	0.000	0
31							57.97	0.000	0.000	0.101	0.101	506
Ten Daily Mean												
Ten Daily I	322.3	0.000	0.000	0.144	0.144	4022	767.6	0.000	0.000	0.153	0.153	9437
Ten Daily II	677.0	0.000	0.000	0.178	0.178	10661	536.7	0.000	0.000	0.144	0.144	5637
Ten Daily III	749.5	0.000	0.000	0.270	0.270	20823	176.4	0.000	0.000	0.106	0.106	1727
Monthly												
Total						355058						169741
												6638

Annual Sediment Load (Metric Tonnes) : 848447

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Simga (EMP0011)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Day		Dec					Jan					Feb							
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																			
Ten Daily I		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																			
Total							0						0						0

Annual Sediment Load (Metric Tonnes) : 848447

SC

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Simga (EMP00J1)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Day	Mar					Apr					May							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 848447

205

Annual Sediment Load for period : 1973-2017

Station Name : Simga (EMP00J1)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

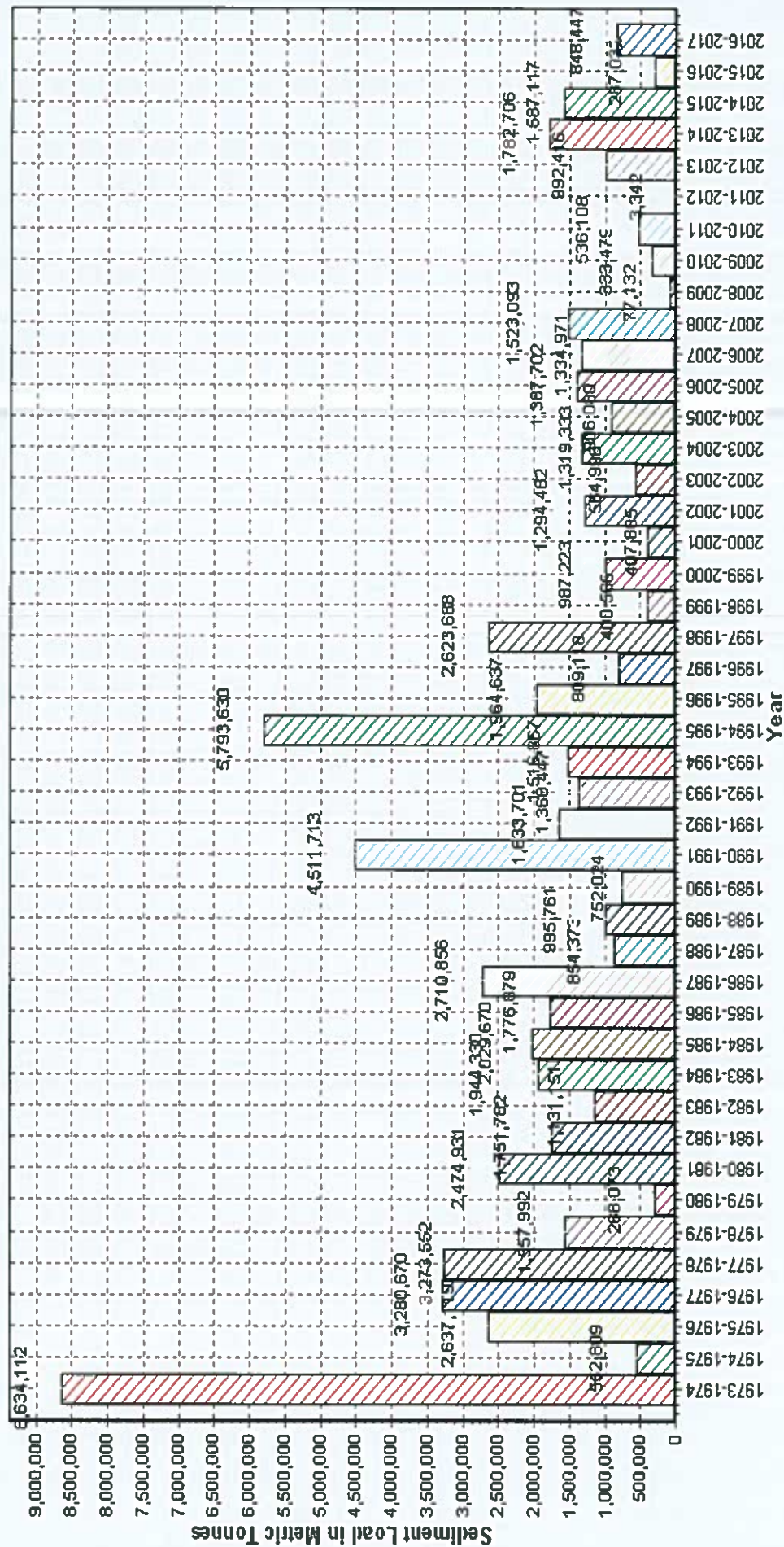
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	8633624	488	8634112	8672
1974-1975	552567	242	552809	1195
1975-1976	2636789	329	2637119	7407
1976-1977	3280499	172	3280670	4999
1977-1978	3272656	897	3273552	6542
1978-1979	1555367	2625	1557992	7313
1979-1980	287152	921	288073	2563
1980-1981	2473978	953	2474931	7556
1981-1982	1750534	1247	1751782	4615
1982-1983	1129926	1225	1131151	3443
1983-1984	1942544	1786	1944330	5388
1984-1985	2027292	2378	2029670	5422
1985-1986	1775076	1803	1776879	5885
1986-1987	2708448	2408	2710856	7124
1987-1988	852238	2135	854373	1644
1988-1989	995421	339	995761	2134
1989-1990	752008	16	752024	1951
1990-1991	4511713	0	4511713	9942
1991-1992	1633701	0	1633701	4448
1992-1993	1366421	27	1366447	3866
1993-1994	1516760	107	1516867	3485
1994-1995	5793115	514	5793630	13225
1995-1996	1964637	0	1964637	5535
1996-1997	809059	59	809118	2841
1997-1998	2621519	2169	2623688	4631
1998-1999	400209	356	400566	2698
1999-2000	986930	293	987223	4156
2000-2001	407804	1	407805	1754
2001-2002	1294363	119	1294482	4674
2002-2003	564989	8	564998	1918
2003-2004	1318798	535	1319333	7098
2004-2005	905870	210	906080	3317
2005-2006	1387681	20	1387702	9273
2006-2007	1334956	15	1334971	6009
2007-2008	1523035	58	1523093	7439
2008-2009	77129	3	77132	2015
2009-2010	333474	5	333479	2578
2010-2011	536078	30	536108	4940
2011-2012	3312	31	3342	5811
2012-2013	992401	15	992416	4720
2013-2014	1782673	33	1782706	9403
2014-2015	1587090	26	1587117	7648
2015-2016	287030	2	287032	2264
2016-2017	848447	0	848447	4700

Annual Sediment Load for the period: 1973-2017

Station Name : Simga (EMP00J1)

Local River : Seonath

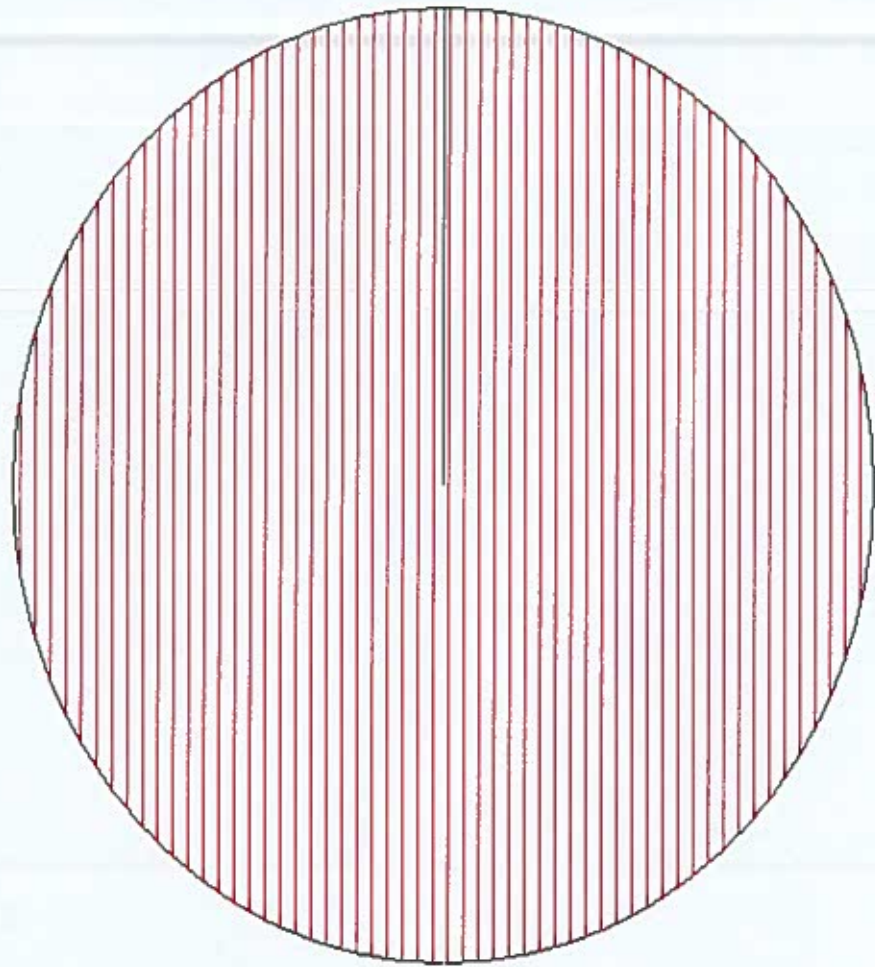
Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



Station Name : Simga (EMP00J1)
Local River : Seonath

Seasonal Sediment Load for the period : 1973-2016

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



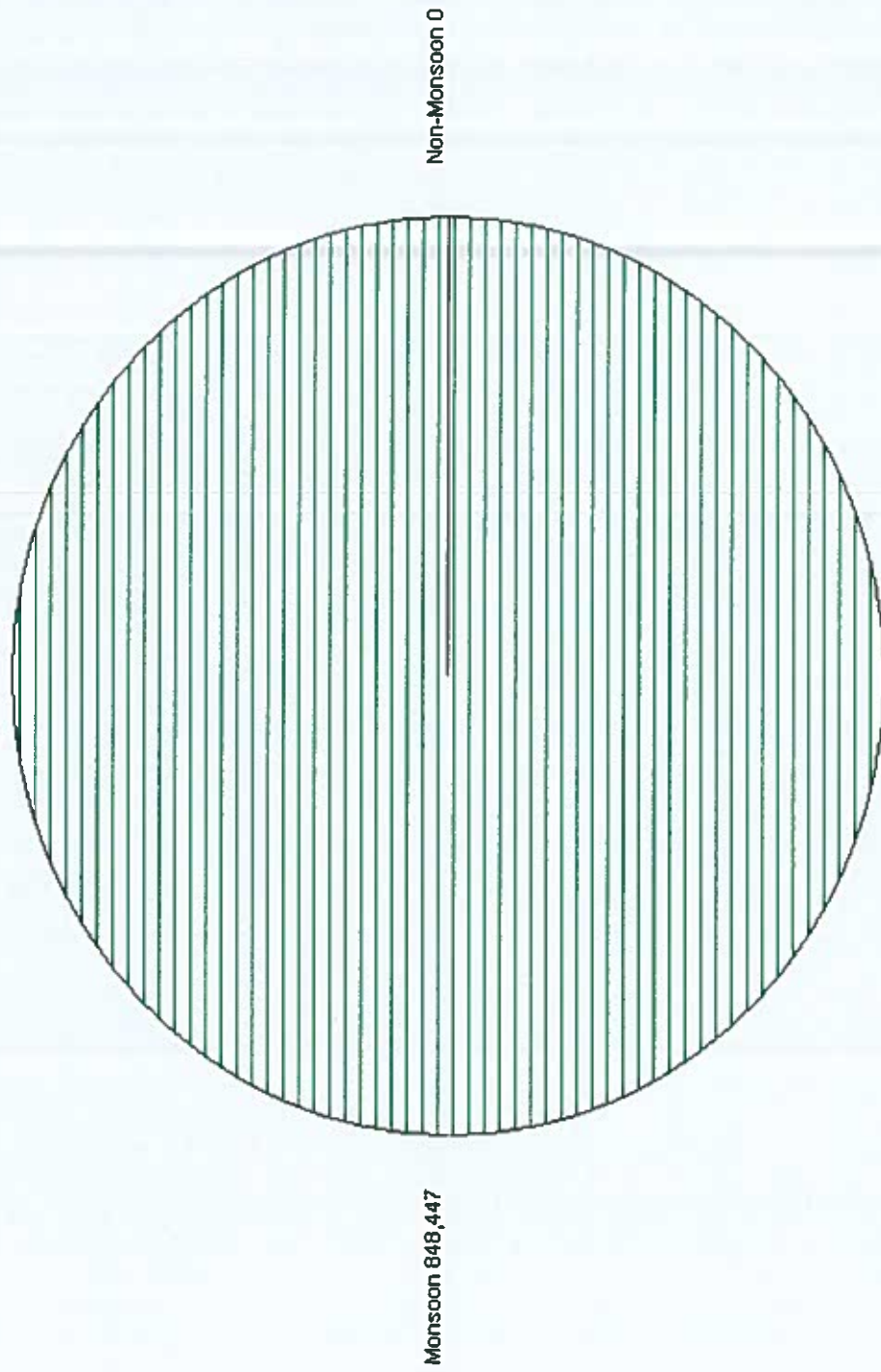
Monsoon 72,566,870

Non-Monsoon 24,601

Seasonal Sediment Load for the Year: 2016-2017

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Simga (EMP00011)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	11.98	258.5	256.1	1145	54.83	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)		Clear	Light Brown	Clear	Brown	Clear						
3	EC_FLD (µmho/cm)		861	289	325	261	428						
4	EC_GEN (µmho/cm)		675	220	238	188	307						
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free						
6	pH_FLD (pH units)		6.2	8.4	9.5	8.3	7.2						
7	pH_GEN (pH units)		8.2	6.9	7.8	7.0	8.5						
8	Temp (deg C)		27.0	29.0	31.0	28.0	23.0						
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	0.0						
2	ALK-TOT (mgCaCO3/L)		236	188	200	76	208						
3	Ca (mg/L)		43	43	37	46	32						
4	Cl (mg/L)		59.0	23.0	23.0	46.0	38.0						
5	CO3 (mg/L)		0.0	0.0	0.0	0.0	0.0						
6	HCO3 (mg/L)		144	115	122	46	127						
7	K (mg/L)		39.4	11.9	13.1	8.9	9.8						
8	Mg (mg/L)		23.3	1.0	19.4	20.4	26.2						
9	Na (mg/L)		53.6	17.3	26.5	28.7	16.6						
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)		0.5	1.0	1.1	0.7	1.3						
2	DO (mg/L)		5.6	6.5	8.1	7.5	7.1						
3	DO_SAT% (%)		70	85	109	96	83						
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)		108	108	92	116	80						
2	HAR_Total (mgCaCO3/L)		205	112	173	201	189						
3	Na% (%)		31	23	23	23	15						
4	RSC (-)		0.0	0.0	0.0	0.0	0.0						
5	SAR (-)		1.6	0.7	0.9	0.9	0.5						
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Simga (EMP00J1)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : UMSD,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	1547	0.000	149.0
2	EC_FLD (µmho/cm)	5	861	261	433
3	EC_GEN (µmho/cm)	5	675	188	326
4	pH_FLD (pH units)	5	9.5	6.2	7.9
5	pH_GEN (pH units)	5	8.5	6.9	7.6
6	Temp (deg C)	5	31.0	23.0	27.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	5	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	5	236	76	182
3	Ca (mg/L)	5	46	32	40
4	Cl (mg/L)	5	59.0	23.0	37.8
5	CO3 (mg/L)	5	0.0	0.0	0
6	HCO3 (mg/L)	5	144	46	111
7	K (mg/L)	5	39.4	8.9	16.6
8	Mg (mg/L)	5	26.2	1.0	18.1
9	Na (mg/L)	5	53.6	16.6	28.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	5	1.3	0.5	0.9
2	DO (mg/L)	5	8.1	5.6	7
3	DO_SAT% (%)	5	109	70	88
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	5	116	80	101
2	HAR_Total (mgCaCO3/L)	5	205	112	176
3	Na% (%)	5	31	15	23
4	RSC (-)	5	0.0	0.0	0
5	SAR (-)	5	1.6	0.5	0.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Simga (EMP000J1)
Local River : Seonath

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

River Water

S.No	Parameters	Flood Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	164.6	489.6	196.7	763.1	852.2	2484	82.91	104.3	222.8	333.2	384.7	1498	214.7	141.3	334.3
2	EC_FLD (µmho/cm)	254	171	304	288	310	300	303	339	314	375	307	426	393	661	434
3	EC_GEN (µmho/cm)	254	171	304	288	310	245	320	313	280	348	265	243	344	317	330
4	pH_FLD (pH units)	8.0	8.0	8.0	7.9	7.9	7.8	7.8	7.7	7.8	7.5	8.4	8.2	7.5	8.6	8.1
5	pH_GEN (pH units)	8.0	8.0	8.0	7.9	7.9	7.7	7.7	7.9	7.5	7.4	7.8	8.0	7.9	7.9	7.4
6	Temp (deg C)	28.1	30.0	30.8	30.2	29.0	27.2	29.4	29.2	27.5	25.8	29.0	27.4	28.7	27.6	28.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.3	0.0	0.0	3.4		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0
2	ALK-TOT (mgCaCO3/L)	158	180	298	154		172	224	229	195	239	184	206	272	266	175
3	B (mg/L)				0.06		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	30	20	39	18		18	25	27	19	32	26	26	31	34	42
5	Cl (mg/L)	6.3	41.3	72.2	22.2		22.8	27.4	27.6	8.7	15.0	11.2	18.8	25.0	31.5	37.8
6	CO3 (mg/L)	0.3	0.0	0.0	4.1		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0
7	F (mg/L)		1.37		0.23		0.15	0.12	0.21	0.22	0.22	0.21				
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1				
9	HCO3 (mg/L)	96	110	175	90		105	137	140	119	146	112	126	166	156	107
10	K (mg/L)	4.6			5.2		3.2	4.5	5.7	4.8	6.5	3.4	6.0	8.6	7.7	18.3
11	Mg (mg/L)	5.3	7.3	21.7	9.1		9.9	10.8	14.0	11.8	18.6	14.4	7.8	10.1	14.3	16.0
12	Na (mg/L)	4.3			22.6		19.9	24.9	12.5	15.1	24.9	18.9	9.6	32.9	22.3	31.5
13	NO2+NO3 (mg N/L)	0.61			0.10	0.09	0.11	0.63								
14	NO2-N (mgN/L)				0.00	0.01	0.02	0.02	0.02	0.02	0.05	0.06				
15	NO3-N (mgN/L)				0.07	0.13	0.09	0.61								
16	o-PO4-P (mg P/L)							0.098								
17	P-Tot (mgP/L)		0.015		0.005		0.016	0.046	0.052	0.035	0.060	0.085				
18	SiO2 (mg/L)				9.5		19.0	18.9	21.9	14.6	21.8	18.1				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Simga (EMP000J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
19	SO4 (mg/L)	7.8	9.0	6.5	14.6		16.8	13.6	21.4	16.2	19.4	19.4				
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	1.7	1.1	0.9	0.5	1.2	0.8	1.7	1.6	1.9	1.8	1.1	0.4	1.2	0.8
2	COD (mg/L)						23.0	22.8	23.2	27.0	26.4	29.0				
3	DO (mg/L)	7.9	5.9	6.0	6.0	6.0	6.3	5.4	6.0	5.4	4.6	5.8	4.9	5.2	5.6	6.9
4	DO_SAT% (%)	101	75	81	79	78	79	71	78	68	57	75	61	66	70	90
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	76	50	98	45		44	63	67	48	81	64	64	79	85	106
2	HAR_Total (mgCaCO3/L)	121	80	188	83		86	108	125	97	159	124	97	121	145	173
3	Na% (%)	9			30		33	31	16	24	24	25	17	33	24	25
4	RSC (-)	0.0	0.2	0.0	0.0		0.1	0.2	0.0	0.2	0.1	0.0	0.2	0.4	0.1	0.0
5	SAR {-}	0.2			1.0		1.0	1.1	0.5	0.7	0.8	0.8	0.4	1.3	0.8	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Winter																
		Nov - Feb																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	7.203	63.78	23.69	38.06	14.52	20.98	6.633	11.87	29.77	16.30	15.41	67.09	30.71	9.383	13.71		
2	EC_FLD (µmho/cm)	358	383	459	398	327	460	445	402	432	362	289	420	387	470	428		
3	EC_GEN (µmho/cm)	358	383	459	398	327	367	495	414	468	430	457	444	453	394	307		
4	pH_FLD (pH units)	8.4	8.1	8.1	7.2	8.2	8.0	8.1	7.5	7.5	8.1	8.3	7.5	7.0	6.8	7.2		
5	pH_GEN (pH units)	8.4	8.1	8.1	7.2	8.2	7.9	7.8	8.0	7.5	8.0	7.8	8.0	8.3	8.3	8.4		
6	Temp (deg C)	21.5	22.5	23.3	24.8	25.5	19.6	19.5	21.0	21.4	22.3	23.0	23.8	21.0	23.1	23.0		
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	6.1	0.0	0.0	0.0		0.0	1.8	2.8	0.0	2.5	1.3	0.0	2.5	7.6	0.0		
2	ALK-TOT (mgCaCO3/L)	247	367	309	271		232	304	248	321	293	333	339	327	266	208		
3	B (mg/L)				0.09		0.01	0.00	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	37	41	30	29		29	37	26	36	34	39	55	40	29	32		
5	Cl (mg/L)	6.8	25.3	46.0	43.8		46.2	50.3	24.5	40.3	34.7	25.7	36.0	48.8	51.8	38.0		
6	CO3 (mg/L)	7.3	0.0	0.0	0.0		0.0	2.2	3.3	0.0	3.0	1.6	0.0	3.0	9.1	0.0		
7	F (mg/L)		1.01	0.38	0.11		0.22	0.16	0.21	0.17	0.22	0.25						
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1		0.1				
9	HCO3 (mg/L)	143	199	189	165		141	183	148	196	175	202	207	196	153	127		
10	K (mg/L)	1.9		4.1	3.8		5.2	5.5	6.9	13.2	5.2	1.9	15.3	9.3	9.6	9.8		
11	Mg (mg/L)	7.0	12.2	17.2	17.1		18.2	18.2	16.2	21.9	20.3	19.4	13.8	23.3	18.0	26.2		
12	Na (mg/L)	13.4		38.5	29.6		26.5	36.1	20.9	42.2	27.1	49.5	53.1	41.7	34.1	16.6		
13	NO2+NO3 (mg N/L)			2.62	0.11	0.12	0.18	0.63						0.25				
14	NO2-N (mgN/L)				0.00	0.03	0.01	0.02	0.03	0.07	0.14	0.04		0.04				
15	NO3-N (mgN/L)				0.11	0.09	0.16	0.61						0.21				
16	io-PO4-P (mg P/L)																	
17	P-Tot (mgP/L)		0.030	0.020			0.017	0.060	0.052	0.083	0.120	0.080		0.070				
18	SiO2 (mg/L)				12.8		16.7	24.9	21.7	25.1	17.5	15.6		17.8				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Simga (EMP00J1)

Division : MD,CWC,Burla

Local River : Seonath

River Water

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
19	SO4 (mg/L)	10.5	7.8	18.7	15.1		19.5	34.1	26.3	40.2	40.2	25.9		23.0		
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.3	0.7	1.1	0.9	0.3	1.1	0.9	0.9	1.8	1.4	1.4	1.1	1.6	0.9	1.3
2	COD (mg/L)						26.0	36.0	46.0	97.0	30.0	24.0				
3	DO (mg/L)	8.5	5.7	8.4	8.3	7.6	8.4	6.6	7.0	6.9	7.3	6.4	7.1	8.1	7.7	7.1
4	DO SAT% (%)	96	72	98	100	92	91	73	78	77	83	74	83	91	89	83
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	93	103	76	73		72	92	66	91	86	98	137	101	72	80
2	HAR_Total (mgCaCO3/L)	121	153	147	144		148	168	134	182	170	179	195	198	147	189
3	Na% (%)	19		37	30		26	31	23	31	25	37	32	29	31	15
4	RSC (-)	0.2	0.6	0.6	0.1		0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.2	0.0
5	SAR (-)	0.5		1.4	1.1		0.9	1.2	0.8	1.4	0.9	1.6	1.6	1.3	1.2	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Simga (EMP00J1)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	1.254	2.793	2.635	1.088	0.792	5.397		0.348	4.901	2.241	2.601	11.03	0.279	0.444	0.000
2	EC_FLD (µmho/cm)	513	516	458	441		421	520	498	512	334		427		665	
3	EC_GEN (µmho/cm)	513	516	458	441		384	464	500	577	490		514		609	
4	pH_FLD (pH units)	8.4	8.1	8.0	7.9		7.9	8.9	7.8	7.4	8.5		7.5		5.8	
5	pH_GEN (pH units)	8.4	8.1	8.0	7.9		8.0	8.5	8.1	7.2	7.7		7.9		8.3	
6	Temp (deg C)	26.5	26.0	30.3	32.0		27.3	24.0	24.0	22.7	27.7		25.3		27.9	
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	7.4	0.0	0.0	0.0		0.0	14.7	0.0	0.0	0.0		0.0		0.0	
2	ALK-TOT (mgCaCO3/L)	324	495	244	308		217	314	361	286	333		269		226	
3	B (mg/L)				0.07		0.01	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	49	48	24	32		25	34	37	24	37		38		50	
5	Cl (mg/L)	5.0	40.0	30.0	74.4		40.1	19.4	53.9	51.6	42.5		55.0		100.0	
6	CO3 (mg/L)	13.3	0.0	0.0	0.0		0.0	17.7	0.0	0.0	0.0		0.0		0.0	
7	F (mg/L)			0.62	0.09		0.19	0.15	0.34	0.42	0.27					
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.0	0.3	0.3					
9	HCO3 (mg/L)	184	302	149	188		132	173	220	174	203		164		138	
10	K (mg/L)	5.9		8.4	6.8		6.5	9.1	12.2	7.9	8.0		6.5		14.7	
11	Mg (mg/L)	9.6	17.8	10.4	17.0		15.3	19.4	22.4	17.8	20.9		16.5		5.8	
12	Na (mg/L)	31.4		46.4	46.0		34.4	30.7	66.0	44.0	53.2		49.3		42.7	
13	NO2+NO3 (mg N/L)			0.40	0.10	0.10	0.54	0.43								
14	NO2-N (mgN/L)				0.00	0.01	0.02	0.03	0.10	0.49	0.29					
15	NO3-N (mgN/L)				0.10	0.09	0.52	0.40								
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)			0.020			0.030	0.040	0.060	0.127	0.247					
18	SiO2 (mg/L)				20.9		20.4	28.0	10.2	19.1	20.2					

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Simga (EMP00J1)

Division : MD,CWC,Burla

Local River : Seonath

River Water

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
19	SO4 (mg/L)		25.6	31.1	16.1		23.2	40.0	33.0	43.5	39.1					
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.7	0.6	0.4	1.3		1.6	1.2	2.6	2.4	1.6		1.0		2.1	
2	COD (mg/L)						25.3	64.0	80.0	46.7	29.3					
3	DO (mg/L)	7.6	6.6	5.3	7.5		6.8	5.5	1.4	5.8	4.1		5.6		6.6	
4	DO SAT% (%)	94	86	68	102		85	65	17	67	52		70		83	
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	124	121	59	81		62	86	92	59	94		96		125	
2	HAR_Total (mgCaCO3/L)	163	194	102	152		125	167	186	133	181		165		149	
3	Na% (%)			46	39		36	27	42	44	38		35		36	
4	RSC (-)	0.2	1.7	0.4	0.3		0.2	0.1	0.0	0.3	0.0		0.0		0.0	
5	SAR (-)			2.0	1.7		1.3	1.0	2.1	1.9	1.7		1.7		1.5	
	PESTICIDES															

SITE ANDHIARKHORE

HISTORY SHEET

Water Year : 2016-2017

Site : Andhiarkhore

Code : EMP60E5

State : Chhattisgarh

District : Bemetra

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Seonath

Sub Tributary :

Sub-Sub Tributary :

Local River : Hamp

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Drainage Area : 2210 Sq. Km.

Bank : Right

Latitude : 21°47'00"

Longitude : 81°36'30"

Zero of Gauge (m) : 252 (m.s.l)
252 (m.s.l)27-09-1977 - 27-09-2007
28-09-2007

Opening Date

Closing Date

Gauge : 27-09-1977

Discharge :

Sediment : 12-07-1980

Water Quality : 01-06-1980

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1978-1979	414.8	256.700	24-08-1978	0.323	253.790	26-05-1979
1979-1980	694.6	258.930	09-08-1979	0.100	253.795	26-04-1980
1980-1981	240.5	256.160	05-09-1980	0.100	253.785	01-06-1980
1981-1982	126.9	255.550	29-09-1981	0.287	253.790	19-06-1981
1982-1983	133.9	255.300	14-08-1982	0.173	253.720	09-05-1983
1983-1984	367.7	256.440	30-09-1983	0.175	253.730	16-06-1983
1984-1985	141.0	256.075	24-08-1984	0.262	253.725	07-05-1985
1985-1986	220.0	256.100	09-08-1985	0.285	253.740	06-06-1985
1986-1987	129.2	256.200	07-08-1986	0.290	253.735	30-05-1987
1987-1988	240.3	256.265	16-09-1987	0.190	253.700	31-05-1988
1988-1989	269.0	256.620	02-08-1988	0.145	253.670	19-05-1989
1989-1990	267.9	256.445	01-09-1989	0.150	253.710	26-04-1990
1990-1991	425.9	257.500	26-09-1990	0.548	253.795	27-05-1991
1991-1992	443.9	257.280	24-08-1991	0.148	253.695	25-05-1992
1992-1993	264.6	256.435	21-08-1992	0.122	253.690	09-06-1992
1993-1994	196.7	255.670	16-08-1993	0.117	253.740	19-05-1994
1994-1995	990.0	258.920	09-10-1994	0.263	253.760	11-06-1994
1995-1996	228.3	256.020	24-07-1995	0.284	253.755	25-05-1996
1996-1997	236.8	256.200	20-08-1996	0.148	253.715	19-05-1997
1997-1998	196.3	257.090	23-08-1997	0.168	253.685	03-06-1997
1998-1999	852.0	258.225	13-09-1998	0.094	253.805	20-04-1999

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1999-2000	364.7	257.080	19-09-1999	0.238	253.835	03-05-2000
2000-2001	46.74	254.955	20-06-2000	0.065	253.730	21-05-2001
2001-2002	442.3	257.200	15-08-2001	0.058	253.710	27-05-2002
2002-2003	413.4	256.970	07-09-2002	0.029	253.815	17-05-2003
2003-2004	275.5	256.550	03-09-2003	0.073	253.835	24-04-2004
2004-2005	383.6	256.940	09-08-2004	0.085	253.970	02-01-2005
2005-2006	583.9	258.285	15-09-2005	0.249	253.860	12-04-2006
2006-2007	154.6	256.350	06-09-2006	0.136	253.840	11-02-2007
2007-2008	205.2	256.685	30-09-2007	0.036	253.795	06-03-2008
2008-2009	99.29	255.550	19-09-2008	0.059	253.690	31-12-2008
2009-2010	38.23	254.833	17-07-2009	0.017	253.700	14-10-2009
2010-2011	192.4	256.540	08-09-2010	0.044	253.645	01-03-2011
2011-2012	361.3	258.300	08-09-2011	0.021	253.600	21-03-2012
2012-2013	74.52	255.800	07-09-2012	0.030	253.585	19-04-2013
2013-2014	160.4	257.220	20-08-2013	0.044	253.660	20-05-2014
2014-2015	329.3	258.850	06-08-2014	0.000	253.590	13-06-2014
2015-2016	75.65	254.815	22-09-2015	0.000	252.000	29-05-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Andhiarkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

Sub-Division : UMSD,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	252.000	0.000 *	253.830	2.317	254.250	18.12	254.340	21.18	255.675	135.2	254.065	8.509
2	252.000	0.000 *	253.870	3.090	254.220	14.85	254.060	7.645	255.190	101.3 *	254.060	8.436
3	252.000	0.000 *	253.835	1.400 *	254.110	8.971	254.235	16.76	254.843	66.56	254.055	7.384
4	252.000	0.000 *	253.820	1.327	254.240	16.84	253.980	4.560 *	254.625	56.19	254.045	6.605
5	252.000	0.000 *	253.805	1.120	254.143	10.81	253.190	0.900 *	254.500	48.73	254.040	6.156
6	252.000	0.000 *	253.895	2.450 *	255.145	100.1	254.083	7.962	254.330	20.85	254.030	6.070 *
7	252.000	0.000 *	253.865	2.302	255.590	144.5 *	253.928	2.750	254.345	21.33	254.000	6.404
8	252.000	0.000 *	253.840	1.435	254.938	85.87	253.855	2.560	254.425	32.13	253.995	6.344
9	252.000	0.000 *	253.810	1.176	254.675	53.02	253.815	0.886	254.770	62.52 *	253.995	6.293
10	252.000	0.000 *	253.795	1.100 *	254.420	32.27	253.780	0.697	254.565	54.08 *	253.990	6.188
11	252.000	0.000 *	253.905	2.636	254.713	57.63	253.770	0.620 *	254.430	33.06 *	253.990	6.181
12	252.000	0.000 *	254.143	10.92	254.413	31.43	253.895	1.802	254.385	23.36 *	253.990	6.162
13	252.000	0.000 *	254.300	19.28	254.320	23.63	252.930	0.930 *	254.315	20.26	254.010	6.250 *
14	252.000	0.000 *	254.113	8.682	254.185	13.50 *	253.820	0.874	254.150	11.17	253.990	6.010 *
15	252.000	0.000 *	253.980	3.749	254.050	6.350 *	254.125	10.47	254.200	15.44	253.970	5.327
16	252.000	0.000 *	253.960	3.330	253.980	5.082	253.883	2.710	254.210	15.68 *	253.990	6.182
17	252.000	0.000 *	253.905	3.400 *	253.905	2.629	253.885	2.728	254.125	11.64	253.970	5.297
18	252.000	0.000 *	254.085	7.786	253.875	2.598	253.870	2.500 *	254.120	10.96	253.970	5.200
19	252.000	0.000 *	254.330	21.00	253.830	1.523	253.810	1.279	254.115	10.28	253.960	4.573
20	252.000	0.000 *	254.085	8.206	253.800	1.167	253.790	0.968	254.100	9.911	253.950	3.240 *
21	252.000	0.000 *	253.925	2.766	253.770	1.080 *	253.770	0.755	254.075	8.735	253.950	3.249
22	252.000	0.000 *	253.885	1.774	253.745	0.573	254.008	6.734	254.065	8.636	253.940	2.952
23	253.775	0.710	254.173	12.87	253.725	0.490	253.865	2.627	254.100	8.980 *	253.940	2.940
24	253.795	1.266	254.100	12.10 *	253.715	0.473	253.845	1.542	254.055	7.436	253.940	2.897
25	253.768	0.414	254.393	26.47	253.830	1.530	253.825	1.250 *	254.055	7.425	253.935	2.830
26	253.720	0.300 *	254.068	7.607	254.050	7.640	254.185	12.86	254.060	8.525	253.925	2.738
27	253.715	0.207	254.988	97.81	254.010	7.280	254.995	96.86	254.065	8.664	253.915	2.560 *
28	253.720	0.298	254.600	50.64	254.255	11.58 *	255.315	112.1	254.060	8.496	253.925	2.749
29	254.513	47.89	254.360	25.19	254.035	6.869	255.000	94.39	254.065	8.537	253.950	3.247
30	254.160	10.93	254.173	12.68	253.865	2.616	256.190	190.0	254.060	8.830 *	253.945	3.191
31			254.255	22.65 *	254.010	6.806			254.065	8.509		
Ten-Daily Mean												
I Ten-Daily	252.000	0.000	253.837	1.772	254.573	48.54	253.926	6.590	254.727	59.88	254.028	6.839
II Ten-Daily	252.000	0.000	254.080	8.899	254.107	14.55	253.778	2.488	254.215	16.18	253.979	5.442
III Ten-Daily	253.516	6.201	254.265	24.78	253.910	4.267	254.500	51.91	254.066	8.434	253.937	2.935
Monthly												
Min.	252.000	0.000	253.795	1.100	253.715	0.473	252.930	0.620	254.055	7.425	253.915	2.560
Max.	254.512	47.89	254.988	97.81	255.590	144.5	256.190	190.0	255.675	135.2	254.065	8.509
Mean	252.505	2.067	254.067	12.23	254.187	21.87	254.068	20.33	254.327	27.53	253.981	5.072

Annual Runoff in MCM = 246 Annual Runoff in mm = 111

Peak Observed Discharge = 190.0 cumecs on 30/09/2016 Corres. Water Level :256.19 m

Lowest Observed Discharge = 0.000 cumecs on 05/03/2017 Corres. Water Level :253.675 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Andhiarkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

Sub-Division : UMSD,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	253.930	2.823	253.770	1.098 *	253.740	0.707	253.695	0.265	253.615	0.000 *	252.000	0.000 *
2	254.050	6.819	253.770	1.067	253.740	0.687	253.690	0.241	253.610	0.000 *	252.000	0.000 *
3	253.830	1.567	253.770	1.160	253.740	0.683	253.690	0.231	253.605	0.000 *	252.000	0.000 *
4	253.825	1.500 *	253.770	1.052	253.735	0.694	253.680	0.189	253.595	0.000 *	252.000	0.000 *
5	253.815	1.276	253.770	1.054	253.730	0.557 *	253.675	0.000	253.580	0.000 *	252.000	0.000 *
6	253.810	1.226	253.780	1.131	253.730	0.563	253.670	0.139	253.560	0.000 *	252.000	0.000 *
7	253.830	1.548	253.780	1.122	253.725	0.543	253.670	0.133	253.530	0.000 *	252.000	0.000 *
8	253.820	1.514	253.780	1.168 *	253.725	0.539	253.665	0.094	253.515	0.000 *	252.000	0.000 *
9	253.940	6.500	253.780	1.123	253.720	0.499	253.660	0.028	253.500	0.000 *	252.000	0.000 *
10	253.840	1.704	253.790	1.579	253.720	0.496	253.655	0.000	253.500	0.000 *	252.000	0.000 *
11	253.850	1.800 *	253.780	1.128	253.730	0.610	253.650	0.000 *	253.500	0.000 *	252.000	0.000 *
12	253.830	1.650 *	253.770	1.057	253.725	0.515 *	253.645	0.000 *	253.500	0.000 *	252.000	0.000 *
13	253.820	1.519	253.790	1.566	253.725	0.583	253.640	0.000 *	253.495	0.000 *	252.000	0.000 *
14	253.815	1.436	253.790	1.560	253.720	0.534	253.635	0.000 *	253.490	0.000 *	252.000	0.000 *
15	253.810	1.874	253.790	1.460 *	253.720	0.531	253.630	0.000 *	253.490	0.000 *	252.000	0.000 *
16	253.810	1.838	253.800	1.808	253.720	0.530	253.630	0.000 *	253.485	0.000 *	252.000	0.000 *
17	253.805	1.785	253.790	1.557	253.720	0.524	253.630	0.000 *	253.480	0.000 *	252.000	0.000 *
18	253.805	1.780 *	253.780	1.143	253.715	0.470	253.640	0.000 *	253.475	0.000 *	252.000	0.000 *
19	253.800	1.759	253.775	1.104	253.715	0.452 *	253.640	0.000 *	253.475	0.000 *	252.000	0.000 *
20	253.800	1.741	253.770	1.001	253.715	0.464	253.640	0.000 *	253.470	0.000 *	252.000	0.000 *
21	253.800	1.723	253.770	0.999	253.715	0.461	253.650	0.000 *	253.455	0.000 *	252.000	0.000 *
22	253.805	1.791	253.765	0.976 *	253.710	0.434	253.650	0.000 *	253.440	0.000 *	252.000	0.000 *
23	253.780	1.084	253.760	0.936	253.710	0.429	253.650	0.000 *	253.440	0.000 *	252.000	0.000 *
24	253.780	1.080	253.760	0.921	253.705	0.330	253.645	0.000 *	253.440	0.000 *	252.000	0.000 *
25	253.780	1.075 *	253.755	0.831	253.705	0.329	253.645	0.000 *	252.000	0.000 *	252.000	0.000 *
26	253.800	1.736	253.750	0.756 *	253.705	0.348 *	253.640	0.000 *	252.000	0.000 *	252.000	0.000 *
27	253.800	1.723	253.745	0.573	253.700	0.315	253.640	0.000 *	252.000	0.000 *	252.000	0.000 *
28	253.800	1.706	253.745	0.568	253.695	0.269	253.635	0.000 *	252.000	0.000 *	252.000	0.000 *
29	253.790	1.583	253.740	0.405 *			253.635	0.000 *	252.000	0.000 *	252.000	0.000 *
30	253.780	1.082	253.735	0.270			253.630	0.000 *	252.000	0.000 *	252.000	0.000 *
31	253.785	1.340	253.750	0.754			253.620	0.000 *			252.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	253.869	2.648	253.776	1.155	253.730	0.597	253.675	0.132	253.561	0.000	252.000	0.000
II Ten-Daily	253.814	1.718	253.783	1.339	253.721	0.521	253.638	0.000	253.486	0.000	252.000	0.000
III Ten-Daily	253.791	1.448	253.752	0.726	253.706	0.364	253.640	0.000	252.577	0.000	252.000	0.000
Monthly												
Min.	253.780	1.075	253.735	0.270	253.695	0.269	253.620	0.000	252.000	0.000	252.000	0.000
Max.	254.050	6.819	253.800	1.808	253.740	0.707	253.695	0.265	253.615	0.000	252.000	0.000
Mean	253.824	1.922	253.770	1.062	253.720	0.503	253.651	0.043	253.208	0	252.000	0

Peak Computed Discharge = 144.5 cumecs on 07/08/2016

Corres. Water Level :255.59 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :252 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

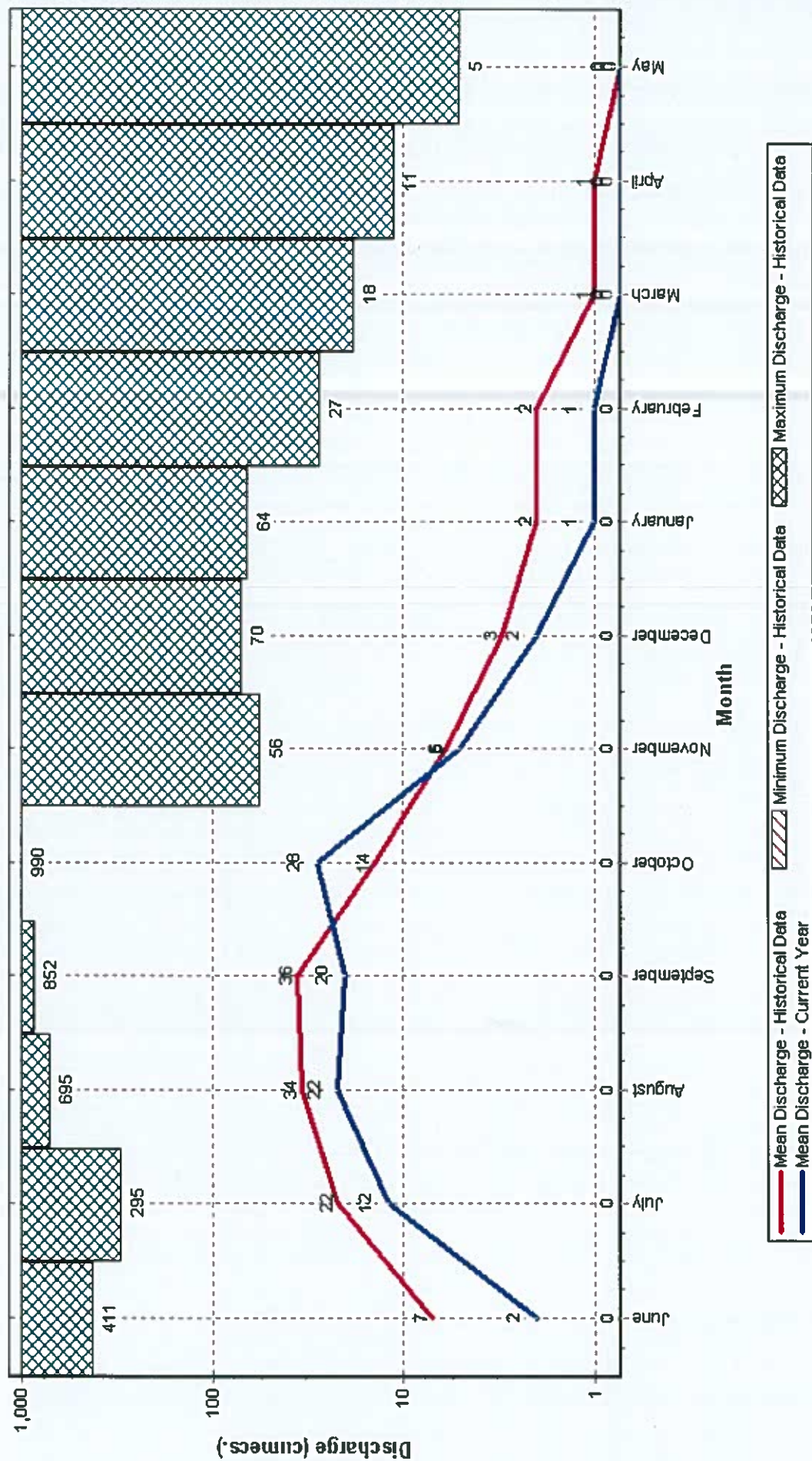
Station Name : Andhiarkhore (EMP60E5)

Data considered : 1978-2017

Division : MD,CWC,Burla

Local River : Hamp

Sub-Division : UMSD,CWC,Raipur

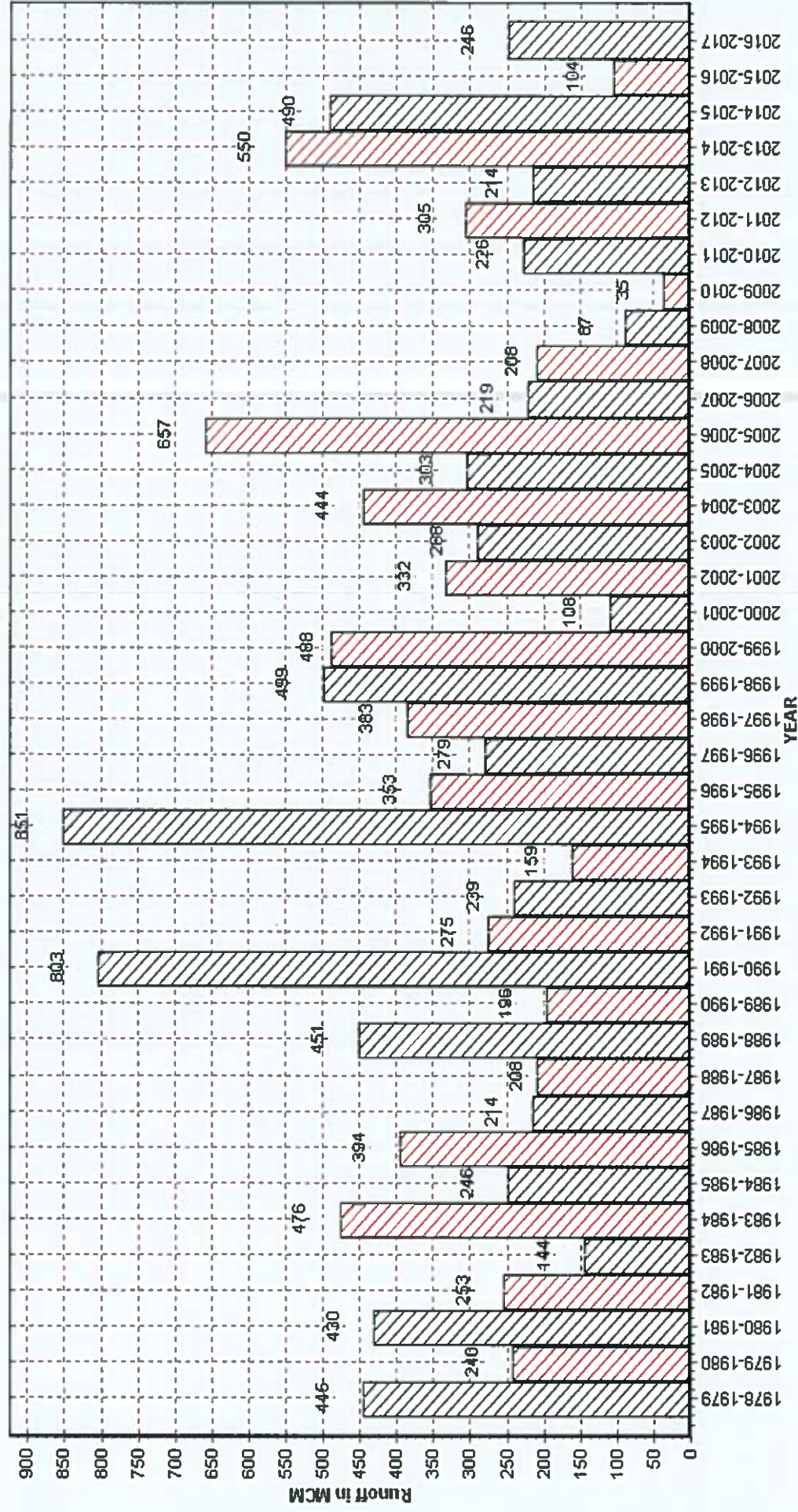


Annual Runoff Values for the period: 1978 - 2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

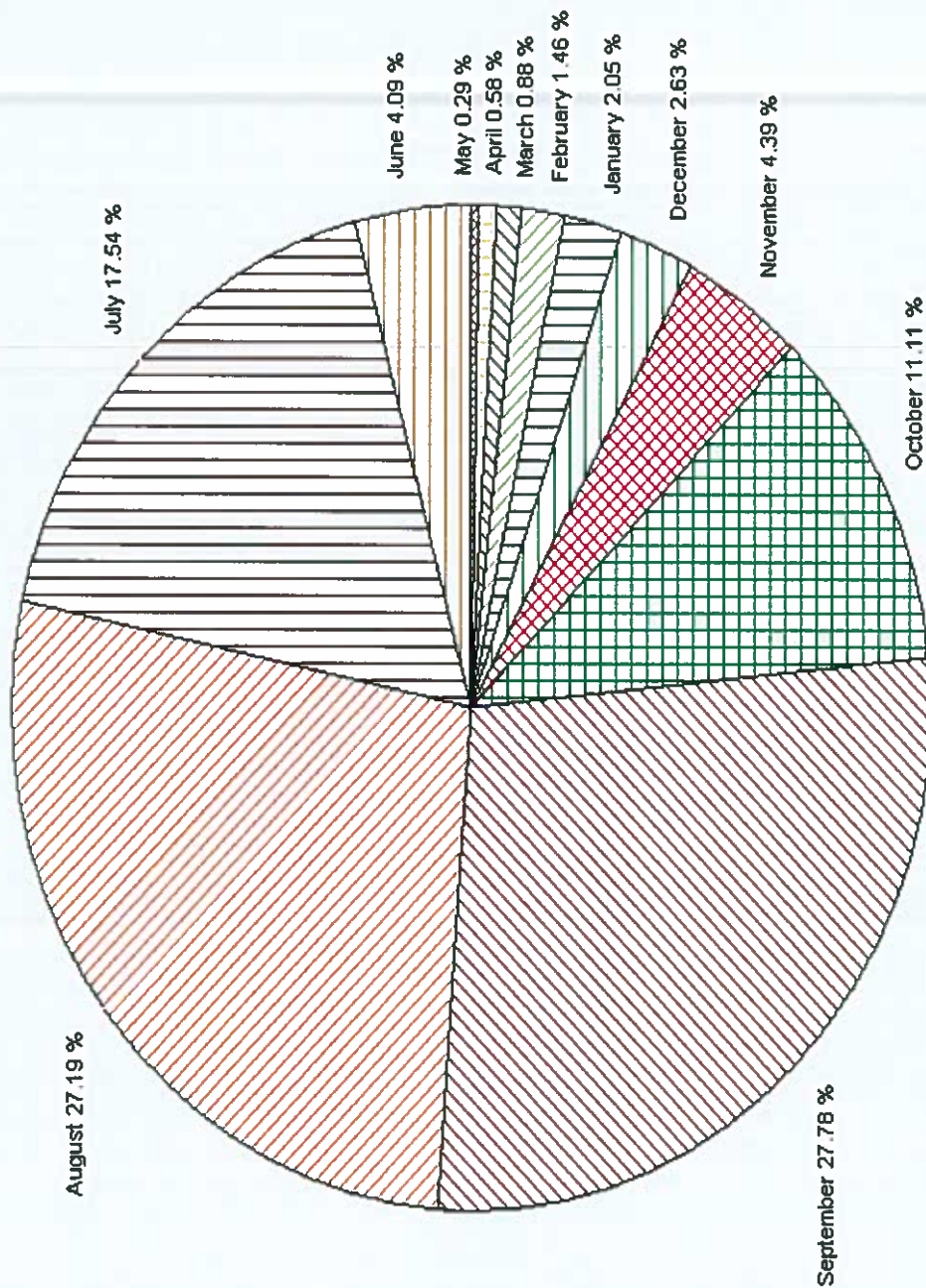
Monthly Average Runoff based on period : 1978-2016

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

June	4.09 %
July	17.54 %
August	27.19 %
September	27.78 %
October	11.11 %
November	4.39 %
December	2.63 %
January	2.05 %
February	1.46 %
March	0.88 %
April	0.58 %
May	0.29 %

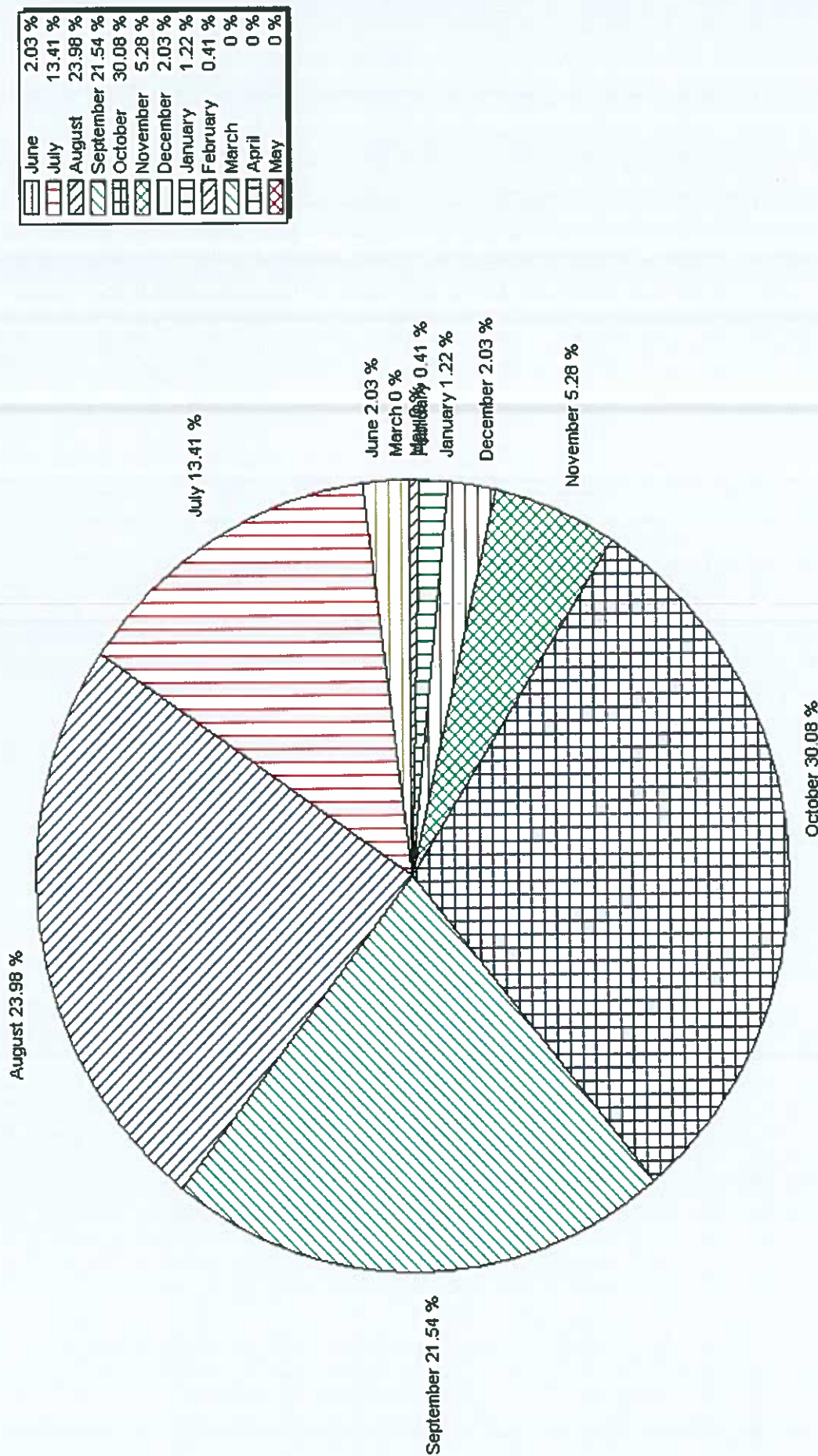


Monthly Runoff for the Year : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



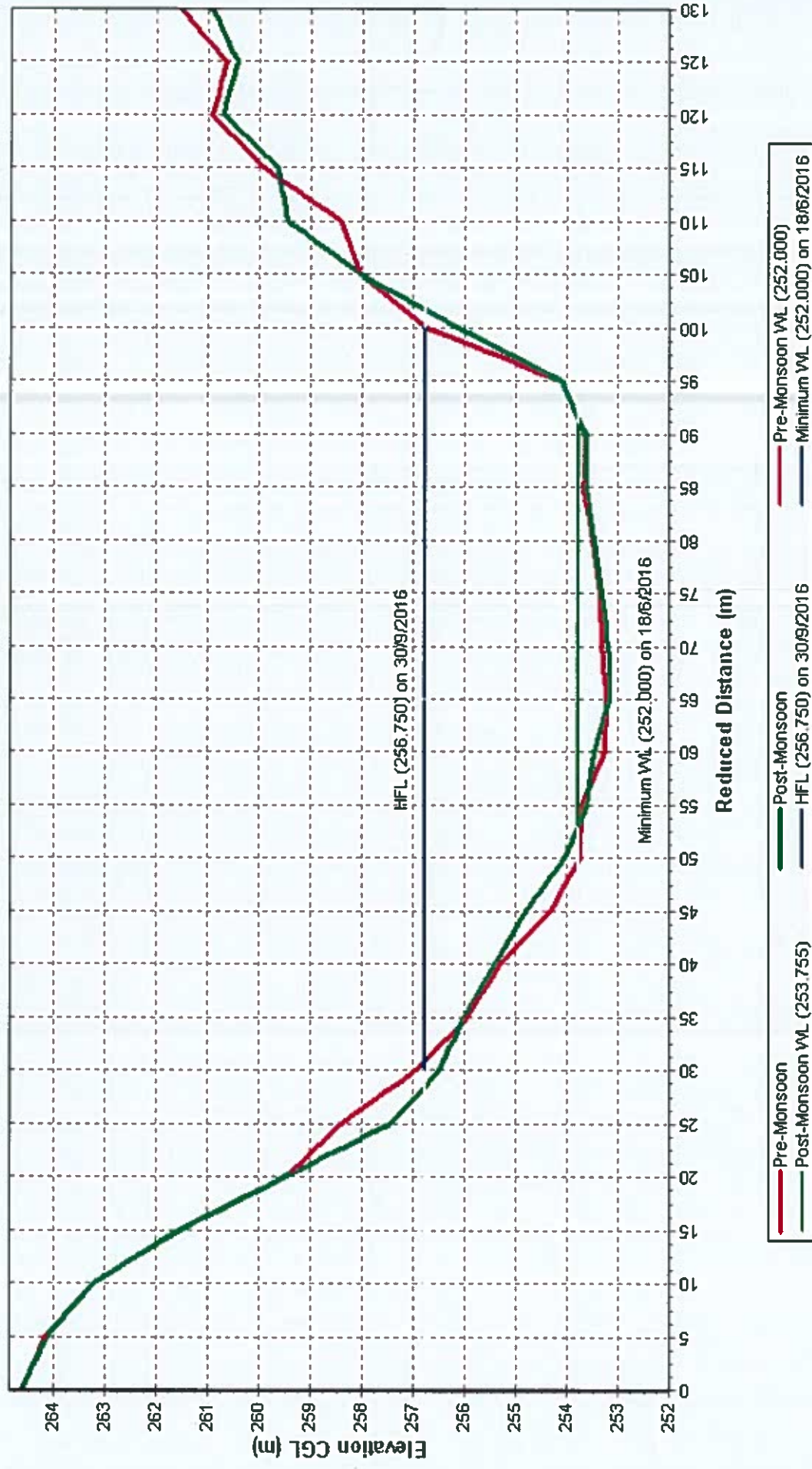
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla

Sub-Division : UMSD, CWC, Raipur



Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



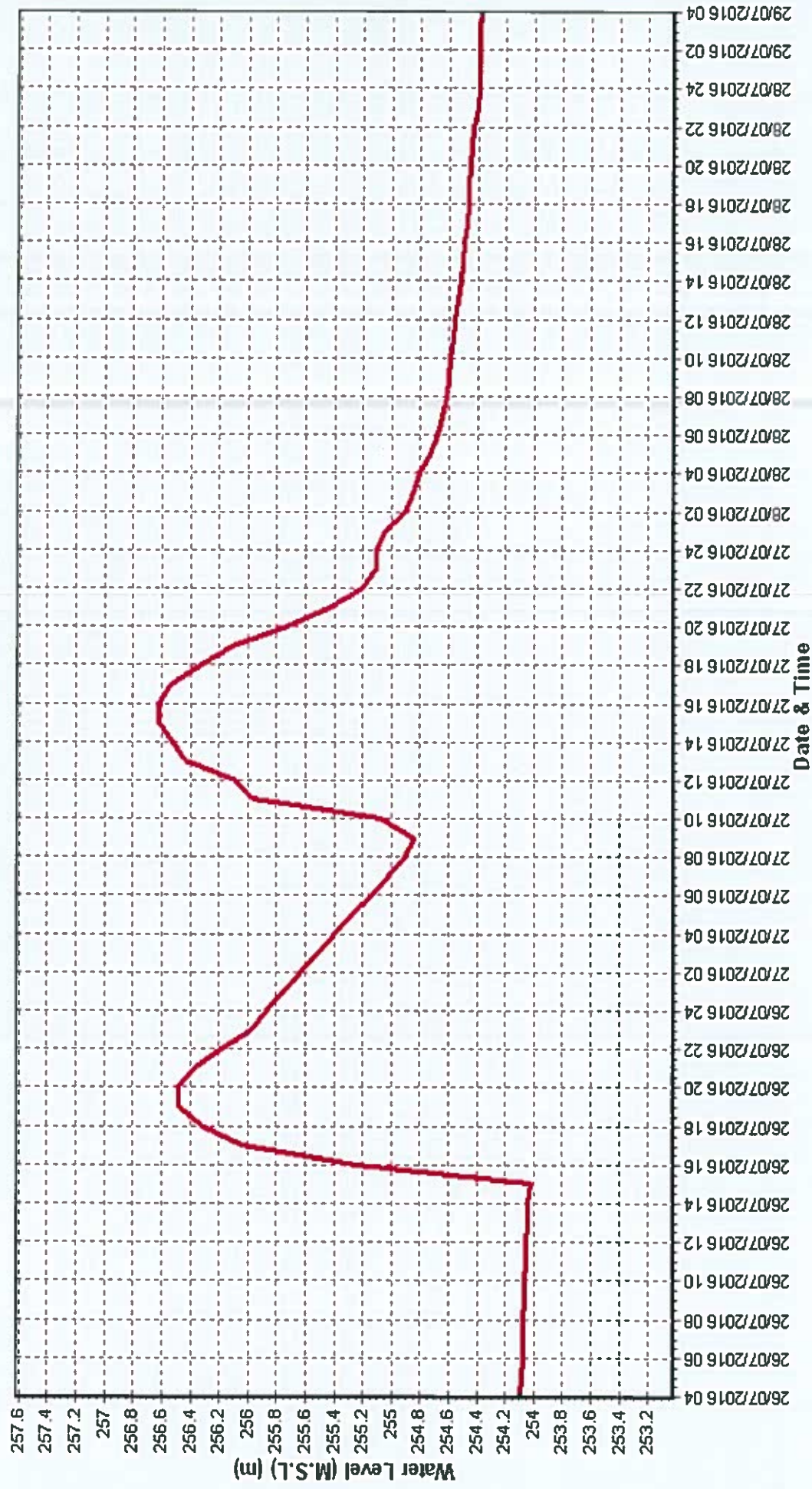
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

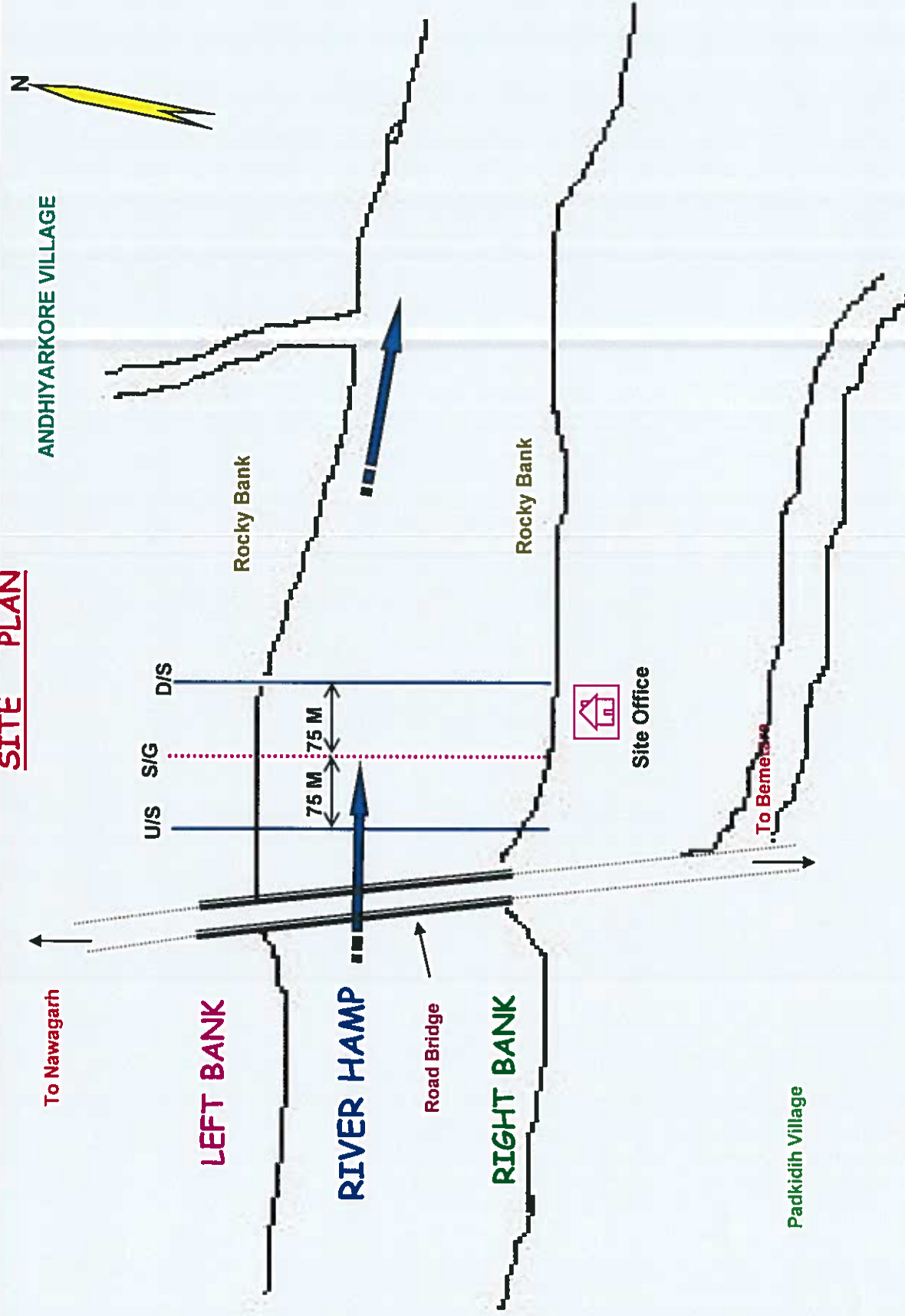
Local River : Hamp

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur



SITE PLAN



SECTION –II

535

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

Sub-Division : UMSD,CWC,Raipur

Day	Jun				Jul				Aug			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	2.317	0.000	0.000	0.968	0.968	194
2	0.000	0.000	0.000	0.000	0.000	0	3.090	0.000	0.000	0.698	0.698	186
3	0.000	0.000	0.000	0.000	0.000	0	1.400	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	1.327	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	1.120	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	2.450	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	2.302	0.000	0.000	0.123	0.123	24
8	0.000	0.000	0.000	0.000	0.000	0	1.435	0.000	0.000	0.076	0.076	9
9	0.000	0.000	0.000	0.000	0.000	0	1.176	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	2.636	0.000	0.000	0.116	0.116	26
12	0.000	0.000	0.000	0.000	0.000	0	10.92	0.000	0.000	0.553	0.553	522
13	0.000	0.000	0.000	0.000	0.000	0	19.28	0.000	0.000	0.802	0.802	1335
14	0.000	0.000	0.000	0.000	0.000	0	8.682	0.000	0.000	0.750	0.750	563
15	0.000	0.000	0.000	0.000	0.000	0	3.749	0.000	0.000	0.295	0.295	96
16	0.000	0.000	0.000	0.000	0.000	0	3.330	0.000	0.000	0.348	0.348	100
17	0.000	0.000	0.000	0.000	0.000	0	3.400	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	7.786	0.000	0.000	0.207	0.207	139
19	0.000	0.000	0.000	0.000	0.000	0	21.00	0.000	0.000	0.431	0.431	782
20	0.000	0.000	0.000	0.000	0.000	0	8.206	0.000	0.000	0.433	0.433	307
21	0.000	0.000	0.000	0.000	0.000	0	2.766	0.000	0.000	0.208	0.208	50
22	0.000	0.000	0.000	0.000	0.000	0	1.774	0.000	0.000	0.513	0.513	79
23	0.710	0.000	0.000	0.000	0.000	0	12.87	0.000	0.000	0.267	0.267	296
24	1.266	0.000	0.000	0.000	0.000	0	12.10	0.000	0.000	0.000	0.000	0
25	0.414	0.000	0.000	0.000	0.000	0	26.47	0.000	0.000	2.094	2.094	4789
26	0.300	0.000	0.000	0.000	0.000	0	7.607	0.000	0.000	0.402	0.402	264
27	0.207	0.000	0.000	0.000	0.000	0	97.81	0.000	0.000	0.916	0.916	7739
28	0.298	0.000	0.000	0.000	0.000	0	50.64	0.000	0.000	0.911	0.911	3985
29	47.89	0.000	0.000	0.000	0.000	0	25.19	0.000	0.000	0.334	0.334	727
30	10.93	0.000	0.000	0.000	0.000	0	12.68	0.000	0.000	0.181	0.181	198
31							22.65	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	1.772	0.000	0.000	0.186	0.186	41
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	8.899	0.000	0.000	0.393	0.393	387
Ten Daily III	6.201	0.000	0.000	0.000	0.000	0	24.78	0.000	0.000	0.529	0.529	1648
Monthly												
Total						0						22410
												15393

Annual Sediment Load (Metric Tonnes) : 62405

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Andharkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

Sub-Division : UMSD,CWC,Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	21.18	0.000	0.000	0.214	0.214	391	135.2	0.000	0.000	0.105	0.105	1225
2	7.645	0.000	0.000	0.170	0.170	112	101.3	0.000	0.000	0.000	0.000	0
3	16.76	0.000	0.000	0.588	0.588	852	66.56	0.000	0.000	0.017	0.017	95
4	4.560	0.000	0.000	0.000	0.000	0	56.19	0.000	0.000	0.011	0.011	54
5	0.900	0.000	0.000	0.000	0.000	0	48.73	0.000	0.000	0.012	0.012	51
6	7.962	0.000	0.000	0.230	0.230	158	20.85	0.000	0.000	0.019	0.019	35
7	2.750	0.000	0.000	0.170	0.170	40	21.33	0.000	0.000	0.019	0.019	35
8	2.560	0.000	0.000	0.060	0.060	13	32.13	0.000	0.000	0.014	0.014	40
9	0.886	0.000	0.000	0.072	0.072	5	62.52	0.000	0.000	0.000	0.000	0
10	0.697	0.000	0.000	0.000	0.000	0	54.08	0.000	0.000	0.000	0.000	0
11	0.620	0.000	0.000	0.000	0.000	0	33.06	0.000	0.000	0.000	0.000	0
12	1.802	0.000	0.000	0.036	0.036	6	23.36	0.000	0.000	0.000	0.000	0
13	0.930	0.000	0.000	0.000	0.000	0	20.26	0.000	0.000	0.015	0.015	26
14	0.874	0.000	0.000	0.044	0.044	3	11.17	0.000	0.000	0.016	0.016	15
15	10.47	0.000	0.000	0.012	0.012	11	15.44	0.000	0.000	0.014	0.014	18
16	2.710	0.000	0.000	0.055	0.055	13	15.68	0.000	0.000	0.000	0.000	0
17	2.728	0.000	0.000	0.018	0.018	4	11.64	0.000	0.000	0.001	0.001	1
18	2.500	0.000	0.000	0.000	0.000	0	10.96	0.000	0.000	0.001	0.001	1
19	1.279	0.000	0.000	0.000	0.000	0	10.28	0.000	0.000	0.002	0.002	2
20	0.968	0.000	0.000	0.000	0.000	0	9.911	0.000	0.000	0.001	0.001	1
21	0.755	0.000	0.000	0.000	0.000	0	8.735	0.000	0.000	0.001	0.001	1
22	6.734	0.000	0.000	0.019	0.019	11	8.636	0.000	0.000	0.002	0.002	1
23	2.627	0.000	0.000	0.029	0.029	7	8.980	0.000	0.000	0.000	0.000	0
24	1.542	0.000	0.000	0.023	0.023	3	7.436	0.000	0.000	0.000	0.000	0
25	1.250	0.000	0.000	0.000	0.000	0	7.425	0.000	0.000	0.000	0.000	0
26	12.86	0.000	0.000	0.036	0.036	39	8.525	0.000	0.000	0.000	0.000	0
27	96.86	0.000	0.000	0.680	0.680	5687	8.664	0.000	0.000	0.000	0.000	0
28	112.1	0.000	0.000	0.854	0.854	8267	8.496	0.000	0.000	0.000	0.000	0
29	94.39	0.000	0.000	0.391	0.391	3190	8.537	0.000	0.000	0.000	0.000	0
30	190.0	0.000	0.000	0.255	0.255	4183	8.830	0.000	0.000	0.000	0.000	0
31							8.509	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	6.590	0.000	0.000	0.150	0.150	157	59.88	0.000	0.000	0.020	0.020	154
Ten Daily II	2.488	0.000	0.000	0.016	0.016	4	16.18	0.000	0.000	0.005	0.005	6
Ten Daily III	51.91	0.000	0.000	0.229	0.229	2139	8.434	0.000	0.000	0.000	0.000	0
Monthly												
Total						22995						1602

5

Annual Sediment Load (Metric Tonnes) : 62405

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Andharkhore (EMP60E5)

Local River : Hamp

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Day	Dec					Jan					Feb				
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day
1	2.823	0.000	0.000	0.000	0	1.098	0.000	0.000	0.000	0	0.707	0.000	0.000	0.000	0
2	6.819	0.000	0.000	0.000	0	1.067	0.000	0.000	0.000	0	0.687	0.000	0.000	0.000	0
3	1.567	0.000	0.000	0.000	0	1.160	0.000	0.000	0.000	0	0.683	0.000	0.000	0.000	0
4	1.500	0.000	0.000	0.000	0	1.052	0.000	0.000	0.000	0	0.694	0.000	0.000	0.000	0
5	1.276	0.000	0.000	0.000	0	1.054	0.000	0.000	0.000	0	0.557	0.000	0.000	0.000	0
6	1.226	0.000	0.000	0.000	0	1.131	0.000	0.000	0.000	0	0.563	0.000	0.000	0.000	0
7	1.548	0.000	0.000	0.000	0	1.122	0.000	0.000	0.000	0	0.543	0.000	0.000	0.000	0
8	1.514	0.000	0.000	0.000	0	1.168	0.000	0.000	0.000	0	0.539	0.000	0.000	0.000	0
9	6.500	0.000	0.000	0.000	0	1.123	0.000	0.000	0.000	0	0.499	0.000	0.000	0.000	0
10	1.704	0.000	0.000	0.000	0	1.579	0.000	0.000	0.000	0	0.496	0.000	0.000	0.000	0
11	1.800	0.000	0.000	0.000	0	1.128	0.000	0.000	0.000	0	0.610	0.000	0.000	0.000	0
12	1.650	0.000	0.000	0.000	0	1.057	0.000	0.000	0.000	0	0.515	0.000	0.000	0.000	0
13	1.519	0.000	0.000	0.000	0	1.566	0.000	0.000	0.000	0	0.583	0.000	0.000	0.000	0
14	1.436	0.000	0.000	0.000	0	1.560	0.000	0.000	0.000	0	0.534	0.000	0.000	0.000	0
15	1.874	0.000	0.000	0.000	0	1.460	0.000	0.000	0.000	0	0.531	0.000	0.000	0.000	0
16	1.838	0.000	0.000	0.000	0	1.808	0.000	0.000	0.000	0	0.530	0.000	0.000	0.000	0
17	1.785	0.000	0.000	0.000	0	1.557	0.000	0.000	0.000	0	0.524	0.000	0.000	0.000	0
18	1.780	0.000	0.000	0.000	0	1.143	0.000	0.000	0.000	0	0.470	0.000	0.000	0.000	0
19	1.759	0.000	0.000	0.000	0	1.104	0.000	0.000	0.000	0	0.452	0.000	0.000	0.000	0
20	1.741	0.000	0.000	0.000	0	1.001	0.000	0.000	0.000	0	0.464	0.000	0.000	0.000	0
21	1.723	0.000	0.000	0.000	0	0.999	0.000	0.000	0.000	0	0.461	0.000	0.000	0.000	0
22	1.791	0.000	0.000	0.000	0	0.976	0.000	0.000	0.000	0	0.434	0.000	0.000	0.000	0
23	1.084	0.000	0.000	0.000	0	0.936	0.000	0.000	0.000	0	0.429	0.000	0.000	0.000	0
24	1.080	0.000	0.000	0.000	0	0.921	0.000	0.000	0.000	0	0.330	0.000	0.000	0.000	0
25	1.075	0.000	0.000	0.000	0	0.831	0.000	0.000	0.000	0	0.329	0.000	0.000	0.000	0
26	1.736	0.000	0.000	0.000	0	0.756	0.000	0.000	0.000	0	0.348	0.000	0.000	0.000	0
27	1.723	0.000	0.000	0.000	0	0.573	0.000	0.000	0.000	0	0.315	0.000	0.000	0.000	0
28	1.706	0.000	0.000	0.000	0	0.568	0.000	0.000	0.000	0	0.269	0.000	0.000	0.000	0
29	1.583	0.000	0.000	0.000	0	0.405	0.000	0.000	0.000	0					
30	1.082	0.000	0.000	0.000	0	0.270	0.000	0.000	0.000	0					
31	1.340	0.000	0.000	0.000	0	0.754	0.000	0.000	0.000	0					
Ten Daily Mean															
Ten Daily I	2.648	0.000	0.000	0.000	0	1.155	0.000	0.000	0.000	0	0.597	0.000	0.000	0.000	0
Ten Daily II	1.718	0.000	0.000	0.000	0	1.339	0.000	0.000	0.000	0	0.521	0.000	0.000	0.000	0
Ten Daily III	1.448	0.000	0.000	0.000	0	0.726	0.000	0.000	0.000	0	0.364	0.000	0.000	0.000	0
Monthly															
Total					0					0					0

532

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Andharkhore (EMP60E5)

Local River : Hamp

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur

Day		Mar					Apr					May				
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	
1	0.265	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
2	0.241	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
3	0.231	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
4	0.189	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
5	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
6	0.139	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
7	0.133	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
8	0.094	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
9	0.028	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
10	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
11	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
12	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
13	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
14	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
15	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
16	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
17	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
18	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
19	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
20	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
21	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
22	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
23	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
24	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
25	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
26	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
27	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
28	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
29	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
30	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
31	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	
Ten Daily Mean																
Ten Daily I		0.132	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
Ten Daily II		0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
Ten Daily III		0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0
Monthly																
total					0					0						0

Annual Sediment Load (Metric Tonnes) : 62405

Annual Sediment Load for period : 1981-2017

Station Name : Andhiarkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

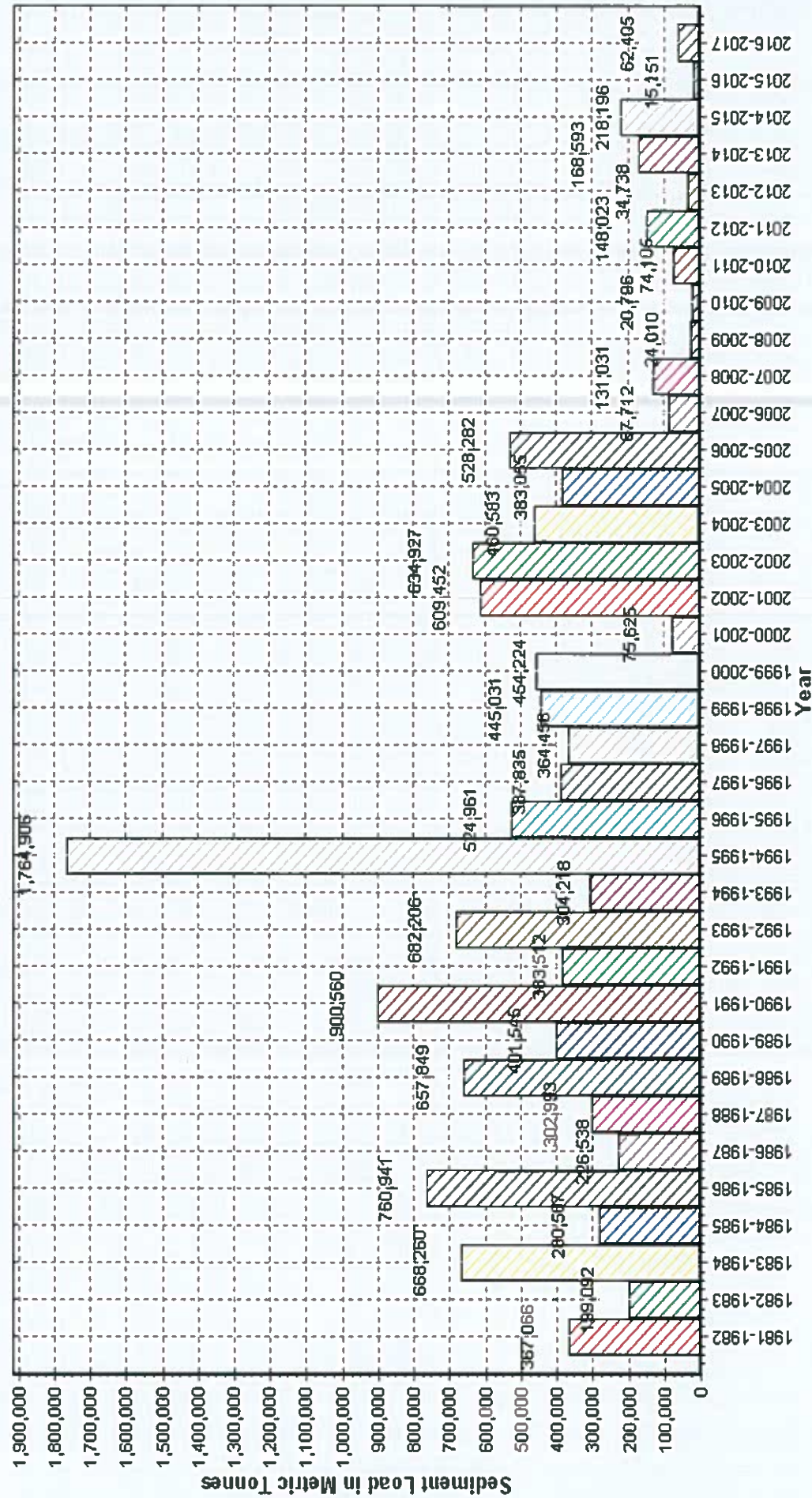
Sub-Division : UMSD,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1981-1982	366761	305	367066	253
1982-1983	198763	329	199092	144
1983-1984	666010	2250	668260	476
1984-1985	280497	10	280507	246
1985-1986	747637	13305	760941	394
1986-1987	226302	236	226538	214
1987-1988	302283	710	302993	208
1988-1989	657821	29	657849	451
1989-1990	401497	48	401545	196
1990-1991	900465	95	900560	803
1991-1992	383501	11	383512	275
1992-1993	682188	18	682206	239
1993-1994	304165	52	304218	159
1994-1995	1764637	269	1764906	851
1995-1996	524816	146	524961	353
1996-1997	387777	58	387835	279
1997-1998	352580	11876	364456	383
1998-1999	444938	93	445031	499
1999-2000	454147	77	454224	488
2000-2001	75625	0	75625	108
2001-2002	609448	3	609452	332
2002-2003	634926	0	634927	288
2003-2004	460567	17	460583	444
2004-2005	383042	13	383055	303
2005-2006	528279	3	528282	657
2006-2007	87708	4	87712	219
2007-2008	131031	0	131031	208
2008-2009	24004	6	24010	87
2009-2010	20796	0	20796	35
2010-2011	74081	24	74105	226
2011-2012	147975	48	148023	305
2012-2013	34729	10	34738	214
2013-2014	168566	27	168593	550
2014-2015	218195	1	218196	490
2015-2016	15139	12	15151	104
2016-2017	62405	0	62405	246

Annual Sediment Load for the period: 1981-2017

Station Name : Andharkhore (EMP60E5)
Local River : Hamp

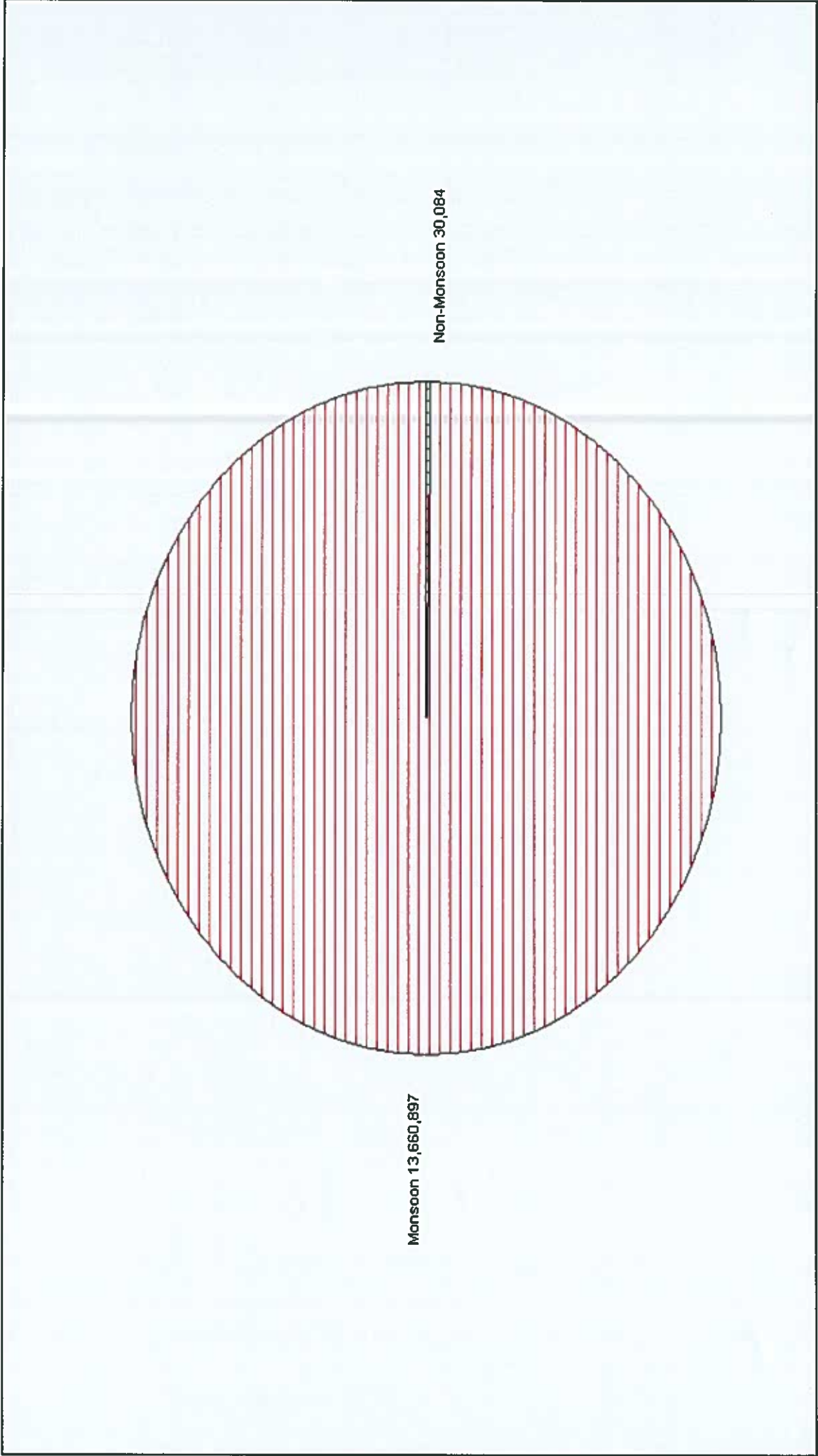
Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Seasonal Sediment Load for the period : 1981-2016

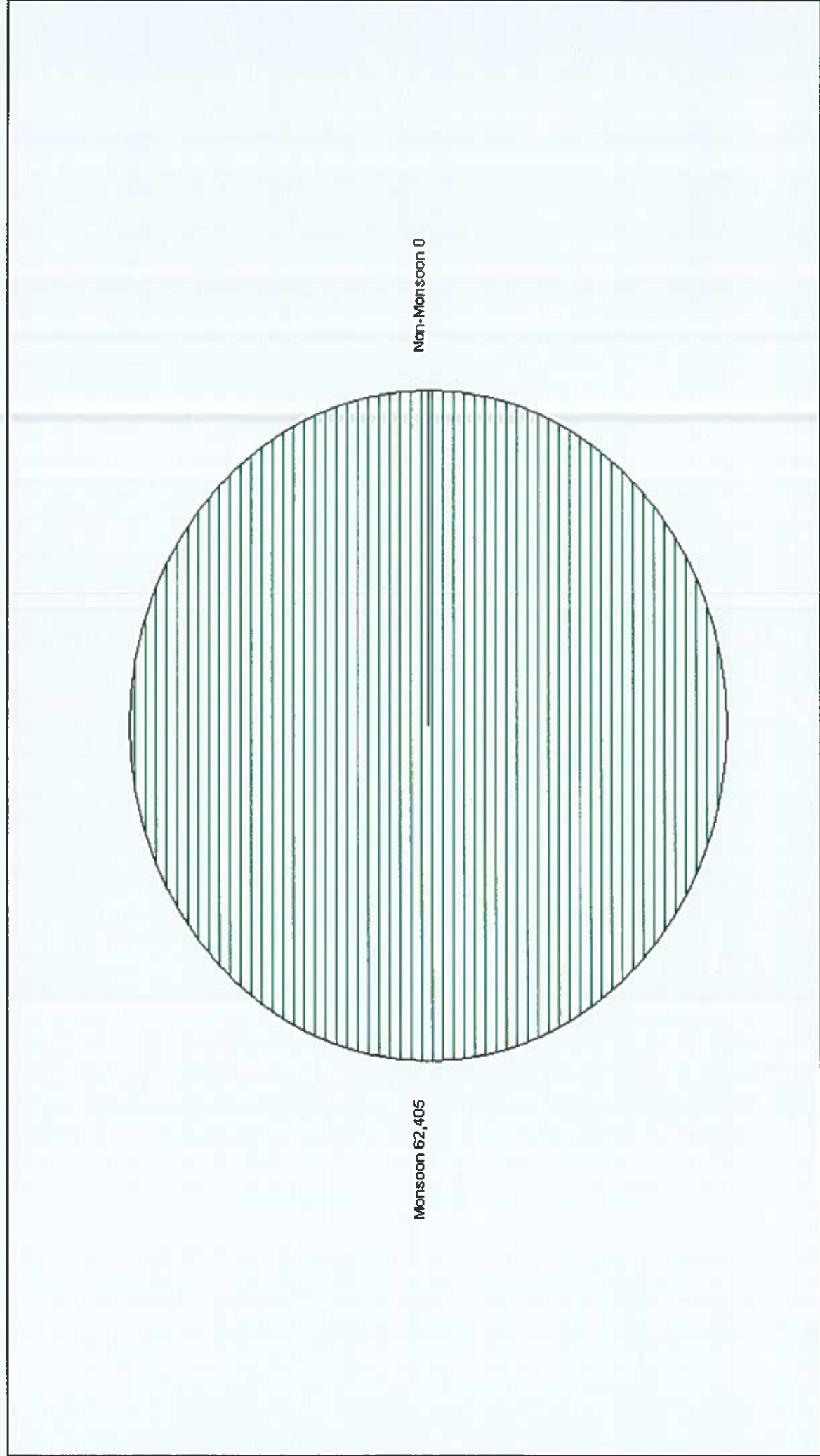
Station Name : Andhiarkhore (EMP60E5)
Local River : Hamp



Station Name : Andhiarkhore (EMP60E5)
Local River : Hamp

Seasonal Sediment Load for the Year: 2016-2017

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

River Water Analysis

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	2.317	18.12	21.18	135.2	8.509	2.823	1.067	0.707	0.265	0.000	0.000
2	Colour_Cod (-)		Brown	Brown	Brown	Brown	Clear	Clear	Clear	Clear	Clear		
3	EC_FLD (µmho/cm)		207	204	303	212	477	412	409	442	473		
4	EC_GEN (µmho/cm)		186	193	253	187	445	373	325	463	333		
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free		
6	pH_FLD (pH units)		6.8	7.8	7.5	6.1	7.3	8.3	9.2	9.1	8.5		
7	pH_GEN (pH units)		8.3	7.1	7.6	7.2	8.3	8.2	8.6	8.5	8.3		
8	Temp (deg C)		29.5	27.0	29.0	26.5	24.0	20.0	16.0	19.5	21.0		
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)		264	164	200	168	80	180	156	180	212		
3	Ca (mg/L)		19	21	19	46	43	43	50	25	40		
4	Cl (mg/L)		15.0	12.0	39.0	15.0	19.0	17.0	27.0	34.0	40.0		
5	CO3 (mg/L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
6	HCO3 (mg/L)		161	100	122	103	49	110	95	110	129		
7	K (mg/L)		13.1	10.6	13.0	10.7	6.1	8.8	10.3	9.1	6.6		
8	Mg (mg/L)		16.5	16.5	33.1	7.8	7.8	22.4	3.9	67.1	19.4		
9	Na (mg/L)		16.3	13.6	22.8	22.5	38.8	35.8	28.1	34.2	77.9		
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)		0.6	1.4	1.1	1.2	1.0	0.5	1.2	1.0	2.3		
2	DO (mg/L)		6.5	4.7	6.5	6.2	6.2	5.3	6.8	6.7	6.6		
3	DO SAT% (%)		85	59	85	76	74	58	69	72	74		
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)		48	52	48	116	108	108	124	61	100		
2	HAR_Total (mgCaCO3/L)		117	121	186	149	141	201	140	341	181		
3	Na% (%)		21	18	20	23	36	27	29	18	47		
4	RSC (-)		0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
5	SAR (-)		0.7	0.5	0.7	0.8	1.4	1.1	1.0	0.8	2.5		
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Andhiarkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

Sub-Division : UMSD,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	190.0	0.000	7.788
2	EC_FLD (µmho/cm)	9	477	204	349
3	EC_GEN (µmho/cm)	9	463	186	306
4	pH_FLD (pH units)	9	9.2	6.1	7.8
5	pH_GEN (pH units)	9	8.6	7.1	8
6	Temp (deg C)	9	29.5	16.0	23.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	9	264	80	178
3	Ca (mg/L)	9	50	19	34
4	Cl (mg/L)	9	40.0	12.0	24.2
5	CO3 (mg/L)	9	0.0	0.0	0
6	HCO3 (mg/L)	9	161	49	109
7	K (mg/L)	9	13.1	6.1	9.8
8	Mg (mg/L)	9	67.1	3.9	21.6
9	Na (mg/L)	9	77.9	13.6	32.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	2.3	0.5	1.1
2	DO (mg/L)	9	6.8	4.7	6.2
3	DO_SAT% (%)	9	85	58	72
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	124	48	85
2	HAR_Total (mgCaCO3/L)	9	341	117	175
3	Na% (%)	9	47	18	27
4	RSC (-)	9	0.3	0.0	0
5	SAR (-)	9	2.5	0.5	1.1
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Andhiarkhore (EMP60E5)
Local River : Hamp

River Water

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	8.050	48.54	18.31	68.08	37.74	23.31	6.028	2.549	6.549	14.96	5.954	37.39	16.39	5.178	35.35
2	EC_FLD (µmho/cm)	660	277	375	386	349	305	768		232	541	134			477	232
3	EC_GEN (µmho/cm)	660	277	375	386	349	277	371	333	323	365	370	365	459	549	205
4	pH_FLD (pH units)	8.0	7.8	8.2	7.9	7.8	7.7	7.5	7.9	7.7	8.2				8.0	7.0
5	pH_GEN (pH units)	8.0	7.8	8.2	7.9	7.8	7.6	7.6	7.9	7.5	7.5	8.0	8.3	8.2	8.1	7.5
6	Temp (deg C)	26.8	30.0	30.8	29.4	28.8	28.4	26.9	27.8	27.1	26.0	27.4	27.9	29.4	28.2	28.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	1.7	0.0	4.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0
2	ALK-TOT (mgCaCO3/L)	453	296	262	231		221	261	148	219	254	247	360	395	358	199
3	B (mg/L)				0.02		0.01	0.01	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	71	31	39	29		21	25	9	23	32	32	40	45	29	26
5	Cl (mg/L)	15.4	21.7	19.2	40.4		13.6	31.9	23.6	10.0	12.2	12.3	21.8	18.3	29.0	20.3
6	CO3 (mg/L)	2.0	0.0	13.4	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	0.0
7	F (mg/L)		1.70		0.26		0.22	0.14	0.19	0.53	0.23	0.25				
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1				
9	HCO3 (mg/L)	274	180	182	141		134	159	90	134	155	151	220	241	208	121
10	K (mg/L)	6.6			3.6		2.1	4.7	3.6	4.5	5.2	3.3	5.6	6.5	9.1	11.9
11	Mg (mg/L)	8.1	8.8	28.6	11.8		13.0	12.8	6.5	14.5	19.7	18.0	11.4	14.7	25.1	18.5
12	Na (mg/L)	22.4			22.4		26.2	25.4	8.6	19.2	24.6	29.5	24.1	39.2	41.2	18.8
13	NO2+NO3 (mg N/L)				0.12	0.14	0.31	0.66								
14	NO2-N (mgN/L)				0.00	0.01	0.02	0.02	0.02	0.04	0.06	0.10				
15	NO3-N (mgN/L)				0.11	0.17	0.29	0.64								
16	P-Tot (mgP/L)				0.003		0.012	0.042	0.040	0.035	0.050	0.130				
17	SiO2 (mg/L)				9.6		19.5	24.2	22.0	16.1	22.0	24.3				
18	SO4 (mg/L)	18.8	17.2	13.0	22.9		19.3	39.4	22.3	26.3	32.2	23.4				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Andhiarkhore (EMP60E5)

Division : MD,CWC,Burla

Local River : Hamp

River Water

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	1.3	1.3	0.6		4.3	0.7	2.2	1.5	1.2	1.5	0.2	1.0	2.3	1.1
2	COD (mg/L)						18.4	21.0	53.0	48.0	28.0	32.0				
3	DO (mg/L)	8.3	5.6	6.0	5.3		7.1	5.4	5.1	6.5	6.0	6.5	6.5	6.6	6.3	6.0
4	DO_SAT% (%)	104	78	82	69		91	67	65	81	73	81	83	86	80	76
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	178	77	96	72		53	63	23	59	80	79	99	113	74	66
2	HAR_Total (mgCaCO3/L)	176	113	214	121		107	116	50	119	162	154	147	174	178	143
3	Na% (%)	21			26		35	31	31	24	24	31	26	31	32	21
4	RSC (-)	0.4	0.4	0.0	0.0		0.2	0.3	0.5	0.0	0.0	0.0	0.7	0.5	0.3	0.1
5	SAR (-)	0.7			0.8		1.1	1.2	0.6	0.7	0.8	1.2	0.9	1.3	1.3	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Andharkhore (EMP60E5)
Local River : Hamp

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

River Water

S.No	Parameters	Winter																
		Nov - Feb																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	0.935	16.12	6.806	4.293	1.136	1.332	0.646	0.305	3.099	2.210	2.442	10.24	8.450	1.811	3.276		
2	EC_FLD (µmho/cm)	643	487	600	570	683		531	476	606	598	317			511	435		
3	EC_GEN (µmho/cm)	643	487	600	570	683	648	566	604	593	525	633	542	528	489	402		
4	pH_FLD (pH units)	7.9	8.1	8.0	7.2	8.2	8.2	8.0	7.4	7.8					6.9	8.5		
5	pH_GEN (pH units)	7.9	8.1	8.0	7.2	8.2	7.8	8.0	7.9	7.7	8.1	7.8	8.2	8.4	8.4	8.4		
6	Temp (deg C)	19.0	22.5	23.3	24.8	24.0	20.0	17.8	13.3	20.0	19.4	19.6	20.5	20.6	20.8	19.9		
	CHEMICAL																	
1	ALK-Phen (mgCaCO3/L)	1.0	0.0	0.0	0.0		0.0	2.5	0.0	0.0	0.0	10.0	0.0	3.0	12.9	0.0		
2	ALK-TOT (mgCaCO3/L)	455	486	386	395		389	487	443	421	377	470	501	404	384	149		
3	B (mg/L)				0.10		0.01	0.00	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	61	42	40	46		40	43	43	46	43	42	55	32	30	40		
5	Cl (mg/L)	11.0	18.7	9.3	74.3		79.3	130.8	35.1	56.4	43.9	19.8	22.5	24.8	22.0	24.3		
6	CO3 (mg/L)	1.3	0.0	0.0	0.0		0.0	3.0	0.0	0.0	0.0	12.0	0.0	3.6	15.6	0.0		
7	F (mg/L)		1.08	0.38	0.16		0.34	0.32	0.63	0.39	0.26	0.31						
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.1		0.1				
9	HCO3 (mg/L)	276	287	235	241		237	294	270	257	230	274	306	243	218	91		
10	K (mg/L)	4.6		4.2	2.3		3.5	3.1	4.4	5.1	3.6	1.4	10.9	4.9	9.2	8.6		
11	Mg (mg/L)	14.2	14.2	32.3	22.5		25.3	26.4	25.3	24.7	24.3	30.2	21.0	29.9	25.5	25.3		
12	Na (mg/L)	39.0		43.0	50.4		48.2	93.3	33.8	37.4	36.7	58.3	59.0	40.8	34.8	34.2		
13	NO2+NO3 (mg N/L)			0.30	0.10	0.08	0.10	0.54						0.19				
14	NO2-N (mgN/L)				0.00	0.01	0.01	0.05	0.05	0.29	0.09	0.07		0.07				
15	NO3-N (mgN/L)				0.10	0.06	0.09	0.48						0.12				
16	P-Tot (mgP/L)			0.020	0.008		0.030	0.177	0.130	0.122	0.250	0.153		0.160				
17	SiO2 (mg/L)				25.1		24.8	23.9	47.6	28.3	12.7	17.9		15.0				
18	SO4 (mg/L)	52.3	34.3	31.5	42.0		38.8	35.3	66.0	58.1	46.4	45.8		35.0				

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

Water Quality Seasonal Average for the period: 2002-2017

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

River Water

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.3	0.8	2.1	0.9		1.2	1.0	0.9	1.7	1.7	1.2	0.7	1.3	0.9	0.9
2	COD (mg/L)						29.0	52.0	96.0	170.0	33.0	25.0				
3	DO (mg/L)	7.8	5.5	7.0	7.3		8.1	6.1	6.7	7.5	7.2	7.8	8.1	8.9	6.8	6.3
4	DO_SAT% (%)	81	82	82	88		88	64	64	82	78	84	89	98	76	68
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	152	104	99	116		99	108	107	116	108	106	136	80	74	100
2	HAR_Total (mgCaCO3/L)	211	163	232	210		204	218	213	219	209	232	224	205	180	206
3	Na% (%)	25		37	34		33	48	26	26	27	33	34	29	29	27
4	RSC (-)	0.5	1.5	0.7	0.1		0.4	0.6	0.2	0.2	0.0	0.8	0.7	0.1	0.8	0.0
5	SAR (-)	0.9		1.5	1.5		1.5	2.8	1.0	1.1	1.1	1.7	1.7	1.2	1.1	1.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Andhiarkhore (EMP60E5)

Local River : Hamp

River Water

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	0.425	0.906	0.807	0.522	0.244	0.103		0.044	0.730	0.436	1.657	0.688	0.036	0.088	
2	EC_FLD (µmho/cm)	737	700	707	685						155			589	473	
3	EC_GEN (µmho/cm)	737	700	707	685		619		719	564	615	625	614	580	333	
4	pH_FLD (pH units)	8.3	8.1	7.8	7.6		7.8							7.4	8.5	
5	pH_GEN (pH units)	8.3	8.1	7.8	7.6		8.0		7.6	7.7	8.4	8.0	8.3	8.4	8.3	
6	Temp (deg C)	27.5	26.5	30.3	30.5		22.5		24.5	21.5	23.2	26.7	25.8	24.0	21.0	
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	9.7	0.0	0.0	0.0		0.0		0.0	0.0	6.6	0.2	25.2	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)	379	699	402	503		345		396	427	569	443	472	516	212	
3	B (mg/L)				0.10		0.01		0.00	0.00	0.00					
4	Ca (mg/L)	57	69	34	50		27		39	43	35	34	33	27	40	
5	Cl (mg/L)	5.0	21.5	92.0	99.0		70.6		44.5	50.8	25.5	32.3	37.3	30.0	40.0	
6	CO3 (mg/L)	17.5	0.0	0.0	0.0		0.0		0.0	0.0	7.9	0.2	30.4	0.0	0.0	
7	F (mg/L)			0.39	0.14		0.21		0.62	0.26	0.21					
8	Fe (mg/L)				0.1	0.0	0.0		0.9	0.4	0.2		0.1			
9	HCO3 (mg/L)	213	426	245	307		210		241	260	339	270	257	315	129	
10	K (mg/L)	12.6		4.9	4.3		3.0		8.1	3.1	11.8	8.0	7.8	5.6	6.6	
11	Mg (mg/L)	11.3	14.9	16.2	19.9		18.0		25.5	24.3	22.4	32.4	31.8	27.2	19.4	
12	Na (mg/L)	53.2		78.3	67.6		60.0		37.0	81.4	62.7	72.5	60.5	41.9	77.9	
13	NO2+NO3 (mg N/L)			0.12	0.09	0.06	0.27						0.26			
14	NO2-N (mgN/L)				0.00	0.00	0.02		0.37	0.30	0.14		0.14			
15	NO3-N (mgN/L)				0.09	0.06	0.25						0.12			
16	P-Tot (mgP/L)			0.030	0.044		0.085		0.320	0.220	0.145		0.157			
17	SiO2 (mg/L)				22.5		23.2		20.4	19.4	16.5		14.6			
18	SO4 (mg/L)		40.3	50.0	27.3		45.5		62.8	37.2	37.0		36.0			

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Andharkhore (EMP60E5)

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

Local River : Hamp

River Water

Parameters		Summer														
S.No		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.6	0.8	1.6	1.6		1.9			1.8	1.0	1.1	1.1	1.4	2.0	2.3
2	COD (mg/L)						48.0			122.0	32.0	26.0				
3	DO (mg/L)	7.6	7.5	6.8	4.4		5.9			3.3	5.5	3.9	5.9	6.7	4.1	6.6
4	DO_SAT% (%)	94	92	87	59		68			40	62	45	73	82	49	74
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	142	171	85	126		68			98	108	88	85	81	68	100
2	HAR_Total (mgCaCO3/L)	189	233	152	209		143			205	210	181	220	214	182	181
3	Na% (%)			52	41		47			27	46	41	42	36	33	47
4	RSC (-)	0.3	2.9	1.1	0.9		0.6			0.0	0.1	2.2	0.3	1.0	1.6	0.0
5	SAR (-)			2.8	2.1		2.2			1.1	2.5	2.0	2.2	1.8	1.4	2.5
	PESTICIDES															

SITE GHATORA

HISTORY SHEET

Water Year : 2016-2017

Site : Ghatora Code : EMP40F2
 State : Chhattisgarh District : Bilaspur
 Basin : Mahanadi Independent River : Mahanadi
 Tributary : Seonath Sub Tributary :
 Sub-Sub Tributary : Local River : Arpa
 Division : MD,CWC,Burla Sub-Division : MMSD I,CWC,Raipur
 Drainage Area : 3035 Sq. Km. Bank :
 Latitude : 22°02'04" Longitude : 82°13'34"
 Zero of Gauge (m) : 246 (m.s.l) 17-09-1979 - 01-10-2020
 Opening Date Closing Date
 Gauge : 15-10-1977 01-10-2020
 Discharge : 17-09-1979 01-10-2020
 Sediment : 01-11-2000 01-10-2020
 Water Quality : 01-11-1991 01-10-2020

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	1300	252.155	20-09-1980	0.135	247.640	05-06-1980
1981-1982	545.0	251.045	23-08-1981	0.053	247.500	20-05-1982
1982-1983	275.3	249.690	13-09-1982	0.229	247.480	09-05-1983
1983-1984	472.2	250.600	05-09-1983	0.235	247.480	10-06-1983
1984-1985	588.4	251.340	10-08-1984	0.334	247.555	27-05-1985
1985-1986	728.2	250.905	03-08-1985	0.360	247.555	01-06-1985
1986-1987	500.1	250.425	09-07-1986	0.059	247.565	30-05-1987
1987-1988	600.0	250.680	16-09-1987	0.280	247.675	19-05-1988
1988-1989	627.5	250.840	11-08-1988	0.185	247.585	29-05-1989
1989-1990	137.2	249.010	07-08-1989	0.229	247.600	03-06-1989
1990-1991	453.6	250.400	15-09-1990	0.337	247.560	13-05-1991
1991-1992	1260	252.450	24-09-1991	0.119	247.510	23-05-1992
1992-1993	649.9	250.780	11-09-1992	0.040	247.355	16-05-1993
1993-1994	1316	252.200	20-08-1993	0.120	247.430	02-06-1993
1994-1995	2872	253.500	21-07-1994	0.216	247.420	01-06-1994
1995-1996	499.2	250.300	09-08-1995	0.179	247.010	23-05-1996
1996-1997	1019	251.025	20-08-1996	0.056	247.065	21-02-1997
1997-1998	450.4	250.130	09-09-1997	0.244	247.110	09-06-1997
1998-1999	1280	251.800	13-09-1998	0.495	247.080	01-06-1998
1999-2000	658.2	250.490	09-08-1999	0.618	247.045	15-02-2000
2000-2001	220.8	249.010	20-07-2000	0.080	246.975	30-04-2001
2001-2002	749.5	250.320	24-08-2001	0.120	247.100	14-04-2002

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2002-2003	383.2	250.030	09-09-2002	0.155	247.260	31-03-2003
2003-2004	464.4	250.080	10-09-2003	0.112	247.050	17-06-2003
2004-2005	444.0	250.385	13-08-2004	0.800	247.090	27-02-2005
2005-2006	635.9	250.700	05-08-2005	0.411	247.010	11-02-2006
2006-2007	159.5	248.500	01-08-2006	0.390	247.025	06-01-2007
2007-2008	240.8	248.925	21-08-2007	0.099	246.945	29-01-2008
2008-2009	348.7	248.650	20-09-2008	0.042	246.990	23-01-2009
2009-2010	111.6	247.890	22-08-2009	0.127	246.925	31-10-2009
2010-2011	343.5	248.680	20-09-2010	0.492	247.000	10-12-2010
2011-2012	670.0	250.375	07-09-2011	5.798	247.110	29-07-2011
2012-2013	468.3	248.180	28-08-2012	5.490	246.960	04-11-2012
2013-2014	528.9	248.535	05-10-2013	0.229	246.450	10-05-2014
2014-2015	923.1	250.415	06-08-2014	0.000	246.310	27-04-2015
2015-2016	721.1	247.980	22-09-2015	0.000	246.230	15-03-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Ghatora (EMP40F2)

Division : MD,CWC,Burla

Local River : Arpa

Sub-Division : MMSD I,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	246.070	0.000 *	246.070	0.000 *	247.010	25.60	247.480	375.2	247.615	468.5	246.660	2.180
2	246.070	0.000 *	246.100	0.000 *	247.230	52.97	247.315	62.60	247.510	310.0 *	246.730	2.447
3	246.070	0.000 *	246.100	0.000 *	247.100	41.34	247.365	71.67	247.220	59.59	246.730	2.445
4	246.070	0.000 *	246.090	0.000 *	247.490	339.4	246.750	10.00 *	247.155	47.35	246.730	2.449
5	246.070	0.000 *	246.090	0.000 *	247.535	344.6	247.140	42.00 *	247.100	38.07	246.745	2.550
6	246.070	0.000 *	246.090	0.000 *	247.810	482.3	246.680	2.442	247.005	30.36	246.710	2.300 *
7	246.070	0.000 *	246.090	0.000 *	247.540	150.0 *	246.665	2.334	247.005	30.63	246.740	2.472
8	246.070	0.000 *	246.090	0.000 *	247.370	83.59	247.010	32.57	247.070	37.73	246.730	2.429
9	246.070	0.000 *	246.090	0.000 *	247.180	56.18	246.920	29.71	247.080	40.00 *	246.720	2.372
10	246.070	0.000 *	246.110	0.000 *	247.225	57.24	247.070	34.04	247.240	60.00 *	246.750	2.715
11	246.070	0.000 *	246.140	0.000 *	247.040	36.38	246.600	8.000 *	247.160	50.00 *	246.790	5.434
12	246.070	0.000 *	246.120	0.000 *	247.020	31.77	246.920	31.21	247.020	37.00 *	246.790	5.441
13	246.070	0.000 *	246.340	0.000 *	247.080	38.65	246.870	20.00 *	246.930	29.84	246.750	2.600 *
14	246.070	0.000 *	246.580	0.000 *	247.030	25.00 *	246.920	32.39	246.765	4.404	246.795	6.000 *
15	246.070	0.000 *	246.560	0.000 *	247.080	50.00 *	247.155	48.36	246.960	30.13	246.780	5.895
16	246.070	0.000 *	246.640	0.000 *	247.070	36.88	247.135	39.46	246.750	8.000 *	246.750	2.719
17	246.070	0.000 *	246.740	0.000 *	247.020	31.68	246.955	31.66	246.870	14.00	246.750	2.704
18	246.070	0.000 *	246.753	2.895	246.855	18.85	247.000	30.00 *	246.870	13.99	246.740	2.640
19	246.070	0.000 *	247.390	86.15	247.055	37.87	246.970	31.01	246.870	14.02	246.760	2.713 *
20	246.070	0.000 *	247.105	41.62	247.130	46.65	247.015	33.16	246.820	6.882	246.760	2.700
21	246.070	0.000 *	246.985	24.83	246.820	15.00 *	246.955	30.43	246.810	6.541	246.760	2.718
22	246.070	0.000 *	247.065	39.20	246.865	24.92	247.005	33.10	246.680	2.255	246.750	2.683
23	246.070	0.000 *	247.280	60.88	246.800	10.21	246.785	6.108	246.760	10.00 *	246.750	2.684
24	246.070	0.000 *	247.090	37.00 *	246.830	11.68	246.920	30.52	246.810	6.742	246.750	2.679
25	246.070	0.000 *	247.005	25.57	246.965	35.29	246.840	17.00 *	246.770	4.483	246.745	2.532
26	246.070	0.000 *	247.020	26.52	247.205	55.77	246.955	30.91	246.755	3.025	246.740	2.436
27	246.070	0.000 *	247.040	31.02	247.430	305.6	248.065	616.1	246.820	6.895	246.740	2.415 *
28	246.100	0.000 *	247.160	49.33	247.250	54.00 *	247.783	487.7	246.770	2.724	246.740	2.443
29	246.070	0.000 *	247.243	63.07	247.085	38.53	247.600	447.3	246.760	2.715	246.750	2.682
30	246.070	0.000 *	247.140	48.90	246.955	26.31	247.810	509.0	246.850	20.00 *	246.745	2.509
31			246.940	17.25 *	247.870	524.0			246.670	2.228		
Ten-Daily Mean												
I Ten-Daily	246.070	0.000	246.092	0.000	247.349	163.3	247.040	66.26	247.200	112.2	246.724	2.436
II Ten-Daily	246.070	0.000	246.637	13.07	247.038	35.37	246.954	30.52	246.901	20.83	246.766	3.885
III Ten-Daily	246.073	0.000	247.088	38.51	247.098	100.1	247.272	220.8	246.769	6.146	246.747	2.578
Monthly												
Min.	246.070	0.000	246.070	0.000	246.800	10.21	246.600	2.334	246.670	2.228	246.660	2.180
Max.	246.100	0.000	247.390	86.15	247.870	524.0	248.065	616.1	247.615	468.5	246.795	6.000
Mean	246.071	0	246.621	17.88	247.160	99.62	247.088	105.9	246.951	45.1	246.746	2.966

Annual Runoff in MCM = 725 Annual Runoff in mm = 239

Peak Observed Discharge = 616.1 cumecs on 27/09/2016 Corres. Water Level :248.065 m

Lowest Observed Discharge = 0.000 cumecs on 21/02/2017 Corres. Water Level :246.37 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Ghatora (EMP40F2)

Division : MD,CWC,Burla

Local River : Arpa

Sub-Division : MMSD I,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	246.720	2.165	246.620	0.940 *	246.525	0.533	246.340	0.000 *	246.240	0.000 *	246.100	0.000 *
2	246.710	2.120	246.620	0.944	246.530	0.508	246.340	0.000 *	246.240	0.000 *	246.100	0.000 *
3	246.710	2.116	246.610	0.718	246.520	0.500	246.340	0.000 *	246.240	0.000 *	246.080	0.000 *
4	246.710	2.200 *	246.610	0.737	246.480	0.291	246.340	0.000 *	246.600	0.000 *	246.080	0.000 *
5	246.725	2.254	246.620	0.940	246.610	0.600 *	246.340	0.000 *	246.300	0.000 *	246.080	0.000 *
6	246.730	2.354	246.620	0.925	246.580	0.570	246.340	0.000 *	246.270	0.000 *	246.080	0.000 *
7	246.735	2.364	246.620	0.920	246.490	0.294	246.330	0.000 *	246.240	0.000 *	246.080	0.000 *
8	246.740	2.419	246.620	0.900 *	246.460	0.193	246.330	0.000 *	246.200	0.000 *	246.080	0.000 *
9	246.760	2.702	246.620	0.923	246.450	0.186	246.290	0.000 *	246.190	0.000 *	246.080	0.000 *
10	246.740	2.422	246.620	0.924	246.430	0.140 *	246.290	0.000 *	246.170	0.000 *	246.080	0.000 *
11	246.730	2.300 *	246.620	0.925	246.430	0.147	246.300	0.000 *	246.150	0.000 *	246.080	0.000 *
12	246.710	2.100 *	246.615	0.853	246.420	0.136 *	246.700	0.000 *	246.140	0.000 *	246.080	0.000 *
13	246.720	2.163	246.615	0.858	246.420	0.136	246.680	0.000 *	246.140	0.000 *	246.080	0.000 *
14	246.720	2.168	246.600	0.698	246.420	0.132	246.340	0.000 *	246.150	0.000 *	246.080	0.000 *
15	246.730	2.355	246.600	0.690 *	246.400	0.117	246.290	0.000 *	246.150	0.000 *	246.080	0.000 *
16	246.720	2.169	246.580	0.620	246.400	0.115	246.290	0.000 *	246.150	0.000 *	246.080	0.000 *
17	246.700	2.049	246.570	0.607	246.400	0.115	246.300	0.000 *	246.150	0.000 *	246.080	0.000 *
18	246.680	1.500 *	246.590	0.654	246.390	0.108	246.320	0.000 *	246.160	0.000 *	246.080	0.000 *
19	246.660	1.134	246.595	0.682	246.390	0.106 *	246.300	0.000 *	246.160	0.000 *	246.080	0.000 *
20	246.680	1.552	246.590	0.662	246.390	0.107	246.290	0.000 *	246.160	0.000 *	246.080	0.000 *
21	246.670	1.494	246.590	0.664	246.370	0.000	246.290	0.000 *	246.160	0.000 *	246.080	0.000 *
22	246.670	1.486	246.590	0.660 *	246.370	0.000 *	246.280	0.000 *	246.160	0.000 *	246.080	0.000 *
23	246.570	0.610	246.580	0.630	246.365	0.000 *	246.280	0.000 *	246.160	0.000 *	246.080	0.000 *
24	246.580	0.627	246.575	0.617	246.360	0.000 *	246.280	0.000 *	246.160	0.000 *	246.070	0.000 *
25	246.600	0.700 *	246.625	0.936	246.360	0.000 *	246.280	0.000 *	246.150	0.000 *	246.070	0.000 *
26	246.610	0.720	246.620	0.930 *	246.355	0.000 *	246.270	0.000 *	246.140	0.000 *	246.070	0.000 *
27	246.620	0.942	246.620	0.906	246.350	0.000 *	246.260	0.000 *	246.120	0.000 *	246.070	0.000 *
28	246.620	0.951	246.600	0.700	246.350	0.000 *	246.260	0.000 *	246.110	0.000 *	246.070	0.000 *
29	246.620	0.945	246.590	0.710 *			246.260	0.000 *	246.110	0.000 *	246.070	0.000 *
30	246.630	0.969	246.580	0.625			246.250	0.000 *	246.100	0.000 *	246.060	0.000 *
31	246.630	0.973	246.560	0.542			246.250	0.000 *			246.050	0.000 *
Ten-Daily Mean												
I Ten-Daily	246.728	2.312	246.618	0.887	246.507	0.381	246.328	0.000	246.269	0.000	246.084	0.000
II Ten-Daily	246.705	1.949	246.598	0.725	246.406	0.122	246.381	0.000	246.151	0.000	246.080	0.000
III Ten-Daily	246.620	0.947	246.594	0.720	246.360	0.000	246.269	0.000	246.137	0.000	246.070	0.000
Monthly												
Min.	246.570	0.610	246.560	0.542	246.350	0.000	246.250	0.000	246.100	0.000	246.050	0.000
Max.	246.760	2.702	246.625	0.944	246.610	0.600	246.700	0.000	246.600	0.000	246.100	0.000
Mean	246.682	1.71	246.603	0.775	246.429	0.18	246.324	0	246.186	0	246.078	0

Peak Computed Discharge = 310.0 cumecs on 02/10/2016

Corres. Water Level :247.51 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :246.07 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

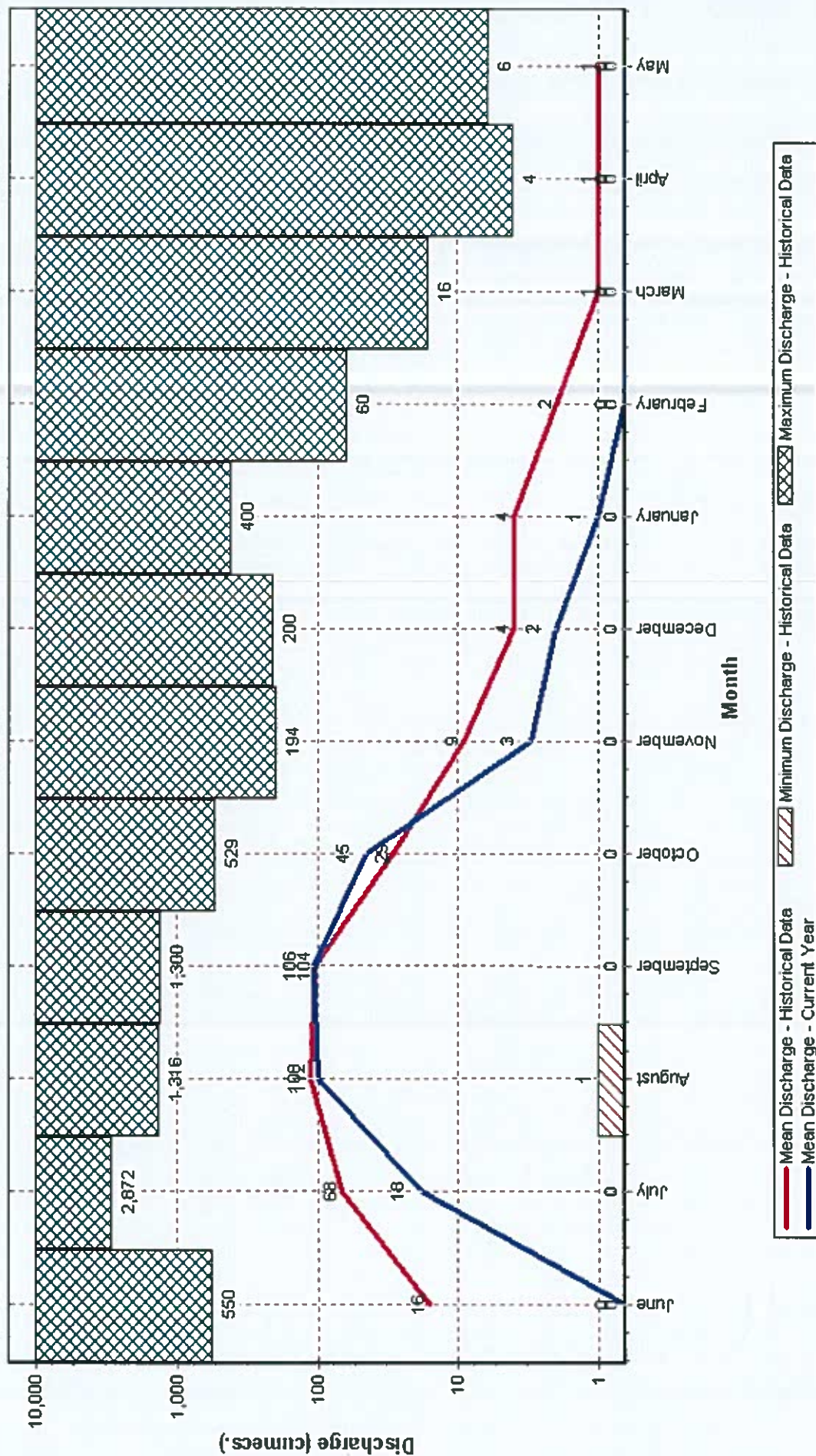
250

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Data considered : 1980-2017

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Station Name : Ghatora (EMP40F2)
Local River : Arpa



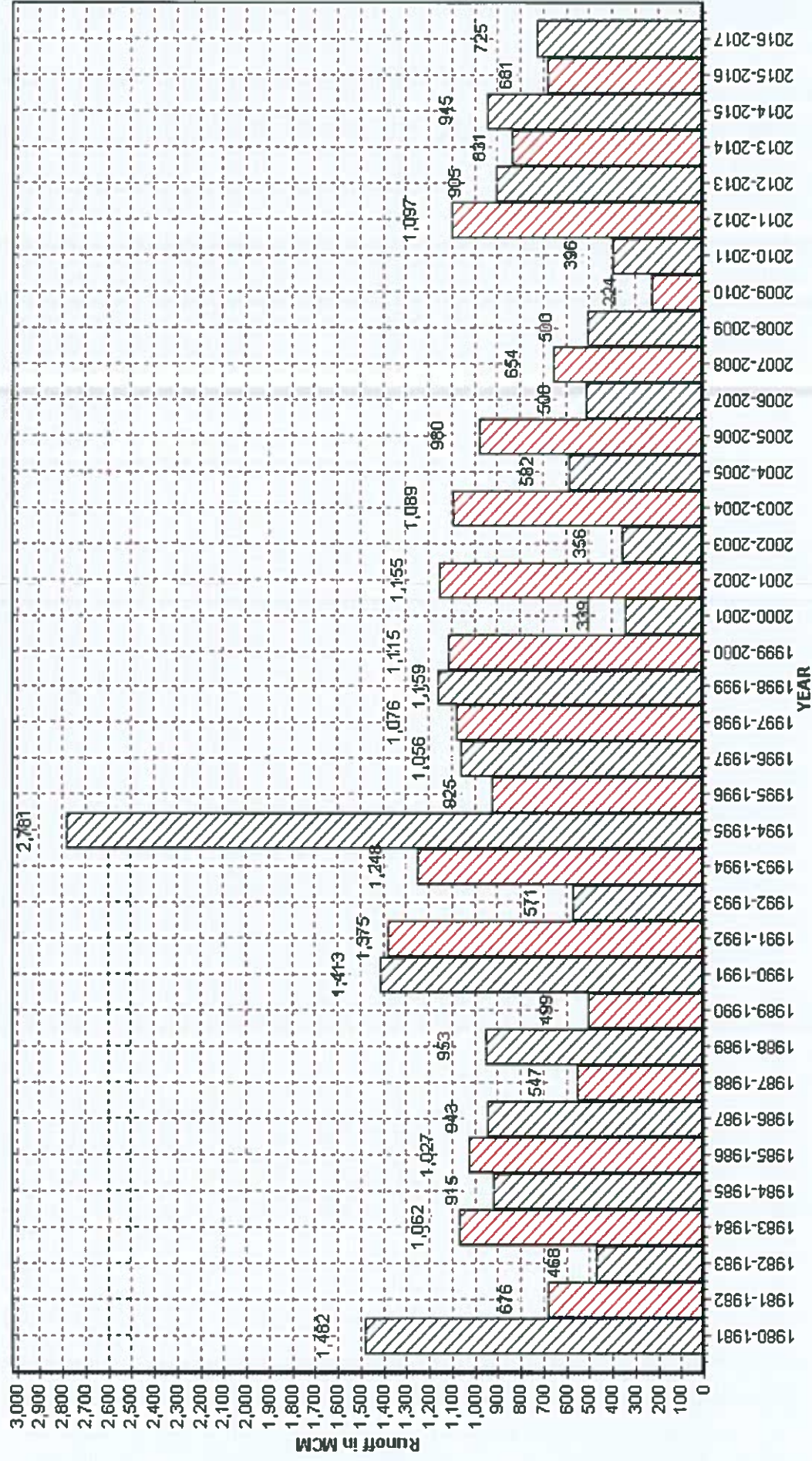
Annual Runoff Values for the period: 1980 - 2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1980-2016

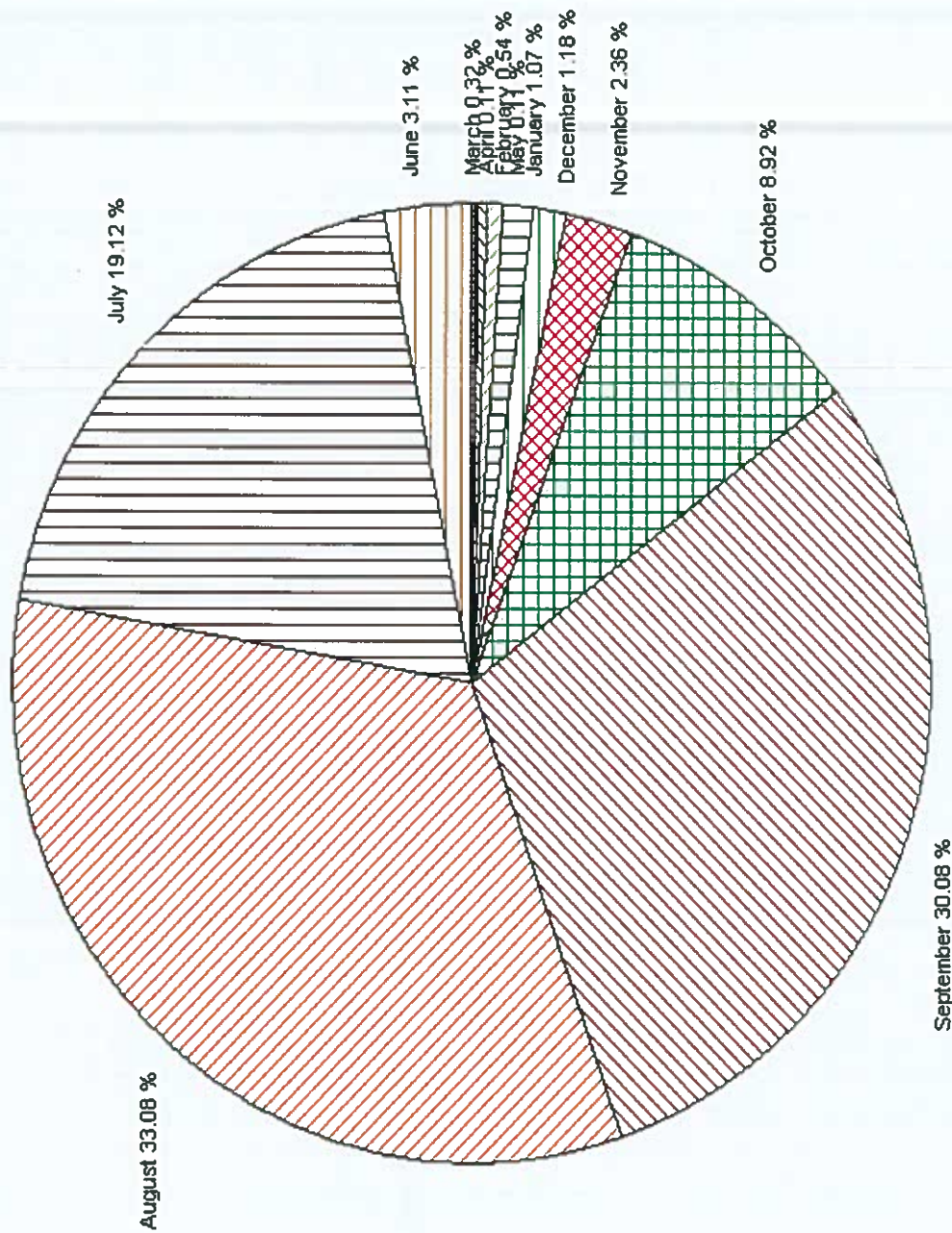
Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur

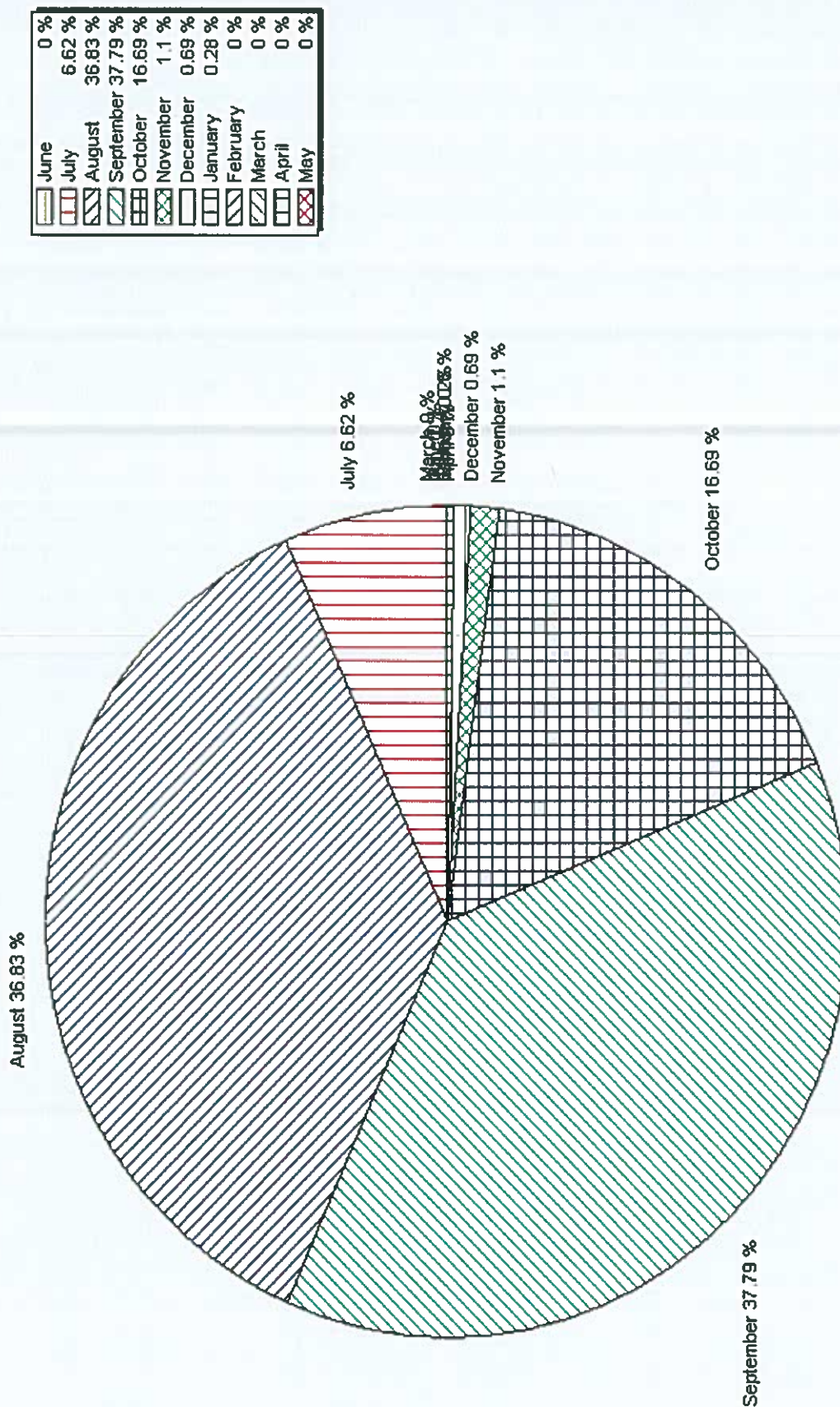
June	3.11 %
July	19.12 %
August	33.08 %
September	30.08 %
October	8.92 %
November	2.36 %
December	1.18 %
January	1.07 %
February	0.54 %
March	0.32 %
April	0.11 %
May	0.11 %



Monthly Runoff for the Year : 2016-2017

Station Name : Ghatora (EMP40F2)
Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



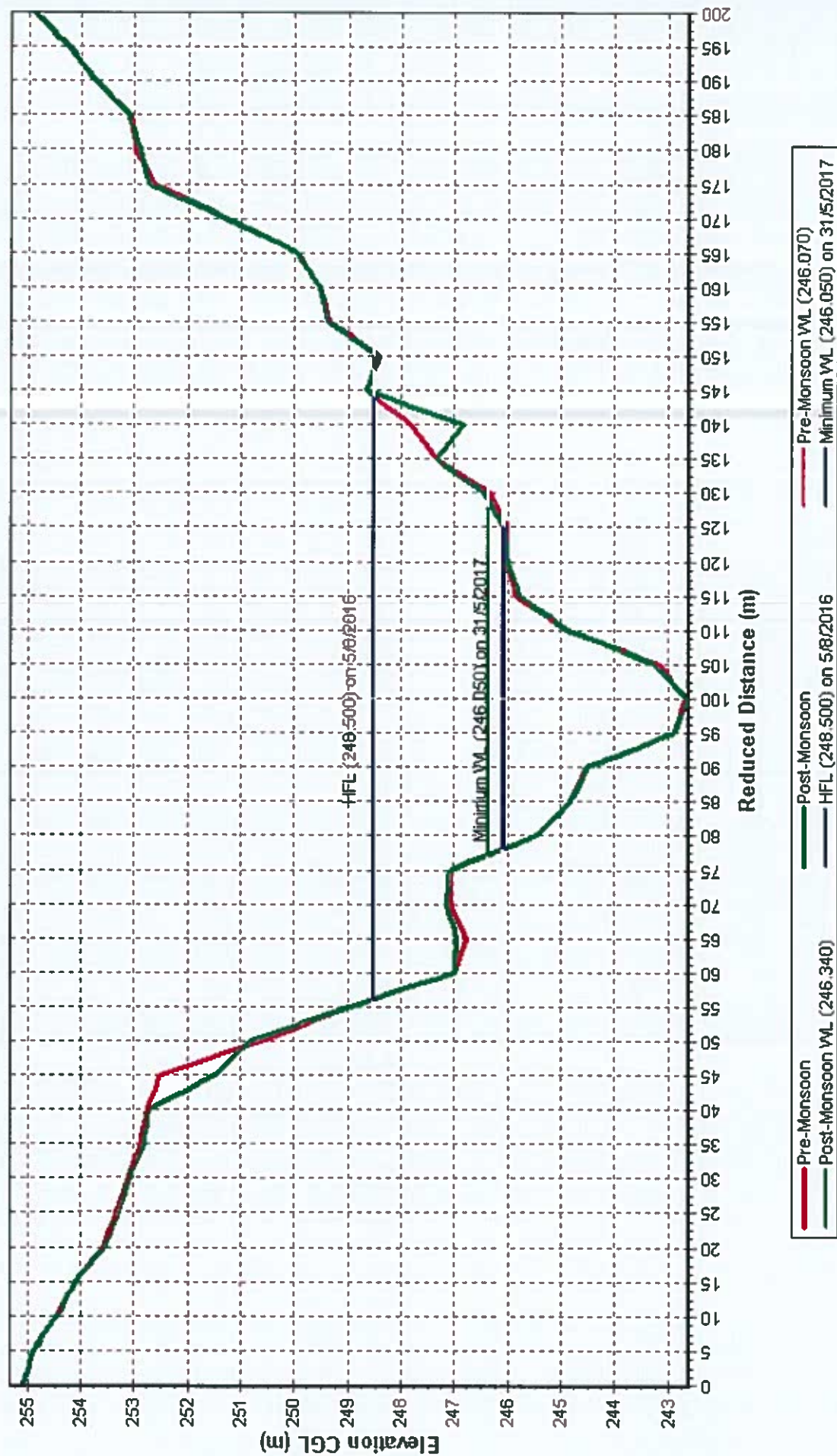
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur



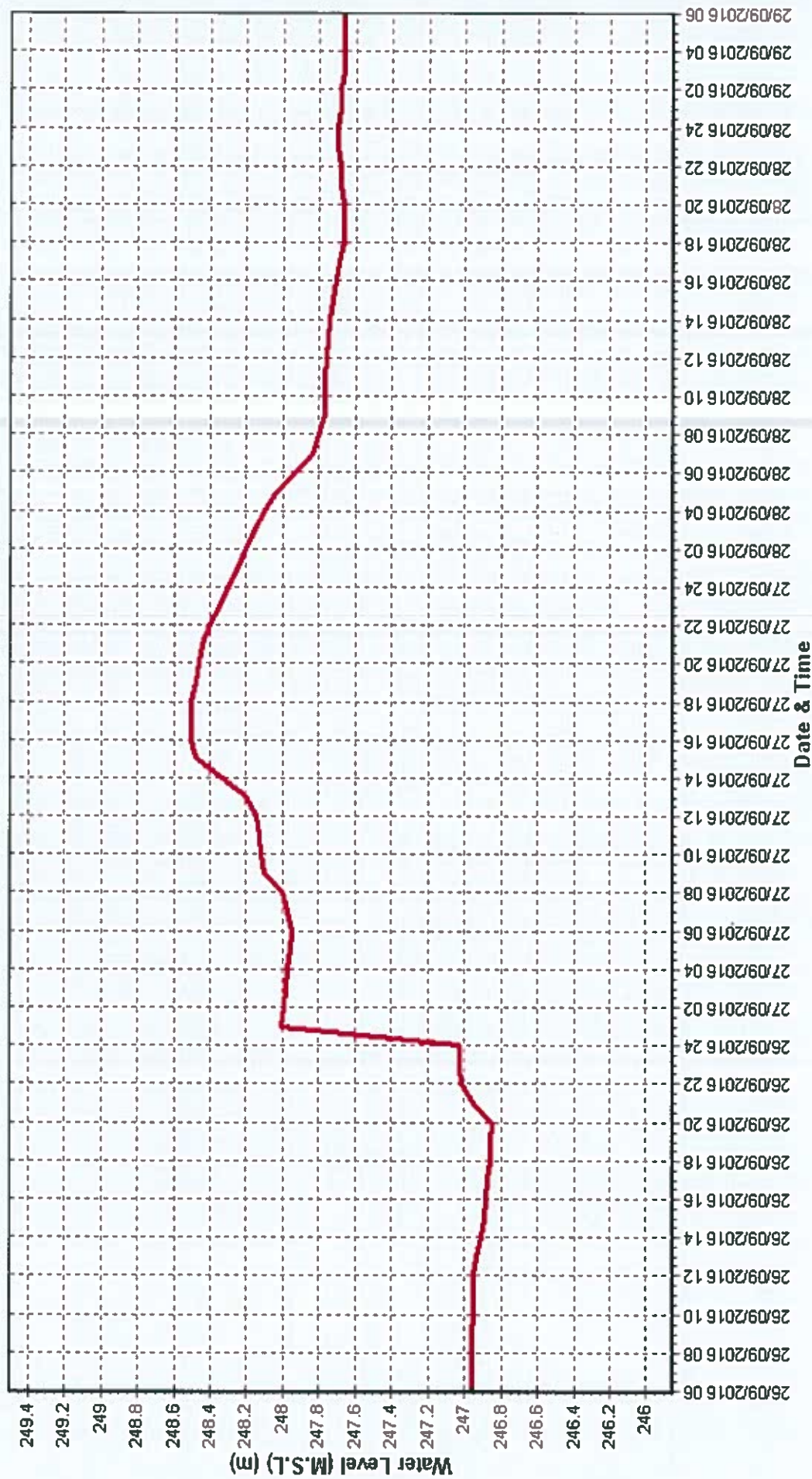
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur



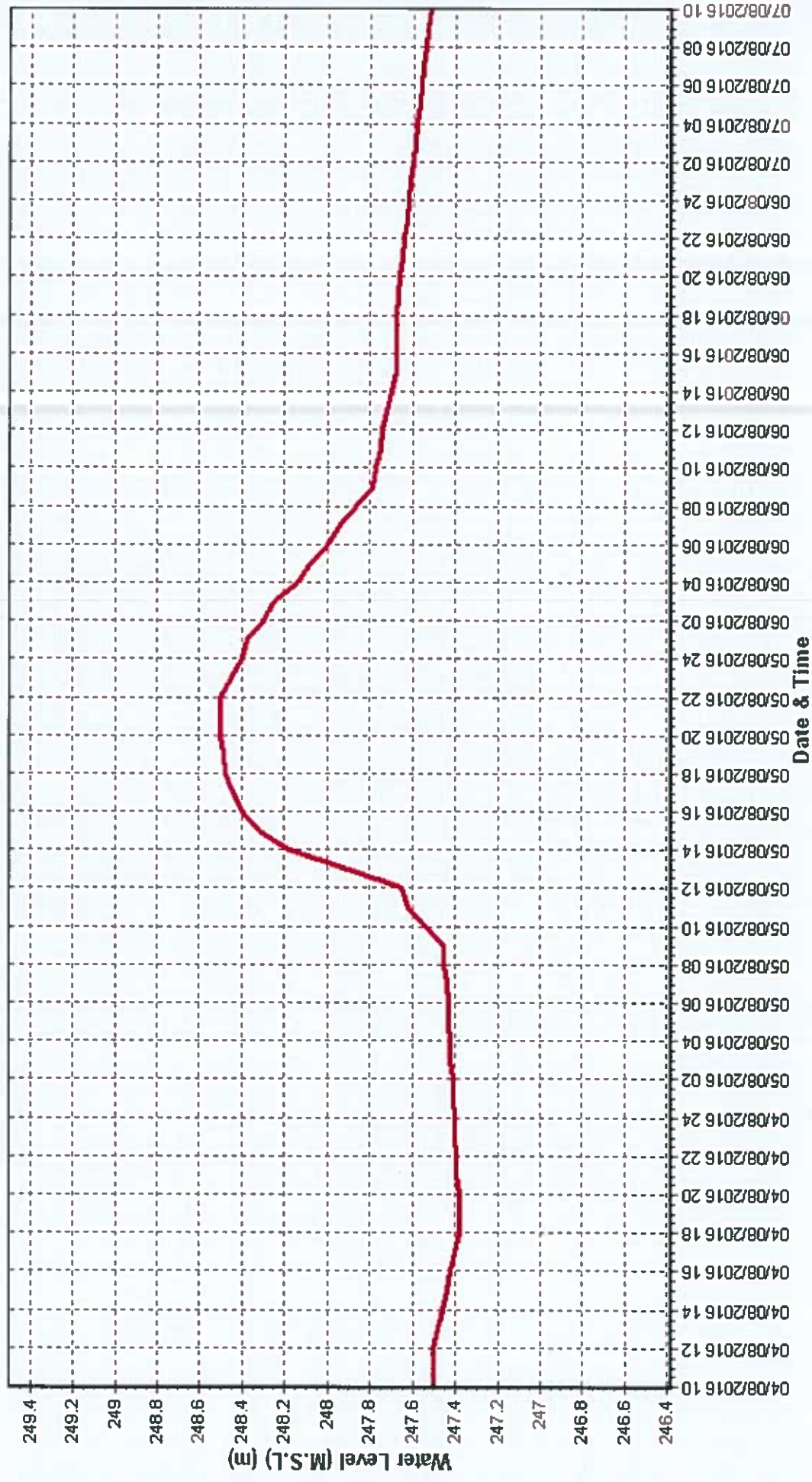
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur

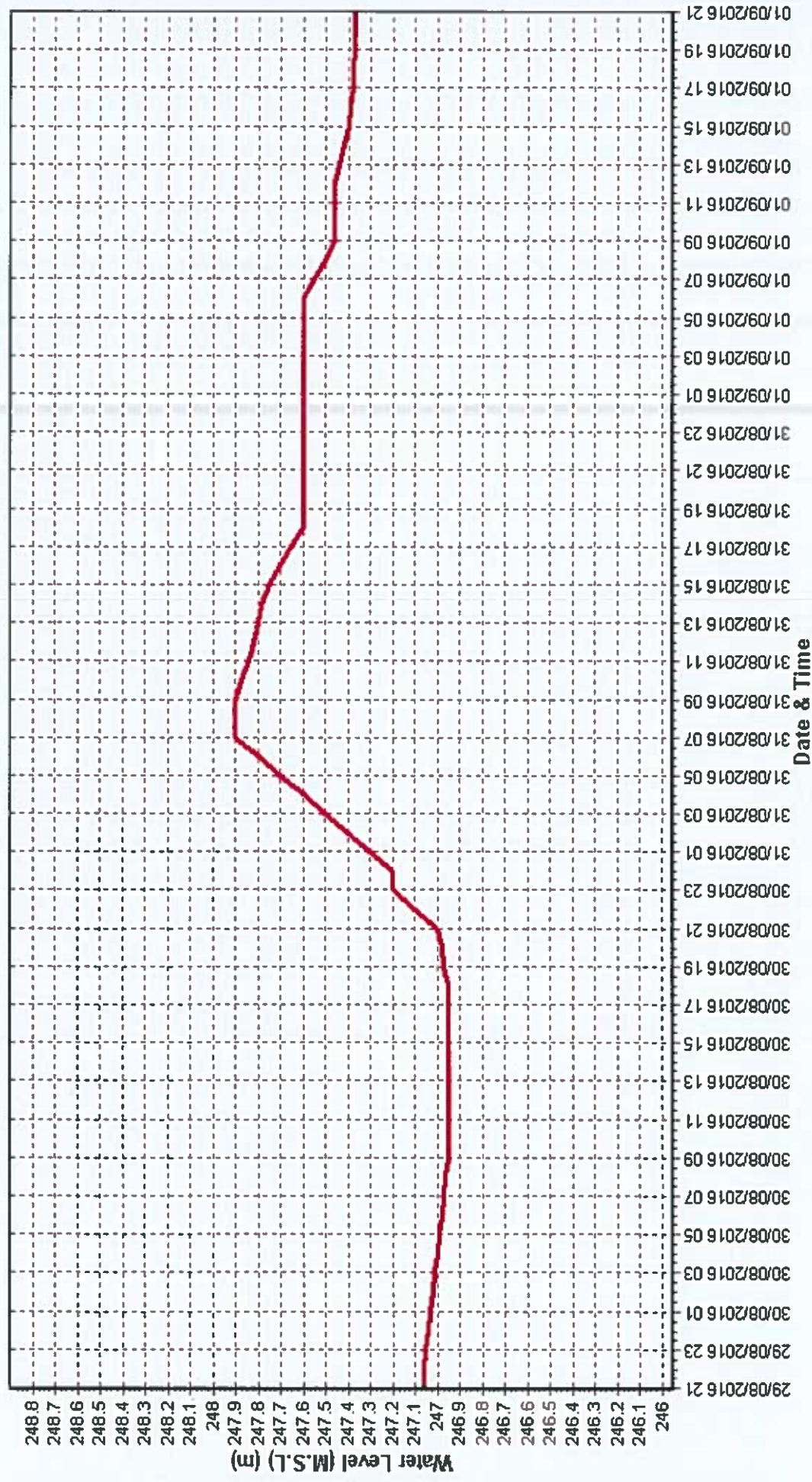


Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

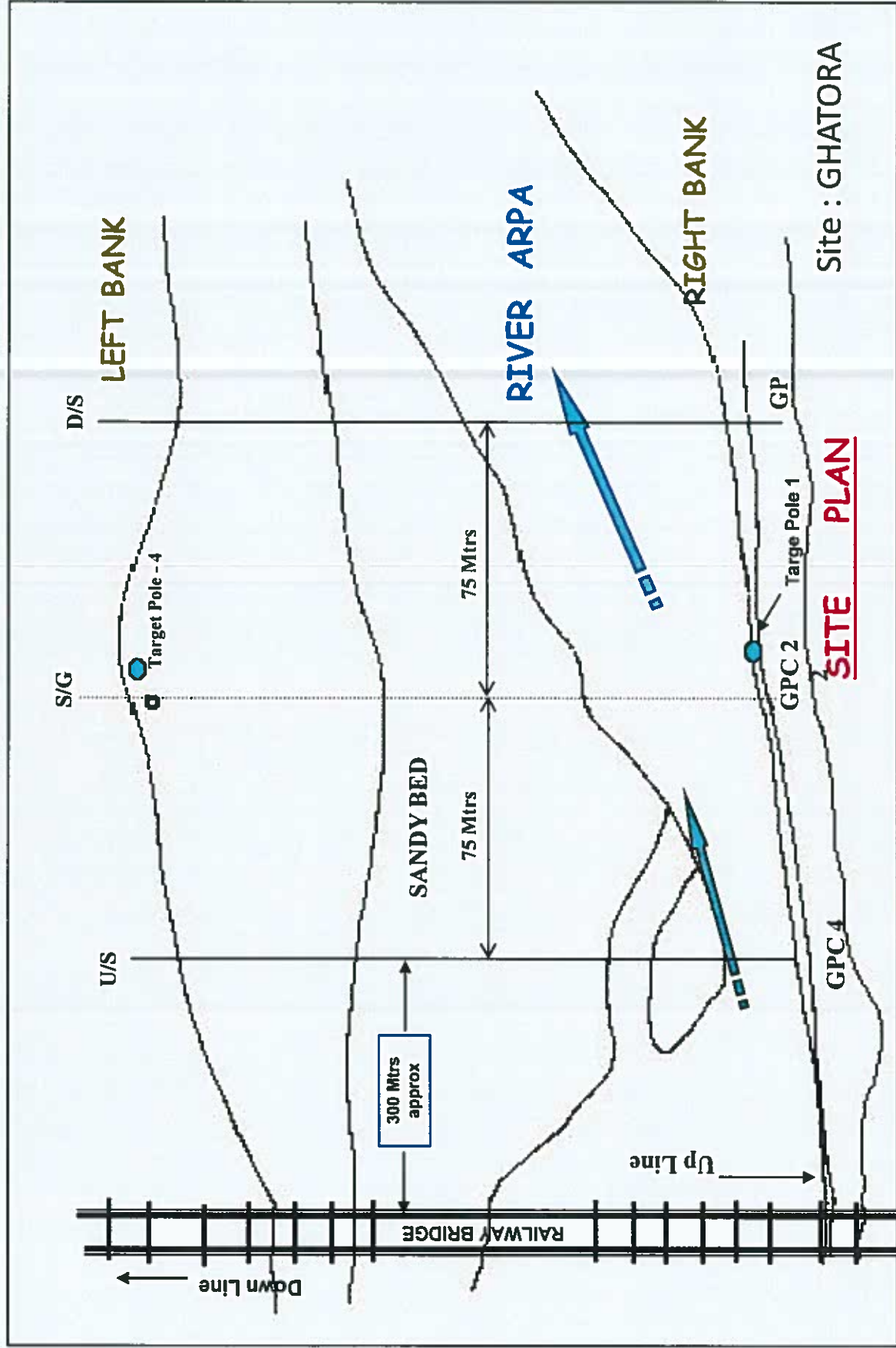
Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



Time Span: 72 Hrs



SECTION -II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day		Jun					Jul					Aug							
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
	1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	25.60	0.000	0.000	0.080	0.080	177
	2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	52.97	0.000	0.000	1.188	1.188	5435
	3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	41.34	0.000	0.000	0.043	0.043	152
	4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	339.4	0.000	0.000	0.250	0.250	7331
	5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	344.6	0.000	0.000	0.030	0.030	893
	6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	482.3	0.000	0.000	0.370	0.370	15418
	7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	150.0	0.000	0.000	0.000	0.000	0
	8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	83.59	0.000	0.000	0.148	0.148	1065
	9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	56.18	0.000	0.000	0.050	0.050	243
	10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	57.24	0.000	0.000	0.188	0.188	927
	11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	36.38	0.000	0.000	0.030	0.030	94
	12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	31.77	0.000	0.000	0.038	0.038	103
	13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	38.65	0.000	0.000	0.068	0.068	225
	14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	25.00	0.000	0.000	0.000	0.000	0
	15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	50.00	0.000	0.000	0.000	0.000	0
	16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	36.88	0.000	0.000	0.033	0.033	104
	17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	31.68	0.000	0.000	0.375	0.375	1026
	18	0.000	0.000	0.000	0.000	0.000	0	2.895	0.000	0.000	0.010	0.010	3	18.85	0.000	0.000	0.080	0.080	130
	19	0.000	0.000	0.000	0.000	0.000	0	86.15	0.000	0.000	0.040	0.040	298	37.87	0.000	0.000	0.338	0.338	1104
	20	0.000	0.000	0.000	0.000	0.000	0	41.62	0.000	0.000	0.123	0.123	440	46.65	0.000	0.000	0.043	0.043	171
	21	0.000	0.000	0.000	0.000	0.000	0	24.83	0.000	0.000	0.038	0.038	80	15.00	0.000	0.000	0.000	0.000	0
	22	0.000	0.000	0.000	0.000	0.000	0	39.20	0.000	0.000	0.065	0.065	220	24.92	0.000	0.000	0.030	0.030	65
	23	0.000	0.000	0.000	0.000	0.000	0	60.88	0.000	0.000	0.135	0.135	710	10.21	0.000	0.000	0.020	0.020	18
	24	0.000	0.000	0.000	0.000	0.000	0	37.00	0.000	0.000	0.000	0.000	0	11.68	0.000	0.000	0.043	0.043	43
	25	0.000	0.000	0.000	0.000	0.000	0	25.57	0.000	0.000	0.050	0.050	110	35.29	0.000	0.000	0.045	0.045	137
	26	0.000	0.000	0.000	0.000	0.000	0	26.52	0.000	0.000	0.055	0.055	126	55.77	0.000	0.000	0.014	0.014	67
	27	0.000	0.000	0.000	0.000	0.000	0	31.02	0.000	0.000	0.053	0.053	141	305.6	0.000	0.000	0.035	0.035	924
	28	0.000	0.000	0.000	0.000	0.000	0	49.33	0.000	0.000	0.098	0.098	416	54.00	0.000	0.000	0.000	0.000	0
	29	0.000	0.000	0.000	0.000	0.000	0	63.07	0.000	0.000	0.133	0.133	722	38.53	0.000	0.000	0.325	0.325	1082
	30	0.000	0.000	0.000	0.000	0.000	0	48.90	0.000	0.000	0.048	0.048	201	26.31	0.000	0.000	0.070	0.070	159
	31							17.25	0.000	0.000	0.000	0.000	0	524.0	0.000	0.000	0.400	0.400	18108
Ten Daily Mean																			
Ten Daily I		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	163.3	0.000	0.000	0.235	0.235	3164
Ten Daily II		0.000	0.000	0.000	0.000	0.000	0	13.07	0.000	0.000	0.017	0.017	74	35.37	0.000	0.000	0.100	0.100	296
Ten Daily III		0.000	0.000	0.000	0.000	0.000	0	38.51	0.000	0.000	0.061	0.061	248	100.1	0.000	0.000	0.089	0.089	1873
Monthly																			
Total							0						3467						55203

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Ghatora (EMP40F2)
Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day		Sep					Oct					Nov						
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	375.2	0.000	0.000	0.218	0.218	7052	468.5	0.000	0.000	0.080	0.080	3238	2.180	0.000	0.000	0.000	0.000	0
2	62.60	0.000	0.000	0.135	0.135	730	310.0	0.000	0.000	0.000	0.000	0	2.447	0.000	0.000	0.000	0.000	0
3	71.67	0.000	0.000	0.108	0.108	666	59.59	0.000	0.000	0.018	0.018	90	2.445	0.000	0.000	0.000	0.000	0
4	10.00	0.000	0.000	0.000	0.000	0	47.35	0.000	0.000	0.005	0.005	20	2.449	0.000	0.000	0.000	0.000	0
5	42.00	0.000	0.000	0.000	0.000	0	38.07	0.000	0.000	0.023	0.023	74	2.550	0.000	0.000	0.000	0.000	0
6	2.442	0.000	0.000	0.058	0.058	12	30.36	0.000	0.000	0.013	0.013	33	2.300	0.000	0.000	0.000	0.000	0
7	2.334	0.000	0.000	0.450	0.450	91	30.63	0.000	0.000	0.015	0.015	40	2.472	0.000	0.000	0.005	0.005	1
8	32.57	0.000	0.000	0.055	0.055	155	37.73	0.000	0.000	0.020	0.020	65	2.429	0.000	0.000	0.000	0.000	0
9	29.71	0.000	0.000	0.016	0.016	41	40.00	0.000	0.000	0.000	0.000	0	2.372	0.000	0.000	0.000	0.000	0
10	34.04	0.000	0.000	0.018	0.018	51	60.00	0.000	0.000	0.000	0.000	0	2.715	0.000	0.000	0.000	0.000	0
11	8.000	0.000	0.000	0.000	0.000	0	50.00	0.000	0.000	0.000	0.000	0	5.434	0.000	0.000	0.000	0.000	0
12	31.21	0.000	0.000	0.018	0.018	47	37.00	0.000	0.000	0.000	0.000	0	5.441	0.000	0.000	0.000	0.000	0
13	20.00	0.000	0.000	0.000	0.000	0	29.84	0.000	0.000	0.030	0.030	77	2.600	0.000	0.000	0.000	0.000	0
14	32.39	0.000	0.000	0.045	0.045	126	4.404	0.000	0.000	0.070	0.070	27	6.000	0.000	0.000	0.000	0.000	0
15	48.36	0.000	0.000	0.038	0.038	157	30.13	0.000	0.000	0.018	0.018	46	5.895	0.000	0.000	0.000	0.000	0
16	39.46	0.000	0.000	0.038	0.038	128	8.000	0.000	0.000	0.000	0.000	0	2.719	0.000	0.000	0.000	0.000	0
17	31.66	0.000	0.000	0.018	0.018	48	14.00	0.000	0.000	0.013	0.013	15	2.704	0.000	0.000	0.000	0.000	0
18	30.00	0.000	0.000	0.000	0.000	0	13.99	0.000	0.000	0.008	0.008	9	2.640	0.000	0.000	0.000	0.000	0
19	31.01	0.000	0.000	0.015	0.015	40	14.02	0.000	0.000	0.013	0.013	15	2.713	0.000	0.000	0.000	0.000	0
20	33.16	0.000	0.000	0.028	0.028	79	6.882	0.000	0.000	0.003	0.003	1	2.700	0.000	0.000	0.000	0.000	0
21	30.43	0.000	0.000	0.030	0.030	79	6.541	0.000	0.000	0.010	0.010	6	2.718	0.000	0.000	0.005	0.005	1
22	33.10	0.000	0.000	0.020	0.020	57	2.255	0.000	0.000	0.003	0.003	0	2.683	0.000	0.000	0.000	0.000	0
23	6.108	0.000	0.000	0.033	0.033	17	10.00	0.000	0.000	0.000	0.000	0	2.684	0.000	0.000	0.000	0.000	0
24	30.52	0.000	0.000	0.033	0.033	86	6.742	0.000	0.000	0.003	0.003	1	2.679	0.000	0.000	0.000	0.000	0
25	17.00	0.000	0.000	0.000	0.000	0	4.483	0.000	0.000	0.005	0.005	2	2.532	0.000	0.000	0.000	0.000	0
26	30.91	0.000	0.000	0.030	0.030	80	3.025	0.000	0.000	0.003	0.003	1	2.436	0.000	0.000	0.000	0.000	0
27	616.1	0.000	0.000	0.263	0.263	13972	6.895	0.000	0.000	0.005	0.005	3	2.415	0.000	0.000	0.000	0.000	0
28	487.7	0.000	0.000	0.188	0.188	7901	2.724	0.000	0.000	0.005	0.005	1	2.443	0.000	0.000	0.005	0.005	1
29	447.3	0.000	0.000	0.055	0.055	2126	2.715	0.000	0.000	0.005	0.005	1	2.682	0.000	0.000	0.000	0.000	0
30	509.0	0.000	0.000	0.045	0.045	1979	20.00	0.000	0.000	0.000	0.000	0	2.509	0.000	0.000	0.000	0.000	0
31							2.228	0.000	0.000	0.005	0.005	1						
Ten Daily Mean																		
Ten Daily I		66.26	0.000	0.000	0.106	0.106	112.2	0.000	0.000	0.017	0.017	356	2.436	0.000	0.000	0.000	0.001	0.001
Ten Daily II		30.52	0.000	0.000	0.020	0.020	20.83	0.000	0.000	0.015	0.015	19	3.885	0.000	0.000	0.000	0.000	0.000
Ten Daily III		220.8	0.000	0.000	0.070	0.070	6.146	0.000	0.000	0.004	0.004	1	2.578	0.000	0.000	0.001	0.001	0.000
Monthly																		
Total						35719						3768						3

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Ghatora (EMP40F2)
Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day	Dec					Jan					Feb							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	2.165	0.000	0.000	0.000	0.000	0	0.940	0.000	0.000	0.000	0.000	0	0.533	0.000	0.000	0.000	0.000	0
2	2.120	0.000	0.000	0.000	0.000	0	0.944	0.000	0.000	0.005	0.005	0	0.508	0.000	0.000	0.000	0.000	0
3	2.116	0.000	0.000	0.000	0.000	0	0.718	0.000	0.000	0.000	0.000	0	0.500	0.000	0.000	0.000	0.000	0
4	2.200	0.000	0.000	0.000	0.000	0	0.737	0.000	0.000	0.000	0.000	0	0.291	0.000	0.000	0.000	0.000	0
5	2.254	0.000	0.000	0.005	0.005	1	0.940	0.000	0.000	0.000	0.000	0	0.600	0.000	0.000	0.000	0.000	0
6	2.354	0.000	0.000	0.000	0.000	0	0.925	0.000	0.000	0.000	0.000	0	0.570	0.000	0.000	0.003	0.003	0
7	2.364	0.000	0.000	0.000	0.000	0	0.920	0.000	0.000	0.000	0.000	0	0.294	0.000	0.000	0.000	0.000	0
8	2.419	0.000	0.000	0.000	0.000	0	0.900	0.000	0.000	0.000	0.000	0	0.193	0.000	0.000	0.000	0.000	0
9	2.702	0.000	0.000	0.000	0.000	0	0.923	0.000	0.000	0.003	0.003	0	0.186	0.000	0.000	0.000	0.000	0
10	2.422	0.000	0.000	0.000	0.000	0	0.924	0.000	0.000	0.000	0.000	0	0.140	0.000	0.000	0.000	0.000	0
11	2.300	0.000	0.000	0.000	0.000	0	0.925	0.000	0.000	0.000	0.000	0	0.147	0.000	0.000	0.000	0.000	0
12	2.100	0.000	0.000	0.000	0.000	0	0.853	0.000	0.000	0.000	0.000	0	0.136	0.000	0.000	0.000	0.000	0
13	2.163	0.000	0.000	0.005	0.005	1	0.858	0.000	0.000	0.000	0.000	0	0.136	0.000	0.000	0.003	0.003	0
14	2.168	0.000	0.000	0.000	0.000	0	0.698	0.000	0.000	0.000	0.000	0	0.132	0.000	0.000	0.000	0.000	0
15	2.355	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0	0.117	0.000	0.000	0.000	0.000	0
16	2.169	0.000	0.000	0.000	0.000	0	0.620	0.000	0.000	0.005	0.005	0	0.115	0.000	0.000	0.000	0.000	0
17	2.049	0.000	0.000	0.000	0.000	0	0.607	0.000	0.000	0.000	0.000	0	0.115	0.000	0.000	0.000	0.000	0
18	1.500	0.000	0.000	0.000	0.000	0	0.654	0.000	0.000	0.000	0.000	0	0.108	0.000	0.000	0.000	0.000	0
19	1.134	0.000	0.000	0.003	0.003	0	0.682	0.000	0.000	0.000	0.000	0	0.106	0.000	0.000	0.000	0.000	0
20	1.552	0.000	0.000	0.000	0.000	0	0.662	0.000	0.000	0.000	0.000	0	0.107	0.000	0.000	0.003	0.003	0
21	1.494	0.000	0.000	0.000	0.000	0	0.664	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	1.486	0.000	0.000	0.000	0.000	0	0.660	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.610	0.000	0.000	0.000	0.000	0	0.630	0.000	0.000	0.005	0.005	0	0.000	0.000	0.000	0.000	0.000	0
24	0.627	0.000	0.000	0.000	0.000	0	0.617	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.700	0.000	0.000	0.000	0.000	0	0.936	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.720	0.000	0.000	0.003	0.003	0	0.930	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.942	0.000	0.000	0.000	0.000	0	0.906	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.951	0.000	0.000	0.000	0.000	0	0.700	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.945	0.000	0.000	0.000	0.000	0	0.710	0.000	0.000	0.000	0.000	0						
30	0.969	0.000	0.000	0.000	0.000	0	0.625	0.000	0.000	0.005	0.005	0						
31	0.973	0.000	0.000	0.000	0.000	0	0.542	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	2.312	0.000	0.000	0.001	0.001	0	0.887	0.000	0.000	0.001	0.001	0	0.381	0.000	0.000	0.000	0.000	0
Ten Daily II	1.949	0.000	0.000	0.001	0.001	0	0.725	0.000	0.000	0.001	0.001	0	0.122	0.000	0.000	0.001	0.001	0
Ten Daily III	0.947	0.000	0.000	0.000	0.000	0	0.720	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						2						1						0

Annual Sediment Load (Metric Tonnes) : 98163

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

Day		Mar					Apr					May							
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
	1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																			
Ten Daily I		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III		0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																			
Total							0						0						0

Annual Sediment Load (Metric Tonnes) : 98163

Annual Sediment Load for period : 2001-2017

Station Name : Ghatora (EMP40F2)

Division : MD,CWC,Burla

Local River : Arpa

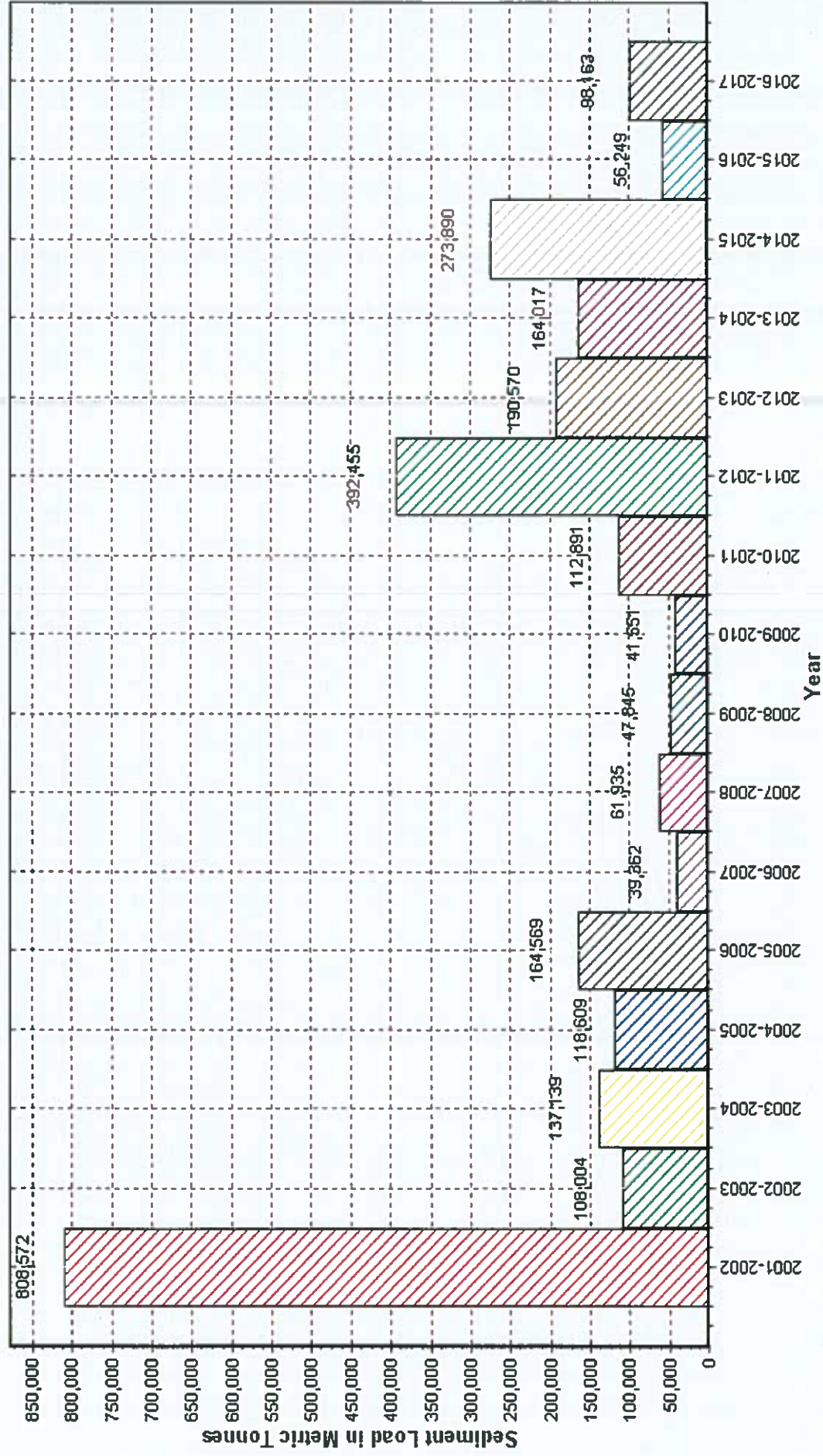
Sub-Division : MMSD I,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2001-2002	808571	2	808572	1155
2002-2003	107997	7	108004	356
2003-2004	137127	12	137139	1089
2004-2005	118565	44	118609	582
2005-2006	164436	133	164569	980
2006-2007	39354	7	39362	508
2007-2008	61839	97	61935	654
2008-2009	47845	0	47845	500
2009-2010	41551	0	41551	224
2010-2011	112886	5	112891	396
2011-2012	392455	0	392455	1097
2012-2013	190570	0	190570	905
2013-2014	163884	134	164017	831
2014-2015	273837	53	273890	945
2015-2016	56240	10	56249	681
2016-2017	98160	4	98163	725

Annual Sediment Load for the period: 2001-2017

Station Name : Ghatora (EMP40F2)
Local River : Arpa

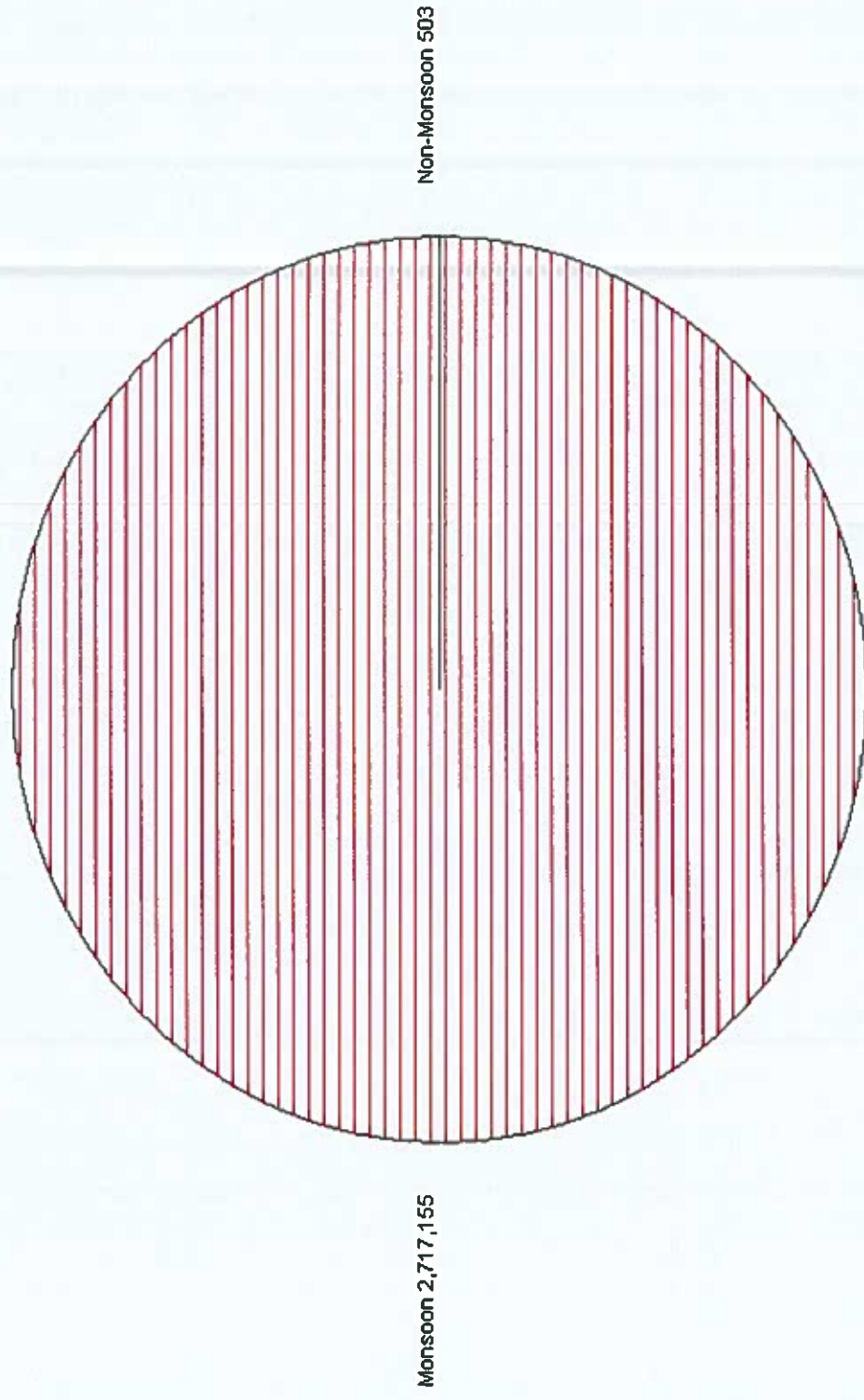
Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



Seasonal Sediment Load for the period : 2001-2016

Station Name : Ghatora (EMP40F2)
Local River : Arpa

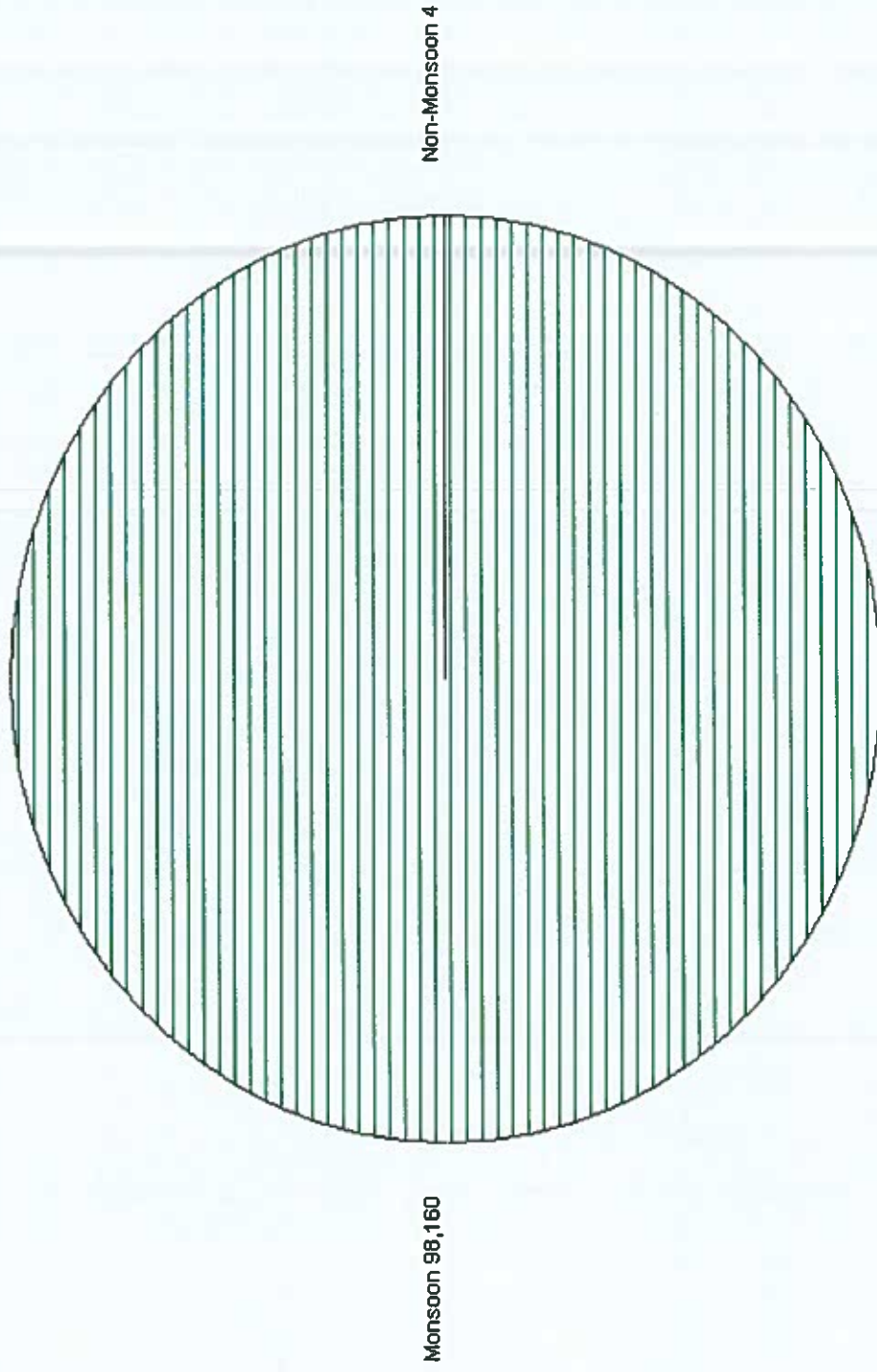
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Seasonal Sediment Load for the Year: 2016-2017

Station Name : Ghatora (EMP40F2)
Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Ghatara (EMP40F2)
Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	25.60	375.2	468.5	2.180	2.165	0.944	0.533	0.000	0.000	0.000
2	Colour_Cod (-)			Light Brown	Brown	Brown	Clear	Clear	Clear	Clear			
3	EC_FLD (umho/cm)					648	178	190					
4	EC_GEN (umho/cm)			168	99	112	330	231	450	398			
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free	odour free	odour free			
6	pH_FLD (pH units)					7.2	7.3	7.7					
7	pH_GEN (pH units)			7.0	7.1	7.3	8.0	7.8	8.2	8.2			
8	Temp (deg C)					27.5	24.0	20.0					
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2	ALK-TOT (mgCaCO3/L)			164	100	180	100	92	172	112			
3	Ca (mg/L)			37	35	29	27	35	22	37			
4	Cl (mg/L)								33.0	32.0			
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6	HCO3 (mg/L)			100	61	110	61	56	105	68			
7	K (mg/L)			7.4	14.0	5.7	9.3	11.3	10.1	11.7			
8	Mg (mg/L)			1.9	6.8	17.5	22.4	18.5	20.0	90.4			
9	Na (mg/L)			16.9	15.7	19.7	16.4	25.5	24.9	34.0			
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			1.2	1.3	1.4	1.8	0.8					
2	DO (mg/L)			4.5	5.7	6.9	4.9	5.7	6.7	5.5			
3	DO_SAT% (%)					87	58	63					
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			92	88	72	68	88	56	92			
2	HAR_Total (mgCaCO3/L)			100	117	145	161	165	139	469			
3	Na% (%)			25	20	22	17	24	26	13			
4	RSC (-)			0.0	0.0	0.0	0.0	0.0	0.0	0.0			
5	SAR (-)			0.7	0.6	0.7	0.6	0.9	0.9	0.7			
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Ghatora (EMP40F2)

Division : MD,CWC,Burla

Local River : Arpa

Sub-Division : MMSD I,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
PHYSICAL					
1	Q (cumec)	365	616.1	0.000	22.98
2	EC_FLD (µmho/cm)	3	648	178	339
3	EC_GEN (µmho/cm)	7	450	99	255
4	pH_FLD (pH units)	3	7.7	7.2	7.4
5	pH_GEN (pH units)	7	8.2	7.0	7.6
6	Temp (deg C)	3	27.5	20.0	23.8
CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	7	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	7	180	92	131
3	Ca (mg/L)	7	37	22	32
4	Cl (mg/L)	2	33.0	32.0	32.5
5	CO3 (mg/L)	7	0.0	0.0	0
6	HCO3 (mg/L)	7	110	56	80
7	K (mg/L)	7	14.0	5.7	9.9
8	Mg (mg/L)	7	90.4	1.9	25.4
9	Na (mg/L)	7	34.0	15.7	21.9
BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	5	1.8	0.8	1.3
2	DO (mg/L)	7	6.9	4.5	5.7
3	DO_SAT% (%)	3	87	58	69
TRACE & TOXIC					
CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	7	92	56	80
2	HAR_Total (mgCaCO3/L)	7	469	100	185
3	Na% (%)	7	26	13	21
4	RSC (-)	7	0.0	0.0	0
5	SAR (-)	7	0.9	0.6	0.7
PESTICIDES					

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Ghatora (EMP40F2)
Local River : Arpa

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

River Water

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	28.14	100.1	22.03	142.4	99.57	63.58	31.60	20.65	16.79	60.73	48.59	50.33	52.89	11.08	173.9
2	EC_FLD (µmho/cm)	259	152	289	194	146	282	272	337	210						648
3	EC_GEN (µmho/cm)	259	132	289	194	146	261	252	378	202	193	195	215	370	348	126
4	pH_FLD (pH units)	7.9	7.7	7.9	7.6	7.4	7.0	7.5	7.5	7.2						7.2
5	pH_GEN (pH units)	7.9	7.7	8.0	7.7	7.4	7.4	7.6	7.7	7.6	7.7	7.7	8.1	7.9	7.6	7.1
6	Temp (deg C)	25.8	27.3	30.8	29.4	20.0	27.7	29.0	29.5	29.3	27.0	28.3	27.0	29.5	28.3	27.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	139	168	207	113		89	190	277	144	134	142	200	371	320	148
3	B (mg/L)	0.32			0.08		0.01	0.01	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	26	17	29	13		22	16	30	14	13	24	25	28	39	34
5	Cl (mg/L)	17.5	20.5	25.2	21.5		8.5	12.9	11.5	5.1	5.8	8.8	14.0	29.4	34.3	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)		1.39		0.20		0.11	0.12	0.22	0.18	0.23	0.21				
8	Fe (mg/L)	0.1			0.1		0.0	0.0	0.1	0.0	0.0	0.0				
9	HCO3 (mg/L)	84	102	202	69		54	116	169	88	82	87	122	226	192	90
10	K (mg/L)	1.9			3.1		2.9	2.0	2.7	3.0	2.1	1.8	4.2	8.6	7.4	9.0
11	Mg (mg/L)	9.0	5.8	22.4	4.7		12.0	8.7	15.9	8.9	8.0	13.4	6.2	20.2	17.7	8.7
12	Na (mg/L)	11.1			11.7		18.2	8.9	10.1	9.0	8.1	14.8	9.3	45.4	17.7	17.4
13	NH3-N (mg N/L)															
14	NO2+NO3 (mg N/L)	2.79			0.07	0.05	0.12	0.40								
15	NO2-N (mgN/L)				0.00	0.00	0.01	0.05	0.03	0.01	0.02	0.05				
16	NO3-N (mgN/L)				0.06	0.04	0.11	0.35								
17	P-Tot (mgP/L)		0.030		0.033		0.010	0.025	0.300	0.030	0.040	0.073				
18	SiO2 (mg/L)	17.5			6.1		10.2	22.7	24.9	12.1	11.3	15.1				
19	SO4 (mg/L)	9.5	9.7	7.2	9.5		14.2	11.7	37.7	13.5	10.5	15.9				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

River Water

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	31.9	1.0	0.8	1.0		1.6	1.7	2.7	0.9	1.3	1.4	1.8	1.9	2.8	1.3
2	COD (mg/L)						19.2	18.0	33.3	20.0	24.0	22.7				
3	DO (mg/L)	5.1	5.7	5.4	4.7		6.6	5.6	4.8	5.2	6.3	7.0	7.0	6.0	5.7	5.7
4	DO_SAT% (%)	62	70	73	62		83	73	66	68	79	90	87	78	73	87
	TRACE & TOXIC															
1	Al (mg/L)	0.19														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	66	43	73	33		54	41	76	34	32	60	61	70	98	84
2	HAR_Total (mgCaCO3/L)	103	67	166	53		104	77	142	71	65	116	87	154	172	121
3	Na% (%)	21			32		27	20	13	21	21	22	18	34	18	23
4	RSC (-)	0.0	0.2	0.0	0.1		0.0	0.4	0.0	0.1	0.0	0.0	0.4	0.7	0.1	0.0
5	SAR (-)	0.5			0.7		0.8	0.5	0.4	0.5	0.4	0.6	0.4	1.5	0.6	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

River Water

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	Winter																
		Nov - Feb																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	1.505	14.32	9.985	2.740	4.432	6.290	2.678		3.492	21.47	9.449	11.23	12.02	0.847	1.455		
2	EC_FLD (µmho/cm)	498	366	534	472	365	420	612	365	290						184		
3	EC_GEN (µmho/cm)	498	366	534	472	365	387	639	365	287	314	353	331	366	502	352		
4	pH_FLD (pH units)	7.6	7.9	7.7	7.4	8.0	7.6	7.7	7.6	8.0						7.5		
5	pH_GEN (pH units)	7.6	7.9	7.7	7.4	8.0	7.9	7.8	8.2	8.0	7.8	7.9	7.9	7.7	7.9	8.0		
6	Temp (deg C)	20.0	22.5	23.3	24.8	14.0	20.3	20.3	23.0	22.0	22.0	24.0	22.0	21.5	21.6	22.0		
	CHEMICAL																	
1	ALK-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)	282	368	324	319		261	379	194	198	213	298	315	335	439	119		
3	B (mg/L)	0.11			0.08		0.01	0.00	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	46	27	40	36		26	43	24	19	21	45	46	46	49	30		
5	Cl (mg/L)	33.6	18.3	19.5	56.0		41.1	49.5	9.4	24.0	28.0	18.5	24.7	29.0	46.5	32.5		
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
7	F (mg/L)		0.99	0.47	0.13		0.23	0.35	0.22	0.12	0.24	0.32						
8	Fe (mg/L)	0.1			0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0		0.1				
9	HCO3 (mg/L)	172	180	197	195		159	231	118	121	130	182	192	204	268	73		
10	K (mg/L)	2.7		4.6	4.0		3.4	4.0	2.3	16.2	2.6	1.8	14.7	6.2	7.8	10.6		
11	Mg (mg/L)	19.4	14.9	16.1	17.7		16.2	23.2	14.1	14.8	13.6	26.2	8.1	16.3	20.2	37.8		
12	Na (mg/L)	20.1		36.5	32.5		24.0	37.2	10.0	39.6	18.8	8.1	44.5	24.4	31.0	25.2		
13	NH3-N (mg N/L)																	
14	NO2+NO3 (mg N/L)	1.94		0.26	0.26	0.08	0.11	0.75						0.11				
15	NO2-N (mgN/L)				0.00	0.01	0.01	0.08	0.04	0.01	0.02	0.03		0.03				
16	NO3-N (mgN/L)				0.26	0.08	0.10	0.68						0.08				
17	P-Tot (mgP/L)		0.335	0.032	0.007		0.022	0.147	0.030	0.050	0.040	0.030		0.060				
18	SiO2 (mg/L)	25.5			18.4		18.6	40.9	23.0	13.0	12.0	17.2		9.2				
19	SO4 (mg/L)	15.7	6.6	8.9	14.7		15.1	53.8	27.0	15.8	16.6	17.5		15.0				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	11.1	0.8	3.4	2.5		1.5	1.6	1.8	2.4	1.3	1.6	10.0	3.6	2.1	1.3
2	COD (mg/L)						24.0	65.0	32.0	22.0	16.0	24.0				
3	DO (mg/L)	3.8	5.2	6.0	5.4		5.9	6.4	5.3	4.9	5.6	5.5	6.9	7.5	5.4	5.7
4	DO_SAT% (%)	42	58	71	66		65	72	62	62	64	65	79	85	61	60
	TRACE & TOXIC															
1	Al (mg/L)	0.10														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	116	66	100	91		66	109	60	48	52	112	115	114	123	76
2	HAR_Total (mgCaCO3/L)	196	128	167	165		133	205	119	110	109	221	149	182	207	234
3	Na% (%)	19		30	28		28	28	15	39	27	7	32	20	24	20
4	RSC (-)	0.0	0.6	0.4	0.1		0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.7	0.0
5	SAR (-)	0.6		1.2	1.1		0.9	1.1	0.4	1.7	0.8	0.2	1.5	0.8	0.9	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Ghatora (EMP40F2)

Local River : Arpa

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	0.297	2.797	1.068									1.287	0.132	0.000	0.000
2	EC_FLD (µmho/cm)	930	511	604												
3	EC_GEN (µmho/cm)	930	511	604									681	596		
4	pH_FLD (pH units)	7.9	7.8	7.8												
5	pH_GEN (pH units)	7.9	7.8	7.8									7.7	7.9		
6	Temp (deg C)	22.0	28.0	28.0									26.2	23.0		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0			0.0						0.5	0.0		
2	ALK-TOT (mgCaCO3/L)	676	506	574			34						445	504		
3	B (mg/L)	0.11					0.01									
4	Ca (mg/L)	93	57	42			32						67	51		
5	Cl (mg/L)	53.7	37.0	32.0			51.1						65.3	12.0		
6	CO3 (mg/L)	0.0	0.0	0.0			0.0						0.6	0.0		
7	F (mg/L)			0.30			0.33									
8	Fe (mg/L)	0.1												0.1		
9	HCO3 (mg/L)	412	309	350			21						271	307		
10	K (mg/L)	4.2		7.2			3.7						8.4	4.1		
11	Mg (mg/L)	37.9	14.6	22.4			19.9						22.4	30.1		
12	Na (mg/L)	33.6		53.9			28.9						68.2	19.5		
13	NH3-N (mg N/L)	0.54														
14	NO2+NO3 (mg N/L)	2.57		1.48												
15	NO2-N (mgN/L)															
16	NO3-N (mgN/L)															
17	P-Tot (mgP/L)	0.130		0.017			0.020							0.040		
18	SiO2 (mg/L)	28.1					26.0							9.3		
19	SO4 (mg/L)	19.0	8.3	16.0			12.0							17.0		

5218

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Ghatora (EMP40F2)

Division : MD,CWC,Burla

Local River : Arpa

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	55.0	0.9	4.5			1.2						2.3	4.8		
2	COD (mg/L)						28.0									
3	DO (mg/L)	2.4	5.9	5.0									5.6	7.6		
4	DO_SAT% (%)	28	88	64									69	89		
	TRACE & TOXIC															
1	Al (mg/L)	0.12														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	232	143	104			80						167	128		
2	HAR_Total (mgCaCO3/L)	388	203	196			163						260	254		
3	Na% (%)	16		36			27						35	14		
4	RSC (-)	0.0	1.7	1.8			0.0						0.0	0.0		
5	SAR (-)	0.8		1.7			1.0						1.9	0.5		
	PESTICIDES															

SITE JONDHRA

HISTORY SHEET

Water Year : 2016-2017

Site : Jondhra

Code : EMP00A4

State : Chhattisgarh

District : Bilaspur

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Seonath

Sub Tributary :

Sub-Sub Tributary :

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

Drainage Area : 29645 Sq. Km.

Bank :

Latitude : 21°43'00"

Longitude : 82°20'34"

Zero of Gauge (m) : 219 (m.s.l)

24-01-1979 - 01-02-2025

Opening Date

Closing Date

Gauge : 24-01-1979

Discharge : 21-07-1979

Sediment : 11-10-1980

Water Quality : 02-06-1980

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	11033	229.950	20-09-1980	0.560	219.710	02-06-1980
1981-1982	4444	226.280	11-08-1981	3.340	219.725	12-05-1982
1982-1983	4372	225.820	10-08-1982	2.500	219.720	04-05-1983
1983-1984	4902	225.210	08-09-1983	1.600	219.685	11-06-1983
1984-1985	7284	227.140	19-08-1984	3.400	219.740	10-05-1985
1985-1986	5953	227.265	13-09-1985	3.800	219.725	01-06-1985
1986-1987	6248	227.145	28-06-1986	4.700	219.800	31-05-1987
1987-1988	2063	223.760	16-09-1987	4.500	219.795	01-06-1987
1988-1989	3737	225.435	05-08-1988	1.170	219.545	30-04-1989
1989-1990	1720	223.750	02-09-1989	0.145	219.715	20-04-1990
1990-1991	7132	228.380	15-09-1990	2.200	219.690	26-05-1991
1991-1992	5376	227.860	25-08-1991	0.858	219.630	27-05-1992
1992-1993	3978	227.775	22-08-1992	0.061	219.500	28-05-1993
1993-1994	4528	227.050	20-08-1993	0.018	219.500	01-06-1993
1994-1995	12700	230.570	14-07-1994	0.669	219.595	09-06-1994
1995-1996	4239	227.275	26-07-1995	3.000	220.210	18-06-1995
1996-1997	3785	226.110	03-08-1996	0.076	219.790	27-05-1997
1997-1998	5980	227.080	24-08-1997	3.411	219.990	21-06-1997
1998-1999	4341	227.730	14-09-1998	0.430	219.810	12-05-1999
1999-2000	3681	225.565	01-09-1999	0.839	219.815	11-06-1999
2000-2001	2811	225.110	21-07-2000	0.038	219.620	26-04-2001
2001-2002	4469	226.200	22-08-2001	0.087	219.590	20-04-2002

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2002-2003	1600	224.200	08-09-2002	0.240	219.655	20-04-2003
2003-2004	5721	229.300	30-08-2003	0.494	219.660	31-05-2004
2004-2005	2772	225.900	10-08-2004	0.493	219.730	31-05-2005
2005-2006	7526	229.060	18-09-2005	0.167	219.690	29-05-2006
2006-2007	6068	228.380	14-08-2006	0.000	219.660	11-05-2007
2007-2008	6874	227.720	03-07-2007	0.000	219.465	13-05-2008
2008-2009	4209	226.663	20-09-2008	0.000	219.430	17-04-2009
2009-2010	3056	225.997	17-07-2009	0.000	221.315	07-03-2010
2010-2011	3203	226.325	21-09-2010	0.000	222.285	25-01-2011
2011-2012	9193	229.905	10-09-2011	0.000	220.960	06-04-2012
2012-2013	3812	226.505	07-09-2012	0.000	222.320	22-12-2012
2013-2014	6529	227.965	03-08-2013	0.000	220.560	19-06-2013
2014-2015	9676	229.220	07-08-2014	0.000	222.600	05-04-2015
2015-2016	2083	224.720	22-09-2015	0.000	222.480	28-11-2015

Stage-Discharge Data for the period 2016 - 2017

Station Name : Jondhra (EMP00A4)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : MMSD I,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	220.700	0.000 *	220.745	0.000 *	222.840	170.7	223.010	435.2	225.143	2545	222.180	144.8
2	220.700	0.000 *	220.760	0.000 *	222.780	160.7	222.880	338.4	224.570	1800 *	222.120	140.9
3	220.700	0.000 *	220.800	0.000 *	222.245	164.6	222.890	344.5	223.905	1184	222.100	138.8
4	220.700	0.000 *	220.840	0.000 *	222.640	149.6	222.930	390.0 *	223.635	833.5	221.640	82.17
5	220.700	0.000 *	220.840	0.000 *	222.825	165.5	222.880	339.2	223.478	727.9	221.400	67.70
6	220.700	0.000 *	220.840	0.000 *	223.240	631.4	222.890	345.0	223.300	638.4	221.280	42.00 *
7	220.700	0.000 *	220.920	2.600	224.750	2000 *	222.800	305.1	223.155	457.9	221.280	41.27
8	220.700	0.000 *	220.910	2.512	225.415	2837	222.750	293.9	223.215	489.4	221.250	40.06
9	220.700	0.000 *	221.370	59.57	224.100	1553	222.750	235.6	223.600	820.0 *	221.250	39.85
10	220.700	0.000 *	221.440	70.00 *	223.460	719.9	222.800	308.8	223.910	1200 *	221.260	41.86
11	220.730	0.000 *	222.020	100.9	223.330	663.0	222.740	300.0 *	224.440	1620 *	221.250	40.12
12	220.740	0.000 *	222.070	106.7	223.330	668.1	222.748	293.4	223.950	1220 *	221.290	41.64
13	220.740	0.000 *	222.928	283.6	223.210	628.6	224.440	1680 *	223.565	844.1	221.315	45.00 *
14	220.740	0.000 *	222.835	269.0	223.030	500.0 *	224.885	2204	223.295	611.1	221.290	44.00 *
15	220.740	0.000 *	222.680	247.7	222.940	490.0 *	223.965	1367	223.123	597.5	221.310	43.79
16	220.740	0.000 *	222.320	220.3	222.790	161.2	223.520	746.9	223.000	390.0 *	221.350	44.76
17	220.740	0.000 *	222.475	220.0 *	222.670	148.6	223.210	633.1	222.908	347.7	221.280	41.63
18	220.740	0.000 *	222.070	126.4	222.620	143.2	223.060	410.0 *	222.850	327.1	221.280	41.34
19	220.740	0.000 *	222.460	202.1	222.465	136.4	222.975	397.8	222.750	314.2	221.380	47.22
20	220.740	0.000 *	222.750	257.1	222.015	153.1	222.960	382.7	222.640	219.7	221.290	43.00 *
21	220.740	0.000 *	222.440	170.2	222.030	175.0 *	222.940	308.3	222.590	197.5	221.290	41.80
22	220.740	0.000 *	222.300	178.2	221.770	117.2	223.005	415.7	222.440	190.5	221.260	40.40
23	220.740	0.000 *	222.710	255.0	221.645	110.5	222.935	350.9	222.180	170.0 *	221.310	43.70
24	220.740	0.000 *	223.300	700.0 *	221.580	92.95	222.845	324.0	221.910	153.8	221.310	43.64
25	220.740	0.000 *	223.275	672.0	221.500	184.9	222.790	315.0 *	222.040	146.9	221.320	44.66
26	220.740	0.000 *	223.140	625.8	221.470	74.12	222.800	316.0	221.850	140.9	221.325	44.75
27	220.740	0.000 *	223.275	684.2	221.600	90.63	224.250	1560	221.760	129.2	221.300	44.50 *
28	220.740	0.000 *	223.240	667.0	222.680	350.0 *	225.145	2589	221.880	144.8	221.260	40.43
29	220.745	0.000 *	222.950	291.7	222.860	327.8	225.160	2660	222.135	150.1	221.250	39.47
30	220.745	0.000 *	222.860	286.0	222.865	338.8	225.000	2458	222.050	150.0 *	221.240	38.05
31			222.900	290.0 *	222.830	325.9			222.000	142.1		
Ten-Daily Mean												
I Ten-Daily	220.700	0.000	220.947	13.47	223.429	855.2	222.858	333.6	223.791	1070	221.576	77.94
II Ten-Daily	220.739	0.000	222.461	203.4	222.840	369.2	223.450	841.5	223.252	649.1	221.303	43.25
III Ten-Daily	220.741	0.000	222.945	438.2	222.075	198.9	223.687	1130	222.076	156.0	221.286	42.14
Monthly												
Min.	220.700	0.000	220.745	0.000	221.470	74.12	222.740	235.6	221.760	129.2	221.240	38.05
Max.	220.745	0.000	223.300	700.0	225.415	2837	225.160	2660	225.143	2545	222.180	144.8
Mean	220.727	0	222.144	225.4	222.759	465.5	223.332	768.3	223.009	609.8	221.389	54.44

Annual Runoff in MCM = 5721 Annual Runoff in mm = 193

Peak Observed Discharge = 2837 cumecs on 08/08/2016 Corres. Water Level :225.415 m

Lowest Observed Discharge = 0.679 cumecs on 14/02/2017 Corres. Water Level :220.69 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Jondhra (EMP00A4)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : MMSD I,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	221.245	38.09	220.930	16.00 *	220.760	0.806	220.800	1.491	220.420	0.000 *	220.340	0.000 *
2	221.260	40.36	220.950	17.18	220.760	0.787	220.800	1.497	220.430	0.000 *	220.340	0.000 *
3	221.230	38.22	220.950	17.93	220.760	0.782	220.760	1.887	220.490	0.000 *	220.340	0.000 *
4	221.220	30.00 *	220.540	16.88	220.760	0.774	220.750	1.908	220.500	0.000 *	220.340	0.000 *
5	221.215	36.37	220.535	16.93	220.670	0.680 *	220.920	1.950 *	220.500	0.000 *	220.340	0.000 *
6	221.330	30.85	220.550	14.58	220.760	0.727	221.120	3.381	220.500	0.000 *	220.330	0.000 *
7	221.330	31.32	220.900	14.77	220.760	0.680	221.150	3.458	220.500	0.000 *	220.330	0.000 *
8	221.360	30.33	220.740	7.000 *	220.670	0.700	221.200	3.492	220.500	0.000 *	220.330	0.000 *
9	221.360	30.19	220.700	13.73	220.760	0.684	221.200	3.487	220.450	0.000 *	220.320	0.000 *
10	221.340	30.94	220.650	13.77	220.670	0.693	221.120	3.388	220.380	0.000 *	220.320	0.000 *
11	221.340	35.00 *	220.650	2.083	220.760	0.725	220.870	4.899	220.380	0.000 *	220.340	0.000 *
12	221.340	35.10 *	220.710	1.966	220.670	0.690 *	220.600	1.915 *	220.380	0.000 *	220.340	0.000 *
13	221.370	30.75	220.790	1.877	220.670	0.679	220.600	1.915 *	220.380	0.000 *	220.370	0.000 *
14	221.370	30.75	220.800	1.788	220.690	0.679	220.600	4.916	220.380	0.000 *	220.420	0.000 *
15	221.370	30.69	220.800	11.00 *	220.750	0.728	220.600	4.913	220.360	0.000 *	220.415	0.000 *
16	221.370	30.53	220.770	1.853	220.750	0.710	220.600	4.795	220.360	0.000 *	220.400	0.000 *
17	221.180	34.14	220.770	1.861	220.740	0.706	220.600	5.036	220.350	0.000 *	220.400	0.000 *
18	221.360	40.00 *	220.740	1.966	220.740	0.703	220.600	4.841	220.350	0.000 *	220.390	0.000 *
19	221.200	29.41	220.700	1.952	220.700	0.600 *	220.600	1.915 *	220.340	0.000 *	220.390	0.000 *
20	221.200	27.76	220.700	1.987	220.560	3.455	220.600	4.930	220.330	0.000 *	220.390	0.000 *
21	221.100	28.49	220.700	1.965	220.555	3.418	220.600	4.908	220.320	0.000 *	220.390	0.000 *
22	221.100	27.88	220.680	5.000 *	220.555	3.411	220.600	4.557	220.320	0.000 *	220.390	0.000 *
23	221.100	27.90	220.605	0.793	220.550	3.309	220.600	4.504	220.320	0.000 *	220.390	0.000 *
24	220.880	13.27	220.635	0.753	220.550	3.284	220.600	4.582	220.320	0.000 *	220.340	0.000 *
25	221.050	27.00 *	220.670	0.898	220.550	3.281	220.600	4.604	220.320	0.000 *	220.310	0.000 *
26	221.330	10.92	220.670	3.500 *	220.640	1.400 *	220.550	4.500 *	220.320	0.000 *	220.310	0.000 *
27	221.510	10.82	220.715	0.945	220.790	1.476	220.460	1.328	220.340	0.000 *	220.300	0.000 *
28	221.430	11.10	220.700	0.900	220.800	1.494	220.460	1.338	220.340	0.000 *	220.300	0.000 *
29	220.990	24.76	220.670	3.600 *			220.450	1.306	220.340	0.000 *	220.300	0.000 *
30	220.820	15.56	220.760	0.869			220.440	1.318	220.340	0.000 *	220.290	0.000 *
31	220.940	15.47	220.760	0.789			220.440	1.281			220.280	0.000 *
Ten-Daily Mean												
I Ten-Daily	221.289	33.67	220.745	14.88	220.733	0.731	220.982	2.594	220.467	0.000	220.333	0.000
II Ten-Daily	221.310	32.41	220.743	2.833	220.703	0.968	220.627	4.008	220.361	0.000	220.385	0.000
III Ten-Daily	221.114	19.38	220.688	1.819	220.624	2.634	220.527	3.111	220.328	0.000	220.327	0.000
Monthly												
Min.	220.820	10.82	220.535	0.753	220.550	0.600	220.440	1.281	220.320	0.000	220.280	0.000
Max.	221.510	40.36	220.950	17.93	220.800	3.455	221.200	5.036	220.500	0.000	220.420	0.000
Mean	221.234	28.19	220.724	6.358	220.691	1.359	220.706	3.234	220.385	0	220.348	0

Peak Computed Discharge = 2000 cumecs on 07/08/2016

Corres. Water Level :224.75 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :220.7 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

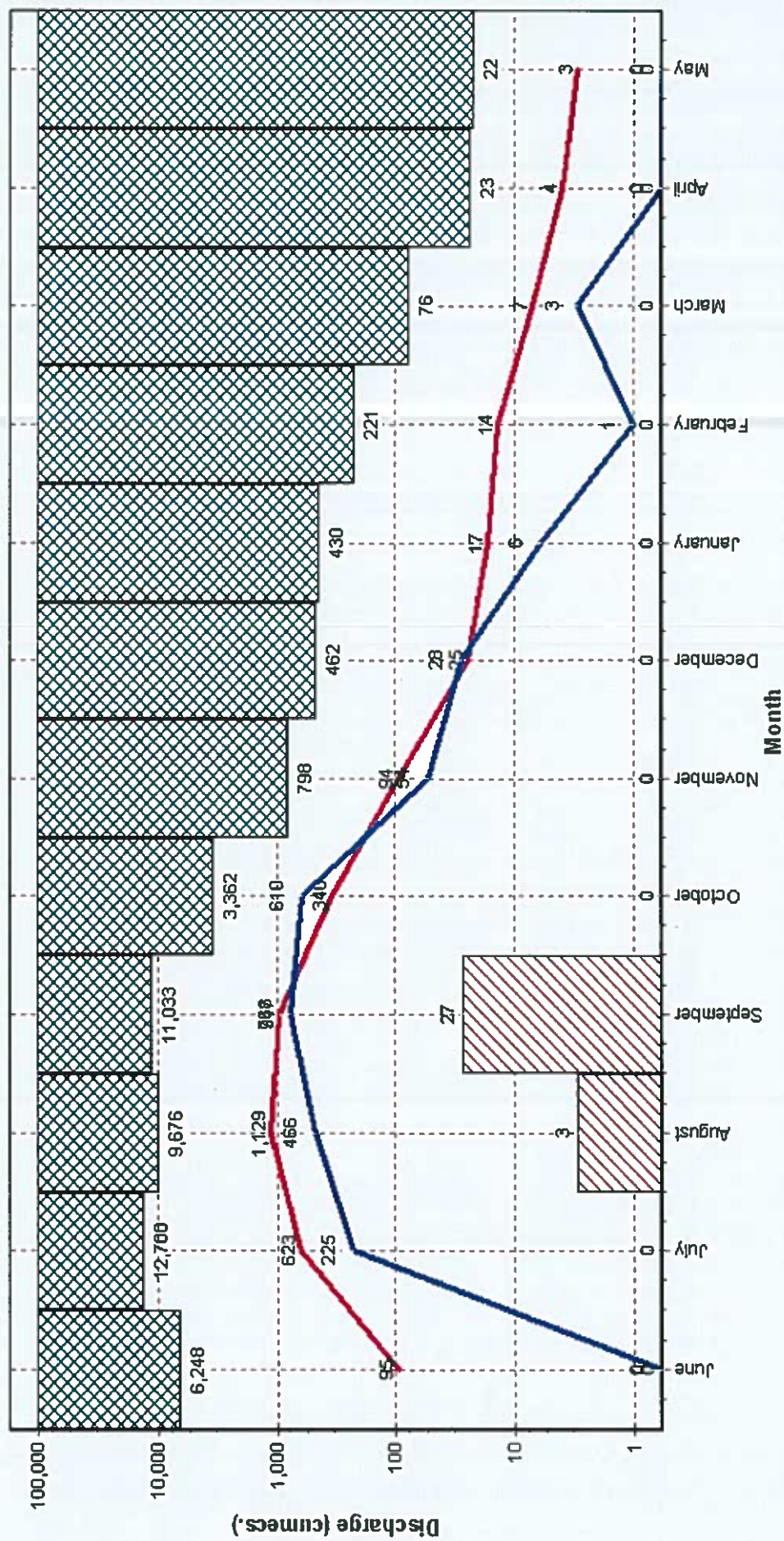
Data considered : 1980-2017

Station Name : Jondhra (EMP000A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

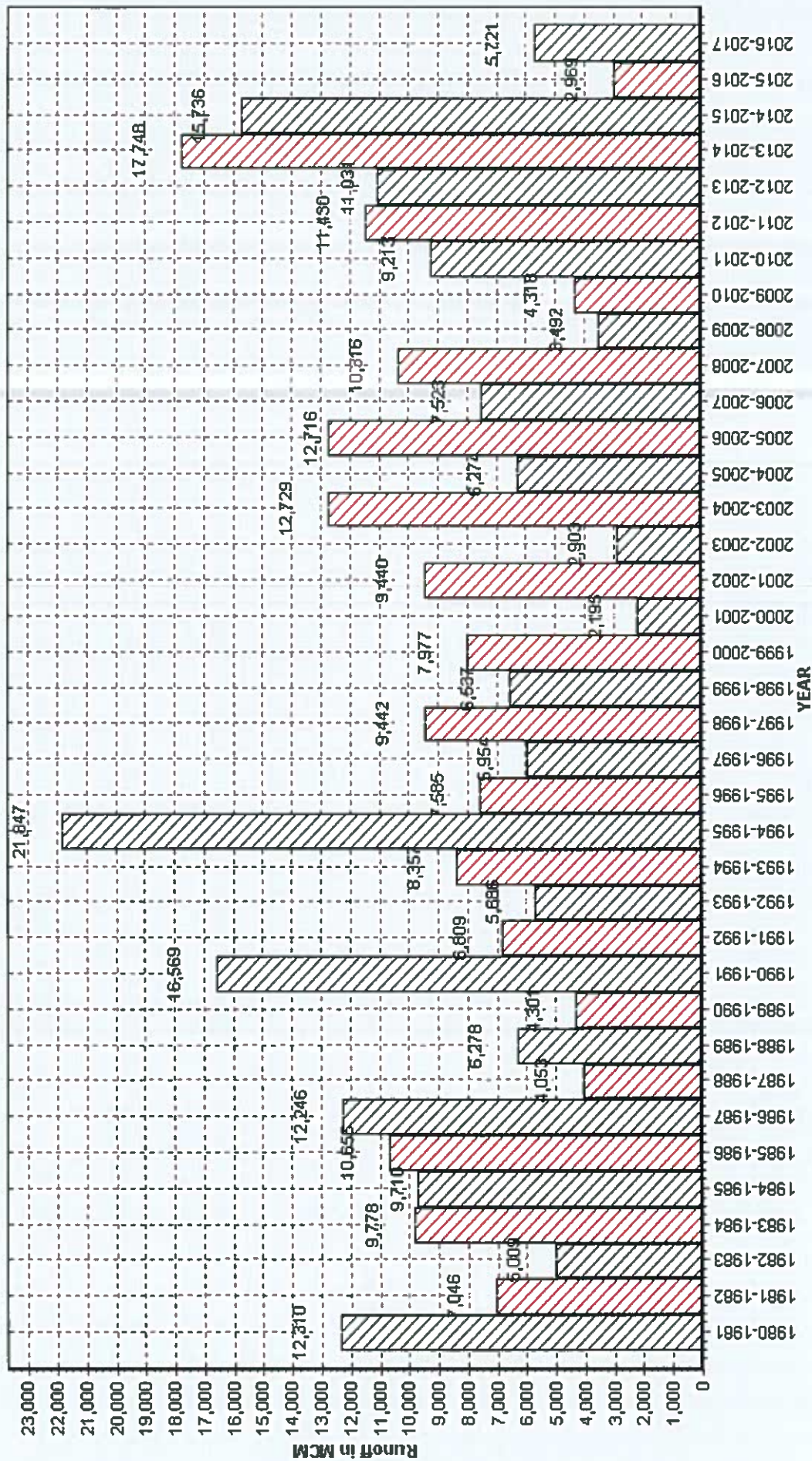


Annual Runoff Values for the period: 1980 - 2017

Station Name : Jondhra (EMP00A4)

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Local River : Seonath



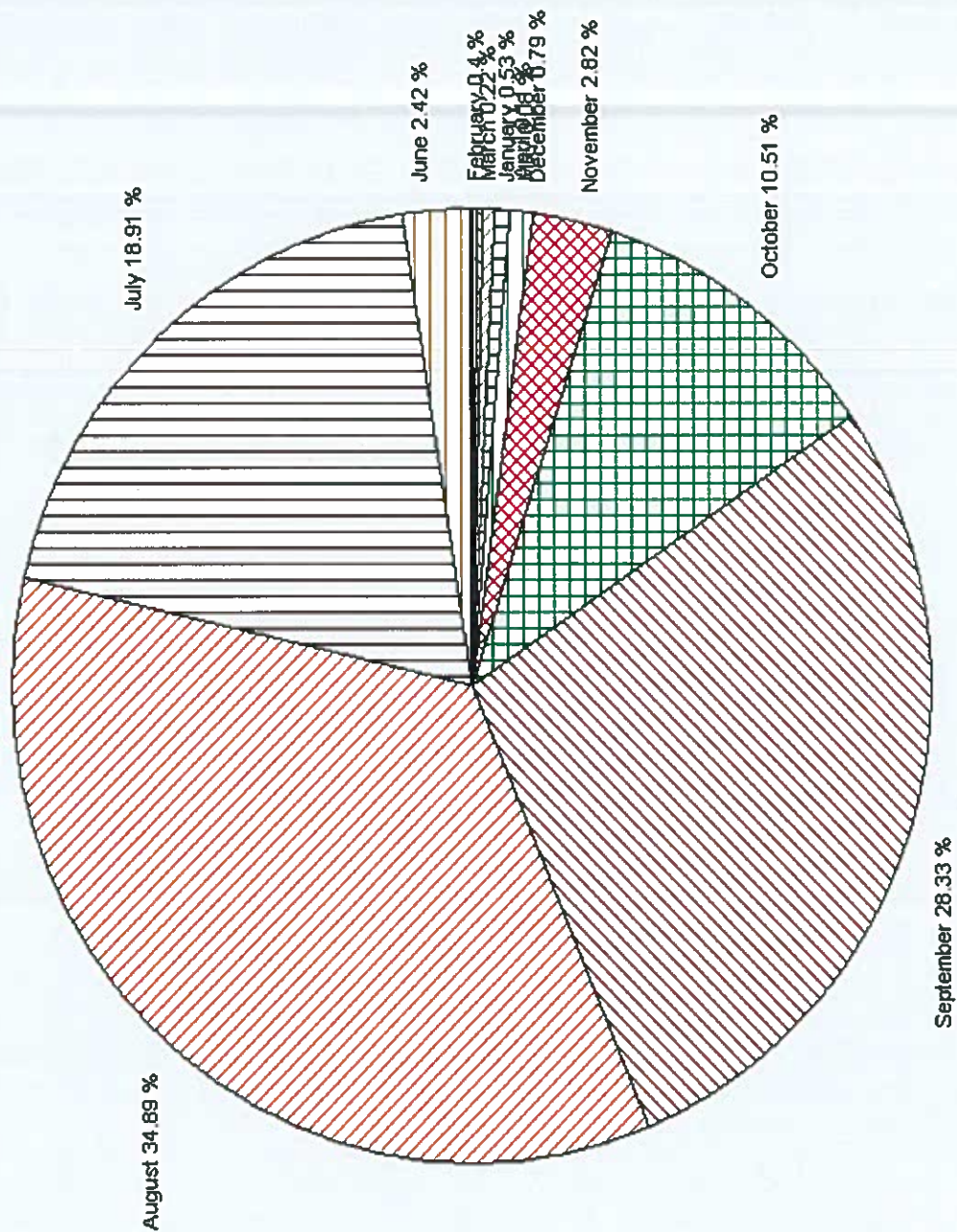
Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1980-2016

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

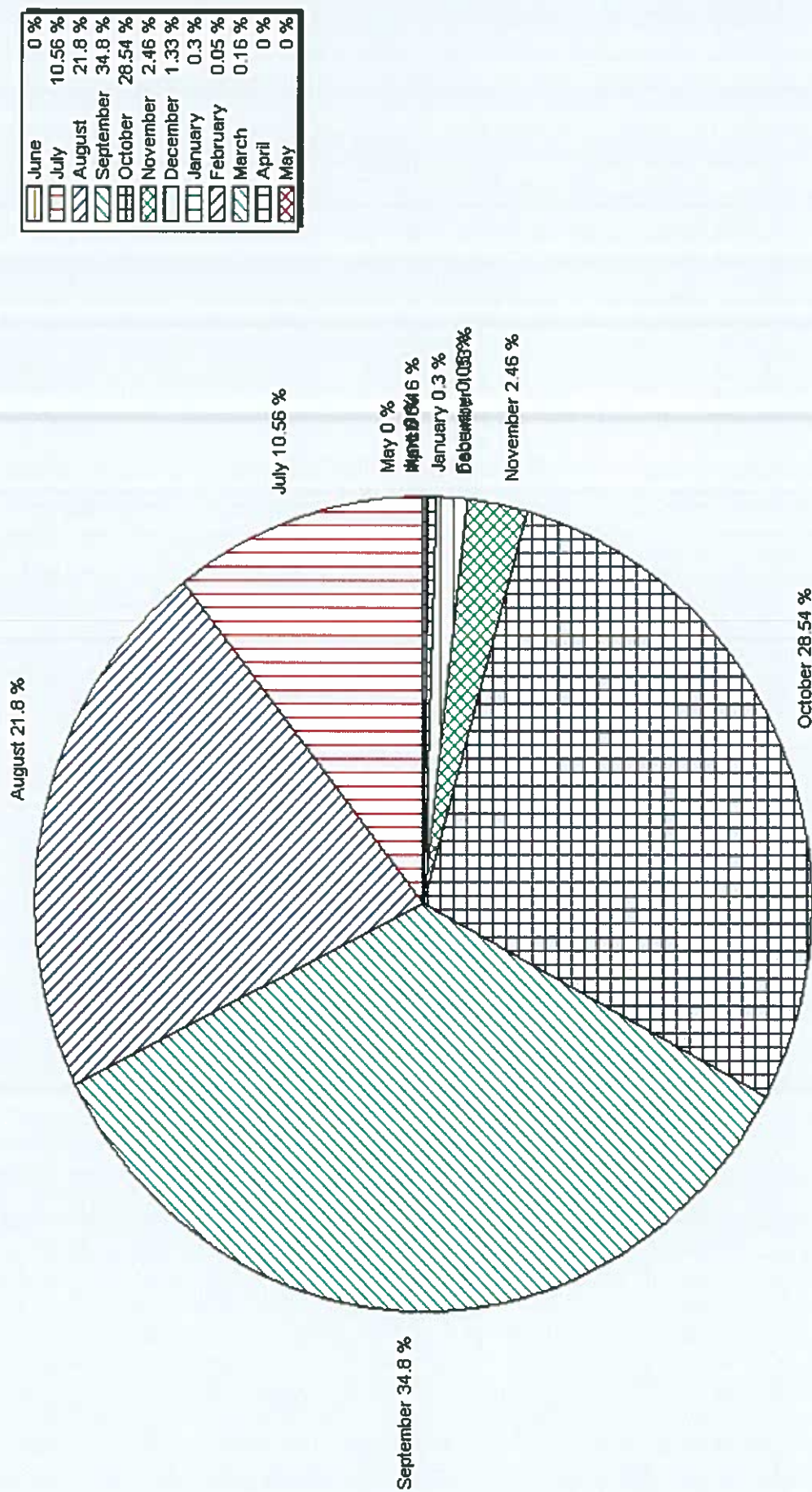
June	2.42 %
July	18.91 %
August	34.89 %
September	28.33 %
October	10.51 %
November	2.82 %
December	0.79 %
January	0.53 %
February	0.4 %
March	0.22 %
April	0.11 %
May	0.08 %



Monthly Runoff for the Year : 2016-2017

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

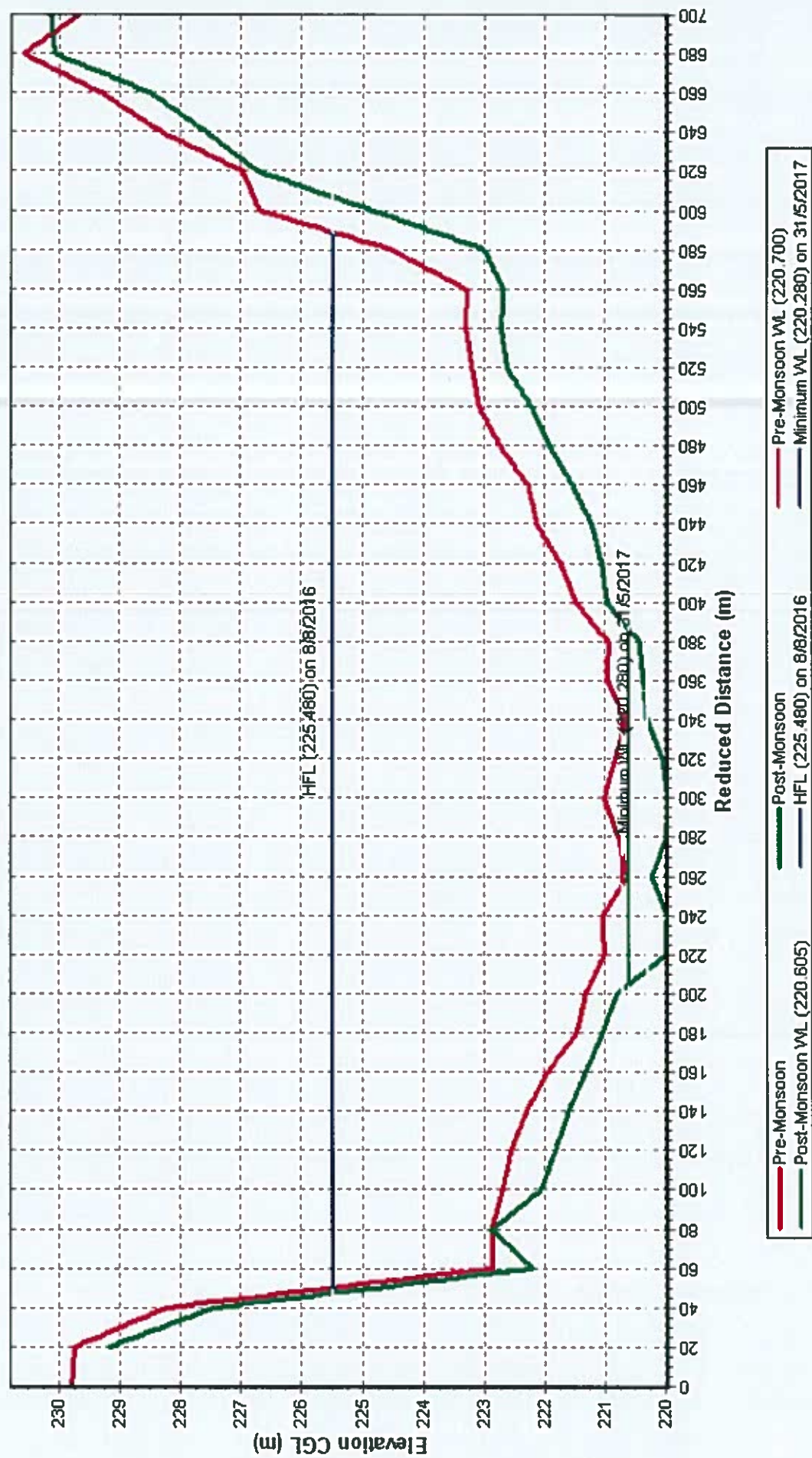


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



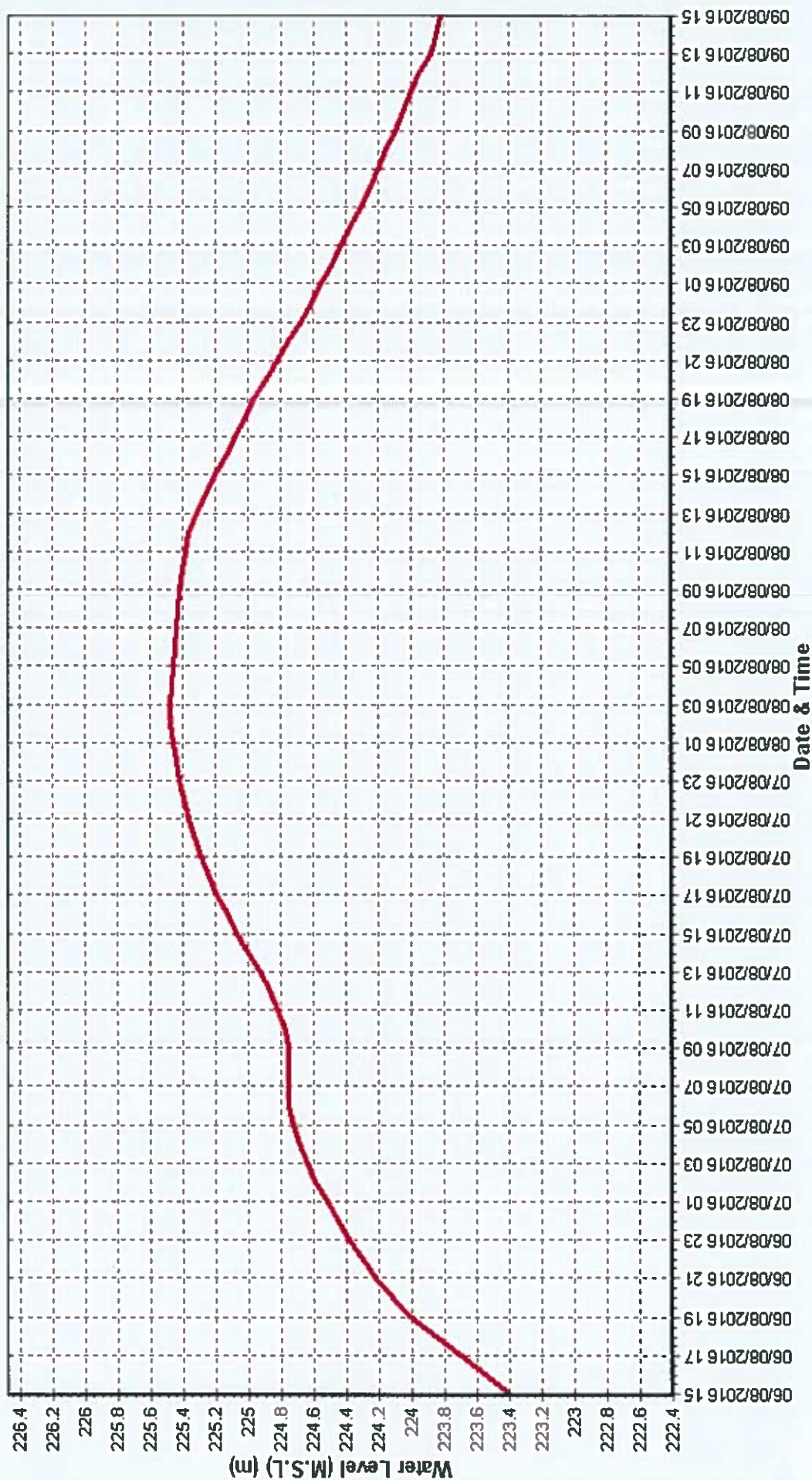
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



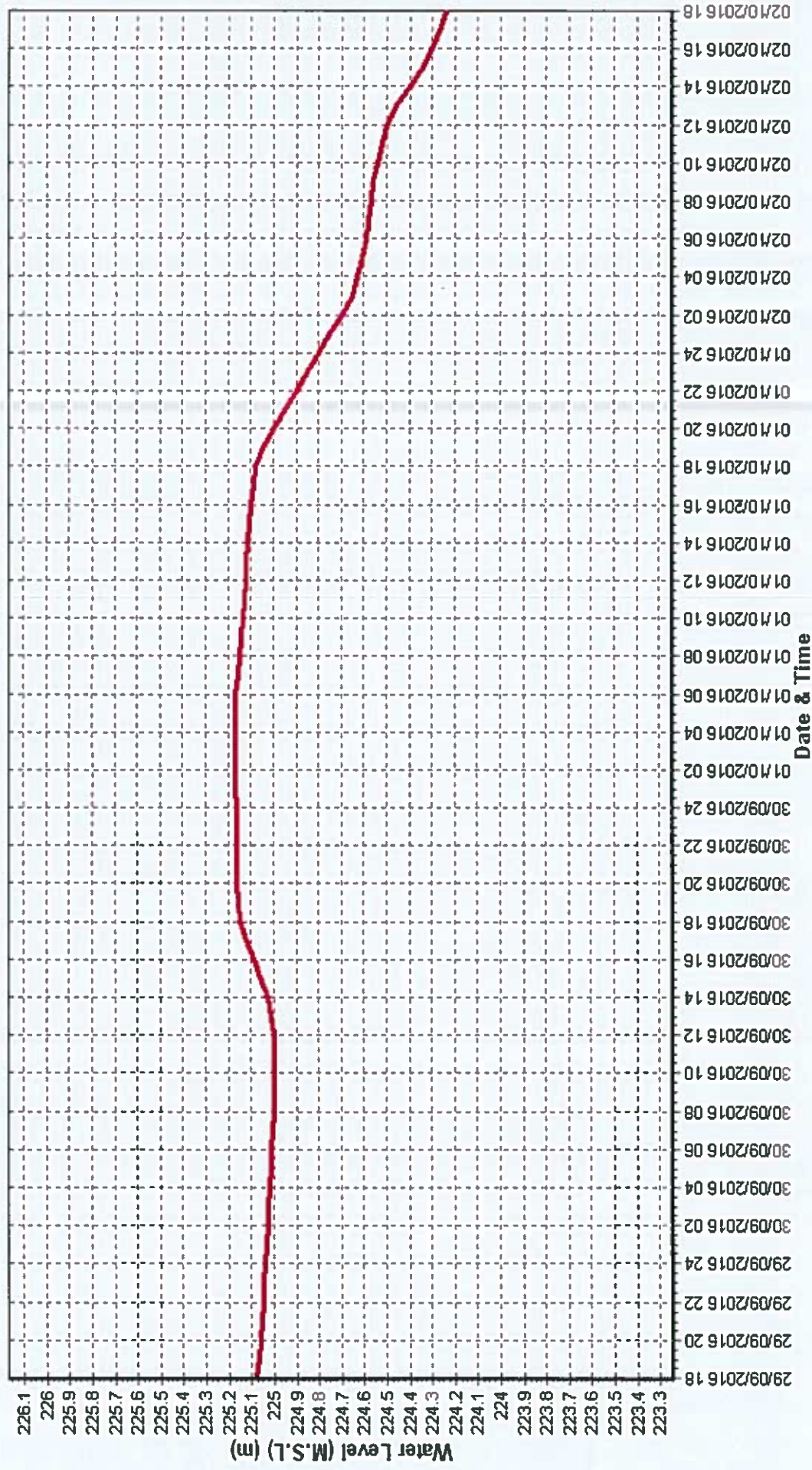
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



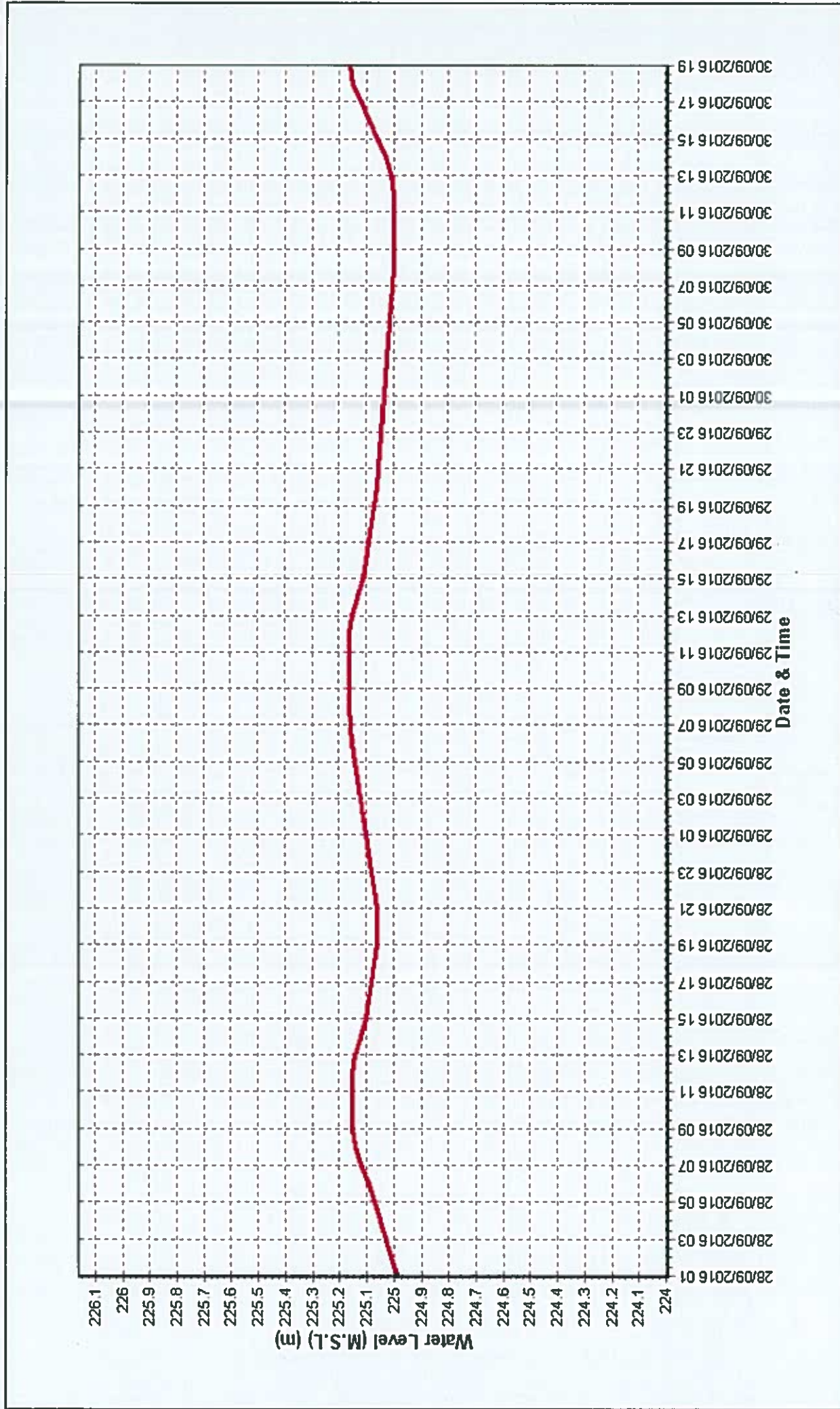
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

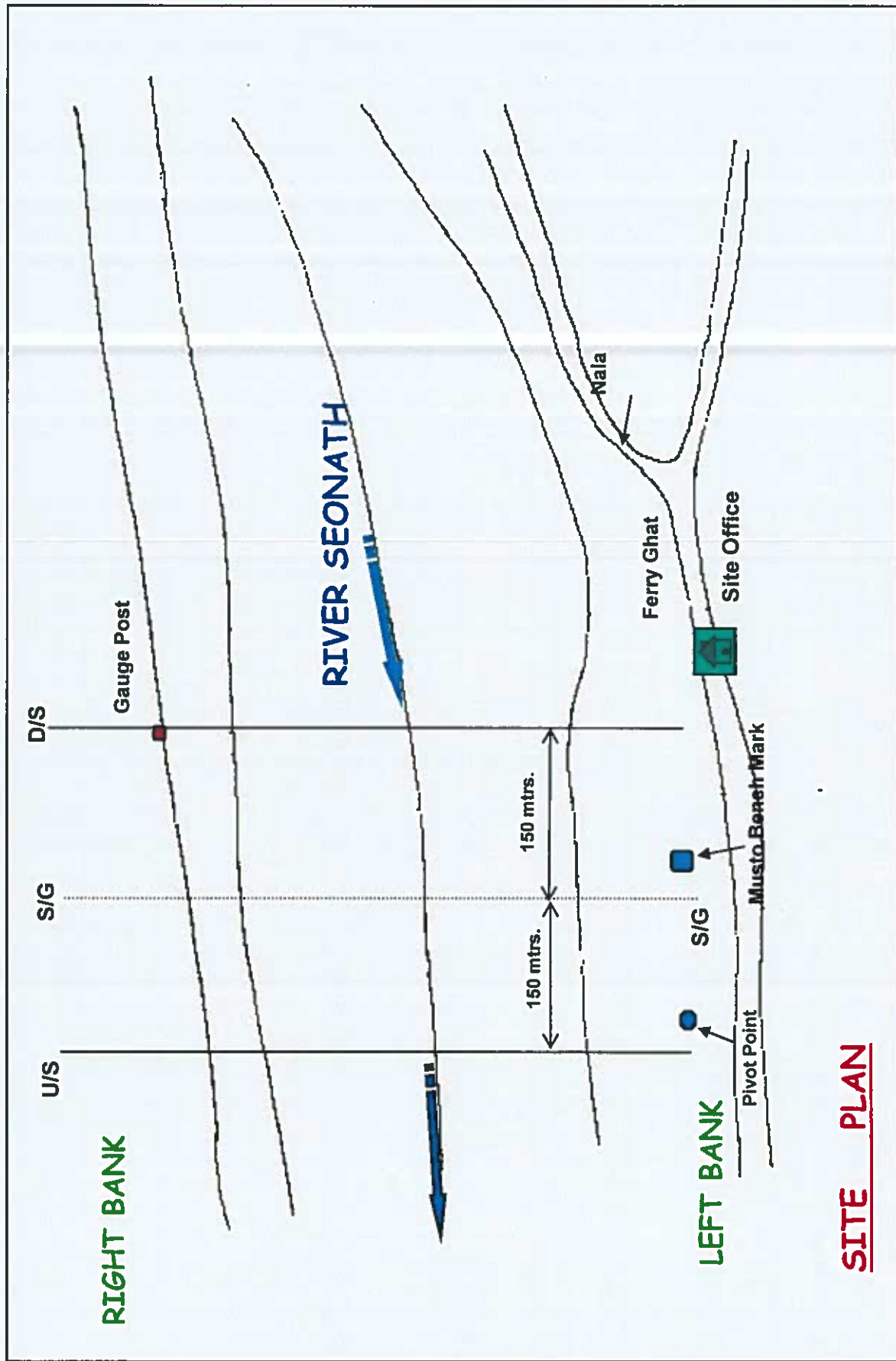
Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur





SECTION – II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day	Jun					Jul					Aug							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	170.7	0.000	0.350	0.088	0.438	6451
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	160.7	0.000	0.260	0.065	0.325	4511
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	164.6	0.000	0.350	0.088	0.438	6221
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	149.6	0.000	0.010	0.003	0.013	162
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	165.5	0.000	0.300	0.070	0.370	5290
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	631.4	0.000	0.120	0.030	0.150	8182
7	0.000	0.000	0.000	0.000	0.000	0	2.600	0.000	0.480	0.120	0.600	135	2000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	2.512	0.000	0.530	0.133	0.663	144	2837	0.000	3.350	0.838	4.188	1026351
9	0.000	0.000	0.000	0.000	0.000	0	59.57	0.000	0.550	0.138	0.688	3539	1553	0.000	1.030	0.258	1.288	172718
10	0.000	0.000	0.000	0.000	0.000	0	70.00	0.000	0.000	0.000	0.000	0	719.9	0.000	1.060	0.265	1.325	82414
11	0.000	0.000	0.000	0.000	0.000	0	100.9	0.000	0.230	0.057	0.287	2503	663.0	0.000	0.720	0.180	0.900	51557
12	0.000	0.000	0.000	0.000	0.000	0	106.7	0.000	0.135	0.034	0.169	1557	668.1	0.000	0.230	0.058	0.288	16595
13	0.000	0.000	0.000	0.000	0.000	0	283.6	0.000	0.240	0.060	0.300	7351	628.6	0.000	0.210	0.053	0.263	14256
14	0.000	0.000	0.000	0.000	0.000	0	269.0	0.000	0.210	0.053	0.263	6102	500.0	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	247.7	0.000	0.116	0.028	0.144	3071	490.0	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	220.3	0.000	0.110	0.016	0.126	2398	161.2	0.000	0.180	0.045	0.225	3134
17	0.000	0.000	0.000	0.000	0.000	0	220.0	0.000	0.000	0.000	0.000	0	148.6	0.000	0.150	0.038	0.188	2408
18	0.000	0.000	0.000	0.000	0.000	0	126.4	0.000	0.120	0.017	0.137	1497	143.2	0.000	0.160	0.040	0.200	2475
19	0.000	0.000	0.000	0.000	0.000	0	202.1	0.000	0.110	0.028	0.138	2401	136.4	0.000	0.210	0.053	0.263	3094
20	0.000	0.000	0.000	0.000	0.000	0	257.1	0.000	0.320	0.080	0.400	8884	153.1	0.000	0.120	0.030	0.150	1985
21	0.000	0.000	0.000	0.000	0.000	0	170.2	0.000	0.600	0.150	0.750	11028	175.0	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	178.2	0.000	0.440	0.110	0.550	8469	117.2	0.000	0.110	0.028	0.138	1392
23	0.000	0.000	0.000	0.000	0.000	0	255.0	0.000	1.160	0.290	1.450	31948	110.5	0.000	0.040	0.010	0.050	477
24	0.000	0.000	0.000	0.000	0.000	0	700.0	0.000	0.000	0.000	0.000	0	92.95	0.000	0.370	0.093	0.463	3714
25	0.000	0.000	0.000	0.000	0.000	0	672.0	0.000	1.950	0.488	2.438	141519	184.9	0.000	0.160	0.040	0.200	3195
26	0.000	0.000	0.000	0.000	0.000	0	625.8	0.000	1.600	0.400	2.000	108141	74.12	0.000	0.150	0.038	0.188	1201
27	0.000	0.000	0.000	0.000	0.000	0	684.2	0.000	0.290	0.073	0.363	21428	90.63	0.000	0.320	0.080	0.400	3132
28	0.000	0.000	0.000	0.000	0.000	0	667.0	0.000	1.230	0.308	1.538	88600	350.0	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	291.7	0.000	0.380	0.095	0.475	11972	327.8	0.000	0.871	0.218	1.089	30835
30	0.000	0.000	0.000	0.000	0.000	0	286.0	0.000	0.840	0.210	1.050	25950	338.8	0.000	0.792	0.198	0.990	28978
31							290.0	0.000	0.000	0.000	0.000	0	325.9	0.000	0.631	0.158	0.789	22209
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	13.47	0.000	0.156	0.039	0.195	382	855.2	0.000	0.683	0.170	0.853	131230
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	203.4	0.000	0.159	0.037	0.196	3576	369.2	0.000	0.198	0.050	0.248	9550
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	438.2	0.000	0.772	0.193	0.965	40823	198.9	0.000	0.313	0.078	0.391	8649
Monthly																		
Total						0						488636						1502939

588

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Jondhra (EMP000A4)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day		Sep					Oct					Nov							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	435.2	0.000	0.420	0.105	0.525	19739	2545	0.000	0.220	0.055	0.275	60468	144.8	0.000	0.000	0.000	0.000	0	
2	338.4	0.000	0.240	0.060	0.300	8770	1800	0.000	0.000	0.000	0.000	0	140.9	0.000	0.000	0.000	0.000	0	
3	344.5	0.000	0.330	0.083	0.413	12276	1184	0.000	0.280	0.070	0.350	35819	138.8	0.000	0.000	0.000	0.000	0	
4	390.0	0.000	0.000	0.000	0.000	0	833.5	0.000	0.610	0.153	0.763	54910	82.17	0.000	0.000	0.000	0.000	0	
5	339.2	0.000	0.390	0.098	0.488	14287	727.9	0.000	0.260	0.065	0.325	20439	67.70	0.000	0.000	0.000	0.000	0	
6	345.0	0.000	0.260	0.065	0.325	9689	638.4	0.000	0.270	0.068	0.338	18616	42.00	0.000	0.000	0.000	0.000	0	
7	305.1	0.000	0.340	0.085	0.425	11202	457.9	0.000	0.170	0.043	0.213	8406	41.27	0.000	0.000	0.050	0.050	178	
8	293.9	0.000	0.300	0.075	0.375	9521	489.4	0.000	0.140	0.035	0.175	7400	40.06	0.000	0.000	0.000	0.000	0	
9	235.6	0.000	0.460	0.115	0.575	11703	820.0	0.000	0.000	0.000	0.000	0	39.85	0.000	0.000	0.000	0.000	0	
10	308.8	0.000	0.420	0.105	0.525	14007	1200	0.000	0.000	0.000	0.000	0	41.86	0.000	0.000	0.000	0.000	0	
11	300.0	0.000	0.000	0.000	0.000	0	1620	0.000	0.000	0.000	0.000	0	40.12	0.000	0.000	0.000	0.000	0	
12	293.4	0.000	0.570	0.143	0.713	18063	1220	0.000	0.000	0.000	0.000	0	41.64	0.000	0.000	0.000	0.000	0	
13	1680	0.000	0.000	0.000	0.000	0	844.1	0.000	0.430	0.108	0.538	39200	45.00	0.000	0.000	0.000	0.000	0	
14	2204	0.000	3.000	0.758	3.758	715454	611.1	0.000	0.460	0.115	0.575	30361	44.00	0.000	0.000	0.000	0.000	0	
15	1367	0.000	1.700	0.425	2.125	251016	597.5	0.000	0.370	0.093	0.463	23877	43.79	0.000	0.000	0.000	0.000	0	
16	746.9	0.000	0.200	0.050	0.250	16132	390.0	0.000	0.000	0.000	0.000	0	44.76	0.000	0.000	0.000	0.000	0	
17	633.1	0.000	0.360	0.090	0.450	24614	347.7	0.000	0.130	0.033	0.163	4882	41.63	0.000	0.000	0.000	0.000	0	
18	410.0	0.000	0.000	0.000	0.000	0	327.1	0.000	0.140	0.035	0.175	4945	41.34	0.000	0.000	0.000	0.000	0	
19	397.8	0.000	0.070	0.018	0.088	3007	314.2	0.000	0.160	0.040	0.200	5429	47.22	0.000	0.000	0.000	0.000	0	
20	382.7	0.000	0.090	0.023	0.113	3719	219.7	0.000	0.290	0.073	0.363	6882	43.00	0.000	0.000	0.000	0.000	0	
21	308.3	0.000	0.100	0.250	0.350	9322	197.5	0.000	0.050	0.013	0.063	1067	41.80	0.000	0.000	0.037	0.037	135	
22	415.7	0.000	0.320	0.080	0.400	14367	190.5	0.000	0.120	0.030	0.150	2469	40.40	0.000	0.000	0.000	0.000	0	
23	350.9	0.000	0.140	0.035	0.175	5306	170.0	0.000	0.000	0.000	0.000	0	43.70	0.000	0.000	0.000	0.000	0	
24	324.0	0.000	0.210	0.053	0.263	7349	153.8	0.000	0.130	0.033	0.163	2160	43.64	0.000	0.000	0.000	0.000	0	
25	315.0	0.000	0.000	0.000	0.000	0	146.9	0.000	0.410	0.103	0.513	6507	44.66	0.000	0.000	0.000	0.000	0	
26	316.0	0.000	0.130	0.033	0.163	4436	140.9	0.000	0.170	0.043	0.213	2588	44.75	0.000	0.000	0.000	0.000	0	
27	1560	0.000	0.550	0.138	0.688	92689	129.2	0.000	0.120	0.030	0.150	1674	44.50	0.000	0.000	0.000	0.000	0	
28	2589	0.000	1.480	0.370	1.850	413856	144.8	0.000	0.150	0.038	0.188	2345	40.43	0.000	0.000	0.033	0.033	115	
29	2660	0.000	0.620	0.155	0.775	178112	150.1	0.000	0.160	0.040	0.200	2595	39.47	0.000	0.000	0.000	0.000	0	
30	2458	0.000	2.000	0.135	2.135	453442	150.0	0.000	0.000	0.000	0.000	0	38.05	0.000	0.000	0.000	0.000	0	
31							142.1	0.000	0.210	0.053	0.263	3224							
Ten Daily Mean																			
Ten Daily I		333.6	0.000	0.316	0.079	0.395	11119	1070	0.000	0.195	0.049	0.244	20606	77.94	0.000	0.000	0.005	0.005	18
Ten Daily II		841.5	0.000	0.599	0.151	0.750	103201	649.1	0.000	0.198	0.050	0.248	11558	43.25	0.000	0.000	0.000	0.000	0
Ten Daily III		1130	0.000	0.555	0.125	0.680	117888	156.0	0.000	0.138	0.035	0.173	2239	42.14	0.000	0.000	0.007	0.007	25
Monthly																			
total						2322079						346263						427	

290

Annual Sediment Load (Metric Tonnes) : 4660344

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

Day		Dec					Jan					Feb						
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	38.09	0.000	0.000	0.000	0.000	0	16.00	0.000	0.000	0.000	0.000	0	0.806	0.000	0.000	0.000	0.000	0
2	40.36	0.000	0.000	0.000	0.000	0	17.18	0.000	0.000	0.000	0.000	0	0.787	0.000	0.000	0.000	0.000	0
3	38.22	0.000	0.000	0.000	0.000	0	17.93	0.000	0.000	0.000	0.000	0	0.782	0.000	0.000	0.000	0.000	0
4	30.00	0.000	0.000	0.000	0.000	0	16.88	0.000	0.000	0.000	0.000	0	0.774	0.000	0.000	0.000	0.000	0
5	36.37	0.000	0.000	0.000	0.000	0	16.93	0.000	0.000	0.000	0.000	0	0.680	0.000	0.000	0.000	0.000	0
6	30.85	0.000	0.000	0.000	0.000	0	14.58	0.000	0.000	0.000	0.000	0	0.727	0.000	0.000	0.000	0.000	0
7	31.32	0.000	0.000	0.000	0.000	0	14.77	0.000	0.000	0.000	0.000	0	0.680	0.000	0.000	0.000	0.000	0
8	30.33	0.000	0.000	0.000	0.000	0	7.000	0.000	0.000	0.000	0.000	0	0.700	0.000	0.000	0.000	0.000	0
9	30.19	0.000	0.000	0.000	0.000	0	13.73	0.000	0.000	0.000	0.000	0	0.684	0.000	0.000	0.000	0.000	0
10	30.94	0.000	0.000	0.000	0.000	0	13.77	0.000	0.000	0.000	0.000	0	0.693	0.000	0.000	0.000	0.000	0
11	35.00	0.000	0.000	0.000	0.000	0	2.083	0.000	0.000	0.000	0.000	0	0.725	0.000	0.000	0.000	0.000	0
12	35.10	0.000	0.000	0.000	0.000	0	1.966	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0
13	30.75	0.000	0.000	0.000	0.000	0	1.877	0.000	0.000	0.000	0.000	0	0.679	0.000	0.000	0.000	0.000	0
14	30.75	0.000	0.000	0.000	0.000	0	1.788	0.000	0.000	0.000	0.000	0	0.679	0.000	0.000	0.000	0.000	0
15	30.69	0.000	0.000	0.000	0.000	0	11.00	0.000	0.000	0.000	0.000	0	0.728	0.000	0.000	0.000	0.000	0
16	30.53	0.000	0.000	0.000	0.000	0	1.853	0.000	0.000	0.000	0.000	0	0.710	0.000	0.000	0.000	0.000	0
17	34.14	0.000	0.000	0.000	0.000	0	1.861	0.000	0.000	0.000	0.000	0	0.706	0.000	0.000	0.000	0.000	0
18	40.00	0.000	0.000	0.000	0.000	0	1.966	0.000	0.000	0.000	0.000	0	0.703	0.000	0.000	0.000	0.000	0
19	29.41	0.000	0.000	0.000	0.000	0	1.952	0.000	0.000	0.000	0.000	0	0.600	0.000	0.000	0.000	0.000	0
20	27.76	0.000	0.000	0.000	0.000	0	1.987	0.000	0.000	0.000	0.000	0	3.455	0.000	0.000	0.000	0.000	0
21	28.49	0.000	0.000	0.000	0.000	0	1.965	0.000	0.000	0.000	0.000	0	3.418	0.000	0.000	0.000	0.000	0
22	27.88	0.000	0.000	0.000	0.000	0	5.000	0.000	0.000	0.000	0.000	0	3.411	0.000	0.000	0.000	0.000	0
23	27.90	0.000	0.000	0.000	0.000	0	0.793	0.000	0.000	0.000	0.000	0	3.309	0.000	0.000	0.000	0.000	0
24	13.27	0.000	0.000	0.000	0.000	0	0.753	0.000	0.000	0.000	0.000	0	3.284	0.000	0.000	0.000	0.000	0
25	27.00	0.000	0.000	0.000	0.000	0	0.898	0.000	0.000	0.000	0.000	0	3.281	0.000	0.000	0.000	0.000	0
26	10.92	0.000	0.000	0.000	0.000	0	3.500	0.000	0.000	0.000	0.000	0	1.400	0.000	0.000	0.000	0.000	0
27	10.82	0.000	0.000	0.000	0.000	0	0.945	0.000	0.000	0.000	0.000	0	1.476	0.000	0.000	0.000	0.000	0
28	11.10	0.000	0.000	0.000	0.000	0	0.900	0.000	0.000	0.000	0.000	0	1.494	0.000	0.000	0.000	0.000	0
29	24.76	0.000	0.000	0.000	0.000	0	3.600	0.000	0.000	0.000	0.000	0						
30	15.56	0.000	0.000	0.000	0.000	0	0.869	0.000	0.000	0.000	0.000	0						
31	15.47	0.000	0.000	0.000	0.000	0	0.789	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I		33.67	0.000	0.000	0.000	0	14.88	0.000	0.000	0.000	0.000	0	0.731	0.000	0.000	0.000	0.000	0
Ten Daily II		32.41	0.000	0.000	0.000	0	2.833	0.000	0.000	0.000	0.000	0	0.968	0.000	0.000	0.000	0.000	0
Ten Daily III		19.38	0.000	0.000	0.000	0	1.819	0.000	0.000	0.000	0.000	0	2.634	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 4660344

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Jondhra (EMP000A4)

Local River : Seonath

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur

Day	Mar					Apr					May							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.491	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	1.497	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	1.887	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	1.908	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1.950	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	3.381	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	3.458	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	3.492	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	3.487	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	3.388	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	4.899	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	1.915	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	1.915	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	4.916	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	4.913	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	4.795	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	5.036	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	4.841	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	1.915	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	4.930	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	4.908	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	4.557	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	4.504	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	4.582	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	4.604	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	4.500	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	1.328	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	1.338	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	1.306	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	1.318	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	1.281	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	2.594	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	4.008	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	3.111	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 4660344

Annual Sediment Load for period : 1981-2017

Station Name : Jondhra (EMP00A4)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : MMSD I,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1981-1982	2701888	2011	2703899	7046
1982-1983	3658286	5202	3663488	5009
1983-1984	5135428	1308	5136736	9778
1984-1985	8157193	1735	8158928	9710
1985-1986	5425689	9220	5434909	10655
1986-1987	8187572	33010	8220582	12246
1987-1988	2655124	1929	2657052	4053
1988-1989	8515717	0	8515717	6278
1989-1990	1237887	16	1237903	4301
1990-1991	5108016	3258	5111274	16569
1991-1992	1021262	1232	1022494	6809
1992-1993	3050087	284	3050371	5686
1993-1994	3122400	1977	3124377	8357
1994-1995	13426735	2620	13429354	21847
1995-1996	2552604	1193	2553797	7585
1996-1997	2390221	26	2390248	5954
1997-1998	3805375	13454	3818829	9442
1998-1999	2054269	1364	2055633	6537
1999-2000	2213743	256	2213999	7977
2000-2001	553284	143	553428	2195
2001-2002	4547058	343	4547401	9440
2002-2003	1119259	124	1119384	2903
2003-2004	3093789	2013	3095803	12729
2004-2005	3093620	2614	3096234	6274
2005-2006	5875061	172	5875233	12716
2006-2007	4143875	366	4144241	7523
2007-2008	4596384	255	4596639	10316
2008-2009	2940115	1588	2941703	3492
2009-2010	1732725	402	1733127	4318
2010-2011	4725718	0	4725718	9213
2011-2012	4353170	0	4353170	11430
2012-2013	1273982	0	1273982	11031
2013-2014	4531292	0	4531292	17748
2014-2015	10841746	0	10841746	15736
2015-2016	1064156	0	1064156	2969
2016-2017	4660344	0	4660344	5721

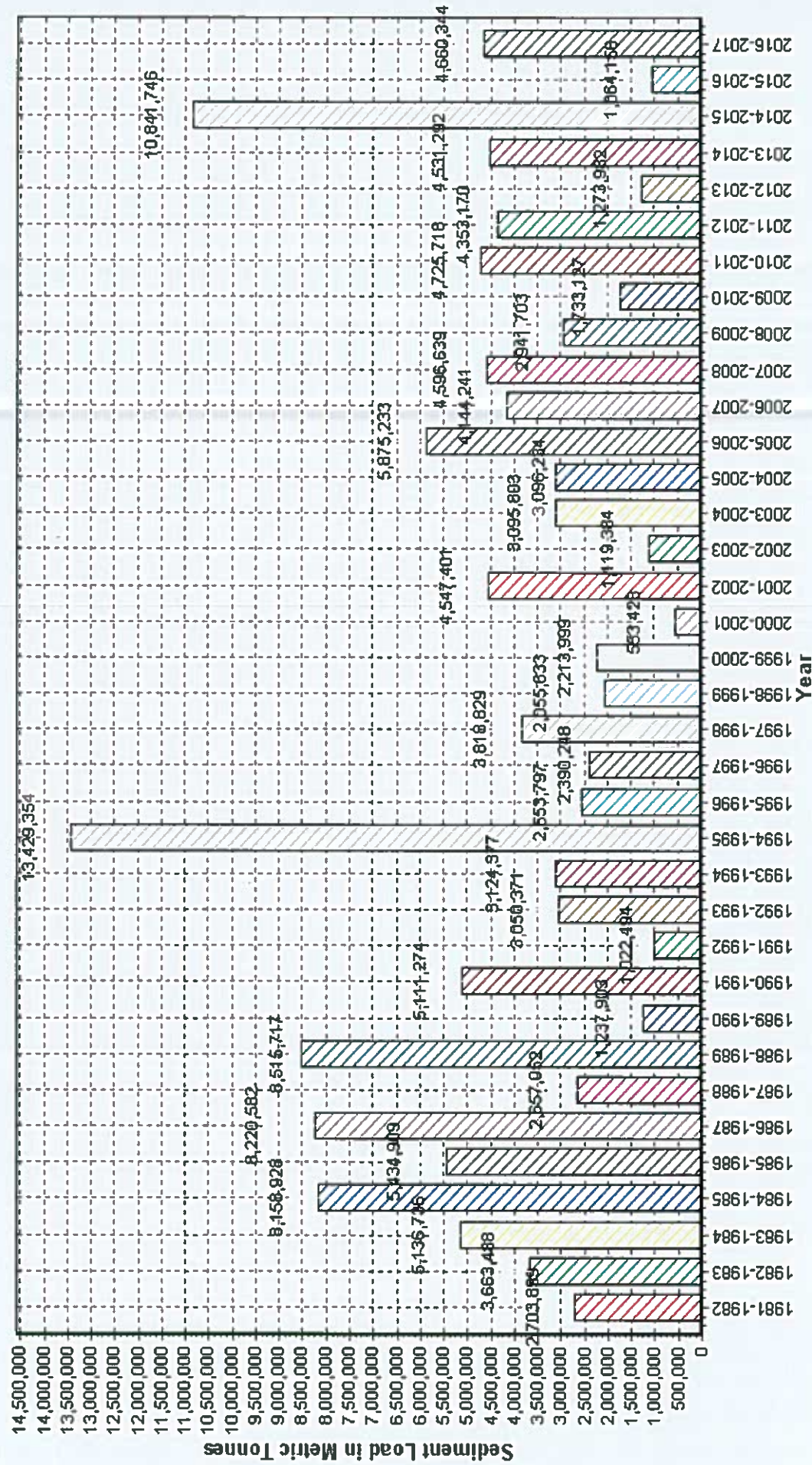
Annual Sediment Load for the period: 1981-2017

Station Name : Jondhra (EMP00AA4)

Local River : Seonath

Division : MD,CWC,Burla

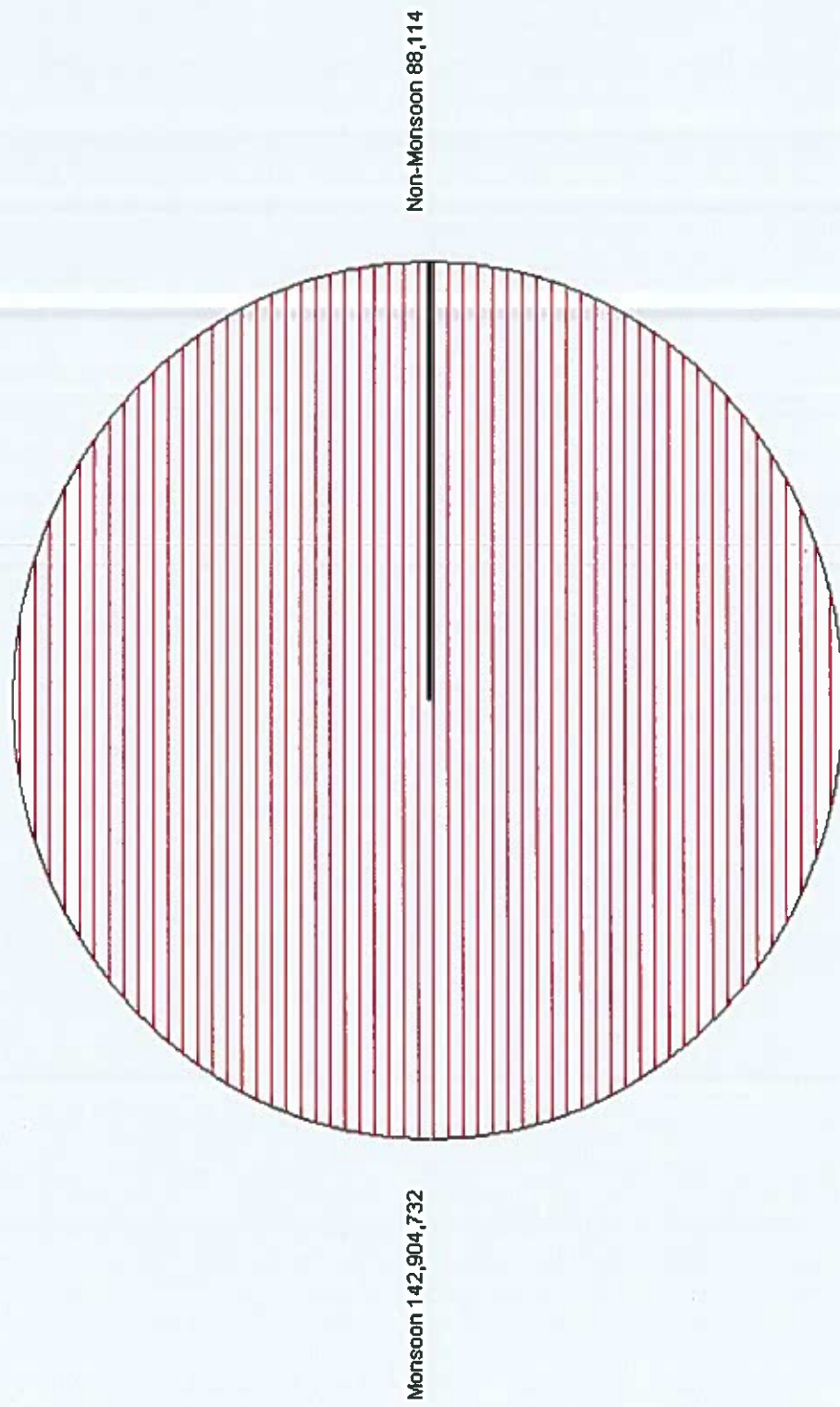
Sub-Division : MMSD I,CWC,Raipur



Seasonal Sediment Load for the period : 1981-2016

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

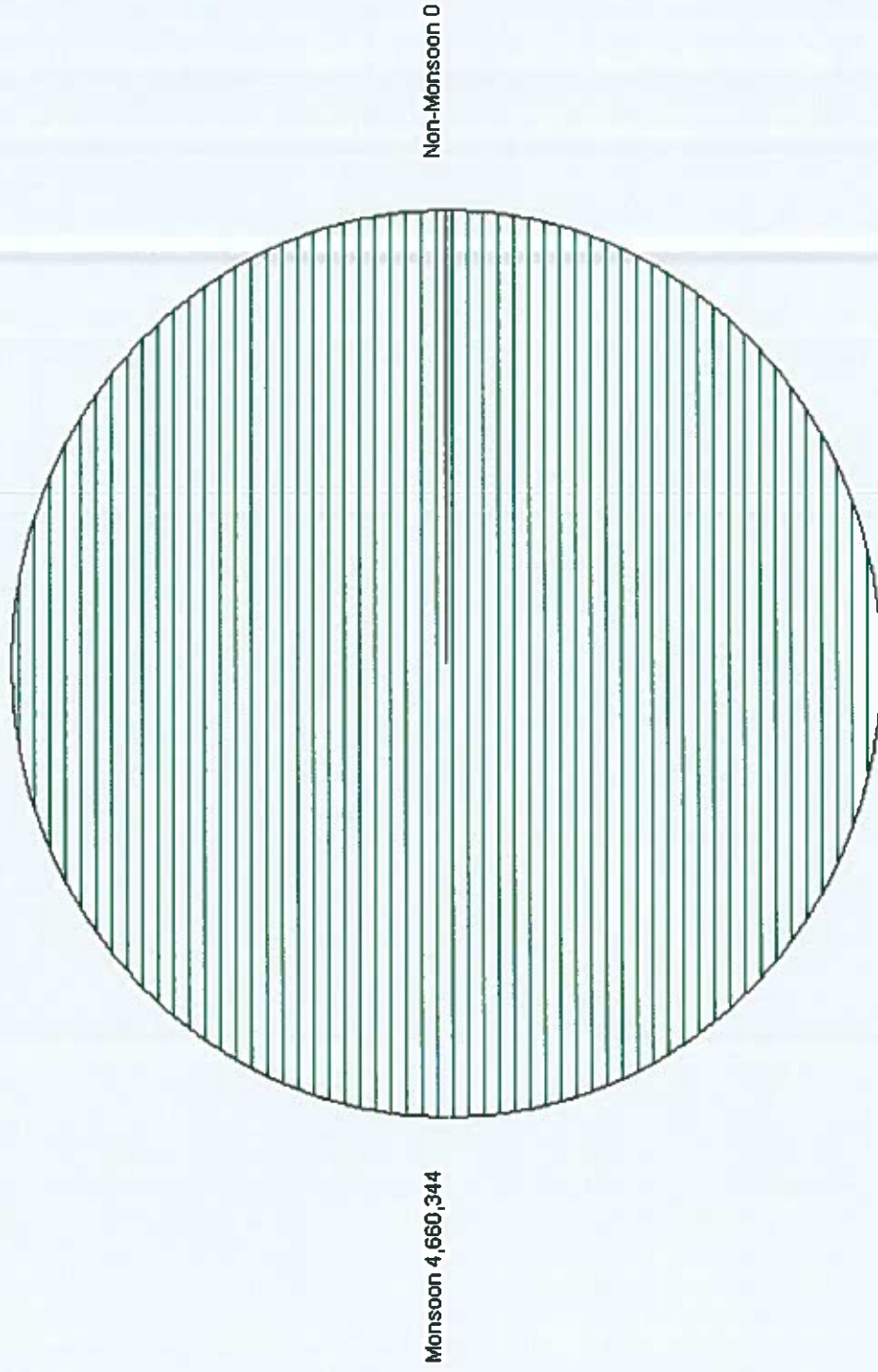


295

Seasonal Sediment Load for the Year: 2016-2017

Station Name : Jondhra (EMP00A4)
Local River : Seonath

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
	PHYSICAL	A	A	A	A	A	A	A	A	A	A	A	A
1	Q (cumec)	0.000	0.000	170.7	435.2	2545	144.8	38.09	17.18	0.806	1.491	0.000	0.000
2	Colour_Cod (-)			Brown	Brown	Brown	Dark Brown	Clear	Clear	Clear	Clear	Clear	
3	EC_FLD (µmho/cm)				217	217	313	325	354	279	331	399	
4	EC_GEN (µmho/cm)			184	249	171	289	275	338	357	342	392	
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	
6	pH_FLD (pH units)				7.9	7.7	8.3	8.4	8.5	8.2	8.4	8.7	
7	pH_GEN (pH units)			6.9	6.8	7.1	8.6	8.0	8.7	8.4	8.7	8.2	
8	Temp (deg C)			28.5	29.0	27.4	25.5	19.5	18.0	17.5	22.0	32.5	
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)			184	76	92	108	84	96	120	180	204	
3	Ca (mg/L)			40	37	46	50	32	51	40	37	43	
4	Cl (mg/L)			15.0	16.0	35.0	29.0	35.0	28.0	35.0	47.0	42.0	
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	HCO3 (mg/L)			112	46	56	66	51	59	73	110	124	
7	K (mg/L)			10.9	13.7	7.4	10.1	6.9	6.9	8.2	14.7	8.2	
8	Mg (mg/L)			1.0	16.5	8.6	3.9	3.9	7.8	43.7	14.6	14.6	
9	Na (mg/L)			11.5	18.8	25.2	28.5	18.3	13.8	16.6	50.5	47.4	
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			1.1	1.2	0.8	1.9	1.0	0.6	1.2	2.8	2.2	
2	DO (mg/L)			5.5	6.0	5.6	7.9	5.5	6.2	7.0	8.3	7.2	
3	DO_SAT% (%)			70	78	70	96	59	65	73	95	99	
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			100	92	116	124	80	128	100	92	108	
2	HAR_Total (mgCaCO3/L)			104	161	152	140	96	161	282	153	169	
3	Na% (%)			17	19	25	29	28	15	11	39	37	
4	RSC (-)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	SAR (-)			0.5	0.6	0.9	1.0	0.8	0.5	0.4	1.8	1.6	
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Jondhra (EMP00A4)

Division : MD,CWC,Burla

Local River : Seonath

Sub-Division : MMSD I,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	2837	0.000	181.4
2	EC_FLD (µmho/cm)	8	399	217	304
3	EC_GEN (µmho/cm)	9	392	171	289
4	pH_FLD (pH units)	8	8.7	7.7	8.3
5	pH_GEN (pH units)	9	8.7	6.8	7.9
6	Temp (deg C)	9	32.5	17.5	24.4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	9	204	76	127
3	Ca (mg/L)	9	51	32	42
4	Cl (mg/L)	9	47.0	15.0	31.3
5	CO3 (mg/L)	9	0.0	0.0	0
6	HCO3 (mg/L)	9	124	46	78
7	K (mg/L)	9	14.7	6.9	9.7
8	Mg (mg/L)	9	43.7	1.0	12.7
9	Na (mg/L)	9	50.5	11.5	25.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	2.8	0.6	1.4
2	DO (mg/L)	9	8.3	5.5	6.6
3	DO_SAT% (%)	9	99	59	78
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	128	80	105
2	HAR_Total (mgCaCO3/L)	9	282	96	158
3	Na% (%)	9	39	11	24
4	RSC (-)	9	0.0	0.0	0
5	SAR (-)	9	1.8	0.4	0.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	241.6	1271	373.3	1150	925.3	1779	162.3	133.1	518.5	634.6	688.2	1507	873.0	166.1	630.2
2	EC_FLD (µmho/cm)	236	165	297	261	286	181									217
3	EC_GEN (µmho/cm)	236	165	297	261	286	180	253	263	245	287	277	241	246	272	201
4	pH_FLD (pH units)	7.9	7.6	8.1	8.0	7.9	7.7	7.6	7.7	7.4	7.4					7.8
5	pH_GEN (pH units)	7.9	7.7	8.1	8.0	7.9	7.5	7.6	8.0	7.6	7.6	7.8	8.2	8.0	8.0	6.9
6	Temp (deg C)	27.0	30.0	30.8	30.2	25.5	28.0	29.1	29.0	29.7	27.9	29.2	28.9	28.7	29.2	28.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	1.6	0.0	0.0	3.0		0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	10.5	0.0
2	ALK-TOT (mgCaCO3/L)	134	66	253	153		138	187	183	173	202	185	208	239	249	117
3	B (mg/L)				0.09		0.01	0.01	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	23	21	37	17		15	17	19	20	24	23	29	35	35	41
5	Cl (mg/L)	8.5	23.0	20.8	37.7		8.0	20.5	12.3	6.2	8.9	11.0	18.8	16.0	22.7	22.0
6	CO3 (mg/L)	2.0	0.0	0.0	3.6		0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	12.7	0.0
7	F (mg/L)		4.55		0.18		0.10	0.13	0.19	0.16	0.21	0.21				
8	Fe (mg/L)				0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	80	40	199	89		84	114	106	105	123	113	127	146	139	72
10	K (mg/L)	6.2			5.4		2.4	2.2	2.7	3.2	3.1	2.2	5.3	5.1	8.6	10.7
11	Mg (mg/L)	8.1	3.5	21.6	8.6		8.8	8.5	10.5	12.4	13.1	13.3	7.5	11.3	14.6	8.7
12	Na (mg/L)	8.8			22.3		15.7	9.0	6.7	11.2	12.5	13.4	10.7	18.3	19.0	18.5
13	NO2+NO3 (mg N/L)				0.04		0.09	0.50								
14	NO2-N (mgN/L)				0.00		0.01	0.02	0.02	0.02	0.03	0.05				
15	NO3-N (mgN/L)				0.04	0.14	0.08	0.48								
16	P-Tot (mgP/L)						0.012	0.030	0.107	0.037	0.037	0.047				
17	SiO2 (mg/L)				10.6		7.1	22.5	26.1	13.0	17.6	15.5				
18	SO4 (mg/L)	14.0	11.5	7.2	13.5		13.8	9.6	13.7	16.7	18.0	20.3				

533

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Jondhra (EMP00A4)

Division : MD,CWC,Burla

Local River : Seonath

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	0.8	0.8	1.0	0.6	3.4	0.7	1.4	1.4	1.4	0.9	0.8	1.2	0.7	1.0
2	COD (mg/L)						14.3	72.0	20.0	22.7	29.0	22.7				
3	DO (mg/L)	8.1	3.9	5.5	4.9	5.5	6.6	4.6	6.4	6.3	6.3	7.6	7.0	6.5	6.4	5.7
4	DO_SAT% (%)	101	53	75	65	67	84	60	83	83	80	99	90	84	83	73
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	57	56	92	42		37	43	47	49	59	57	72	87	88	103
2	HAR_Total (mgCaCO3/L)	90	73	180	78		73	78	91	101	113	113	103	134	149	139
3	Na% (%)	18			32		32	18	13	19	18	20	17	23	20	21
4	RSC (-)	0.1	0.0	0.0	0.1		0.0	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
5	SAR (-)	0.4			1.0		0.8	0.4	0.3	0.5	0.5	0.5	0.5	0.7	0.7	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Jondhra (EMP00A4)

Local River : Seonath

River Water

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	Winter																
		Nov - Feb																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	11.85	152.7	39.20	90.31	32.88	47.19	18.01	12.80	0.000	0.000	39.71	199.5	119.3	11.09	50.23		
2	EC_FLD (umho/cm)	373	371	505	426	337	452									318		
3	EC_GEN (umho/cm)	373	371	505	426	337	436	451	361			396	279	339	337	315		
4	pH_FLD (pH units)	8.4	8.1	8.1	7.5	8.2	8.2	7.2	7.6							8.3		
5	pH_GEN (pH units)	8.4	8.1	8.1	7.5	8.2	8.2	8.2	8.5			7.8	7.8	8.4	8.7	8.4		
6	Temp (deg C)	22.5	22.5	23.3	24.8	23.0	21.4	22.0	23.8			20.0	24.5	21.5	21.3	20.1		
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	4.2	0.0	0.0	0.0		2.3	6.0	18.1			0.0	0.0	0.0	4.0	0.0		
2	ALK-TOT (mgCaCO3/L)	275	308	316	308		295	310	158			247	284	318	234	102		
3	B (mg/L)				0.08		0.01	0.00	0.00			0.00						
4	Ca (mg/L)	33	46	36	33		30	32	28			34	37	42	30	43		
5	Cl (mg/L)	11.5	20.0	14.5	51.6		40.7	46.2	12.6			13.5	20.0	28.0	23.5	31.8		
6	CO3 (mg/L)	5.1	0.0	0.0	0.0		2.8	7.2	21.8			0.0	0.0	0.0	4.8	0.0		
7	F (mg/L)		1.09		0.20		0.23	0.17	0.15			0.30						
8	Fe (mg/L)				0.0	0.0	0.0	0.1	0.0			0.0						
9	HCO3 (mg/L)	163	153	192	188		177	182	74			151	173	194	138	62		
10	K (mg/L)	5.7		2.3	2.8		4.1	3.3	3.5			2.4	24.5	4.2	4.8	8.0		
11	Mg (mg/L)	10.1	14.2	18.7	19.2		19.2	19.1	21.4			18.4	8.8	18.5	12.6	14.8		
12	Na (mg/L)	34.7		43.6	32.6		23.8	31.8	13.5			35.8	20.4	24.0	23.3	19.3		
13	NO2+NO3 (mg N/L)			0.22	0.05		0.11	0.51										
14	NO2-N (mgN/L)				0.00		0.01	0.02	0.03			0.03						
15	NO3-N (mgN/L)				0.05	0.05	0.10	0.49										
16	P-Tot (mgP/L)			0.030	0.011		0.025	0.092	0.027			0.035						
17	SiO2 (mg/L)				11.3		18.0	21.5	24.2			14.3						
18	SO4 (mg/L)	8.2	26.9	28.6	26.1		31.8	37.3	28.3			18.2						

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Jondhra (EMP00A4)

Division : MD, CWC, Burla

Local River : Seonath

River Water

Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	0.7	1.0	0.9	0.2	1.0	0.5	1.7			1.4	0.5	1.3	0.8	1.2
2	COD (mg/L)						23.0	37.0	46.7			24.0				
3	DO (mg/L)	8.4	5.6	8.0	8.4	7.2	9.5	8.7	9.9			8.2	8.3	9.6	9.8	6.6
4	DO_SAT% (%)	96	84	94	100	84	106	99	117			89	99	109	109	73
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	83	97	89	81		75	81	70			85	92	106	74	108
2	HAR_Total (mgCaCO3/L)	125	151	166	161		155	160	159			162	129	183	127	170
3	Na% (%)	15		37	30		24	30	15			31	22	21	27	21
4	RSC (-)	0.3		0.2	0.1		0.1	0.1	0.0			0.0	0.3	0.0	0.4	0.0
5	SAR (-)	0.5		1.5	1.1		0.8	1.1	0.5			1.2	0.8	0.8	0.9	0.7
	PESTICIDES															

Station Name : Jondhra (EMP000A4)

Local River : Seonath

Water Quality Seasonal Average for the period: 2002-2017

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	2.664	5.982	4.317	2.350	1.530	3.174	0.127	0.000	0.000	0.000	0.000	0.000	4.160	1.340	0.497
2	EC_FLD (µmho/cm)	525	620	427	405		514									365
3	EC_GEN (µmho/cm)	525	620	427	405		495	464							434	367
4	pH_FLD (pH units)	8.8	8.1	8.1	8.1		8.2	6.8								8.6
5	pH_GEN (pH units)	8.8	8.1	8.1	8.1		8.3	8.8							9.0	8.4
6	Temp (deg C)	28.0	26.5	30.3	32.0		29.7	24.5							27.0	27.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	7.0	0.0	3.3	4.0		4.3	22.1							3.0	0.0
2	ALK-TOT (mgCaCO3/L)	356	601	251	272		319	302							247	192
3	B (mg/L)				0.07		0.01	0.00								
4	Ca (mg/L)	43	58	24	31		30	35							30	40
5	Cl (mg/L)	4.0	38.0	8.1	40.0		60.7	36.5							43.0	44.5
6	CO3 (mg/L)	8.4	0.0	3.9	4.8		5.2	26.6							3.7	0.0
7	F (mg/L)			0.22	0.05		0.17	0.15								
8	Fe (mg/L)				0.1	0.0	0.0	0.0								
9	HCO3 (mg/L)	208	366	149	161		189	157							147	117
10	K (mg/L)			23.9	4.4		6.4	6.0							10.5	11.4
11	Mg (mg/L)	15.3	16.9	11.5	12.8		18.2	20.4							15.6	14.6
12	Na (mg/L)			41.7	40.2		53.8	36.4							35.5	49.0
13	NO2+NO3 (mg N/L)			0.26	0.09		0.42	0.33								
14	NO2-N (mgN/L)				0.01		0.02	0.03								
15	NO3-N (mgN/L)				0.08		0.41	0.30								
16	P-Tot (mgP/L)			0.020	0.066		0.040	0.040								
17	SiO2 (mg/L)				10.3		18.5	28.4								
18	SO4 (mg/L)		24.1	16.9	23.7		24.7	27.2								

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Jondhra (EMP000A4)

Division : MD,CWC,Burla

Local River : Seonath

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.4	1.1	1.0	1.4		1.4	2.4							0.9	2.5
2	COD (mg/L)						32.0	64.0								
3	DO (mg/L)	9.2	7.5	6.0	6.5		9.2	6.2							6.5	7.8
4	DO_SAT% (%)	117	90	77	90		120	74							82	97
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	109	144	61	77		76	86							76	100
2	HAR_Total (mgCaCO3/L)	172	214	108	130		151	171							141	161
3	Na% (%)			41	36		43	31							33	38
4	RSC (-)	0.3	2.4	0.5	0.3		0.5	0.1							0.1	0.0
5	SAR (-)			1.8	1.4		1.9	1.2							1.3	1.7
	PESTICIDES															

JONK SUB-BASIN

SITE RAMPUR

HISTORY SHEET

Water Year : 2016-2017

Site : Rampur

Code : EMN00B3

State : Chhattisgarh

District : Baloda Bazar

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Jonk

Sub Tributary :

Sub-Sub Tributary :

Local River : Jonk

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Drainage Area : 2920 Sq. Km.

Bank :

Latitude : 21°39'57"

Longitude : 82°31'30"

Zero of Gauge (m) : 219 (m.s.l)

01-09-1971 - 31-12-2010

Opening Date

Closing Date

Gauge : 29-01-1971

Discharge :

Sediment : 05-07-1976

Water Quality : 15-01-1972

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1971-1972	1290	223.290	28-07-1971	0.001	220.115	31-05-1972
1972-1973	1397	224.660	14-08-1972	0.100	220.265	28-01-1973
1973-1974	3320	227.195	15-07-1973	0.006	220.210	31-05-1974
1974-1975	356.0	225.000	18-08-1974	0.003	220.255	24-04-1975
1975-1976	1341	224.540	13-08-1975	0.002	220.310	23-05-1976
1976-1977	2132	225.145	14-08-1976	0.008	220.400	05-02-1977
1977-1978	1367	224.250	13-09-1977	0.019	220.450	19-02-1978
1978-1979	2472	226.000	29-08-1978	0.010	220.505	28-02-1979
1979-1980	1811	225.260	09-08-1979	0.036	220.360	08-01-1980
1980-1981	3163	226.730	19-09-1980	0.140	220.490	17-02-1981
1981-1982	712.8	223.180	22-08-1981	0.029	220.210	20-04-1982
1982-1983	4100	227.510	31-08-1982	0.003	220.255	03-06-1982
1983-1984	996.7	223.625	20-08-1983	0.024	220.395	21-06-1983
1984-1985	1433	224.965	09-08-1984	0.050	220.315	03-04-1985
1985-1986	1794	225.160	17-07-1985	0.008	220.430	27-05-1986
1986-1987	2063	225.025	21-08-1986	0.001	220.420	01-06-1986
1987-1988	2582	225.800	23-07-1987	0.010	220.255	29-03-1988
1988-1989	90.00	221.400	25-09-1988	0.020	220.160	06-02-1989
1989-1990	364.6	222.555	29-07-1989	0.021	220.170	24-02-1990
1990-1991	2850	226.130	04-09-1990	0.100	220.325	27-02-1991
1991-1992	863.7	223.720	30-07-1991	0.010	220.200	06-02-1992
1992-1993	3240	226.880	21-08-1992	0.076	220.295	17-02-1993

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1993-1994	2250	225.285	20-08-1993	0.067	220.195	10-02-1994
1994-1995	2815	226.575	10-07-1994	0.100	220.320	27-02-1995
1995-1996	2764	226.200	25-07-1995	0.086	220.205	08-02-1996
1996-1997	231.2	222.040	26-08-1996	0.047	220.215	20-12-1996
1997-1998	2520	226.010	30-08-1997	0.073	220.150	24-03-1998
1998-1999	316.6	222.350	11-09-1998	0.030	220.060	28-02-1999
1999-2000	1044	223.610	09-08-1999	0.072	220.015	24-03-2000
2000-2001	113.0	221.660	20-07-2000	0.500	220.110	10-04-2001
2001-2002	1383	224.100	09-07-2001	0.390	220.100	02-06-2001
2002-2003	619.7	222.870	12-09-2002	0.050	220.115	08-05-2003
2003-2004	10958	229.655	29-08-2003	0.143	220.040	20-03-2004
2004-2005	910.7	223.715	15-06-2004	0.200	220.040	08-03-2005
2005-2006	1583	224.940	01-08-2005	0.300	220.040	05-01-2006
2006-2007	3000	226.470	13-08-2006	0.500	220.100	31-12-2006
2007-2008	2100	225.340	01-07-2007	1.023	220.230	02-01-2008
2008-2009	3380	226.100	19-09-2008	0.496	220.370	01-12-2008
2009-2010	1000	228.750	22-07-2009	0.200	219.950	10-01-2010
2010-2011	368.1	223.750	26-07-2010	0.281	219.865	13-01-2011
2011-2012	2849	227.600	08-09-2011	0.248	220.120	21-02-2012
2012-2013	527.0	224.350	05-08-2012	0.228	220.010	11-01-2013
2013-2014	850.0	225.000	01-08-2013	0.428	219.820	01-05-2014
2014-2015	812.4	226.080	22-07-2014	0.000	219.800	25-03-2015
2015-2016	450.3	222.700	04-08-2015	0.000	219.960	11-02-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Rampur (EMN00B3)

Division : MD,CWC,Burla

Local River : Jonk

Sub-Division : UMSD,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	219.770	0.000 *	219.920	0.000 *	221.053	133.3	220.250	11.96	221.450	212.5	220.230	5.820
2	219.760	0.000 *	219.920	0.000 *	220.645	48.54	220.240	12.43	221.270	190.9 *	220.250	9.828
3	219.760	0.000 *	220.180	0.000 *	220.715	58.28	220.550	28.34	220.865	130.9	220.250	10.12
4	219.760	0.000 *	220.080	0.000 *	220.923	121.6	220.450	23.50 *	220.773	51.65	220.270	10.45
5	219.760	0.000 *	220.130	0.000 *	220.800	83.86	221.130	136.5 *	220.745	50.50	220.350	15.49
6	219.760	0.000 *	220.140	0.000 *	220.918	120.7	221.453	242.9	220.880	135.1	220.280	10.54 *
7	219.750	0.000 *	220.300	0.000 *	221.000	120.1 *	220.970	141.0	220.748	50.44	220.260	10.49
8	219.750	0.000 *	220.210	8.184	221.580	273.6	220.685	100.8	220.730	49.71	220.250	10.03
9	219.750	0.000 *	220.210	7.884	221.195	202.7	220.550	29.92	220.930	150.5 *	220.210	5.810
10	219.740	0.000 *	220.190	7.000 *	220.803	65.33	220.465	25.91	221.480	220.3 *	220.200	5.249
11	219.740	0.000 *	220.300	10.68	220.800	68.27	221.440	238.6 *	221.210	185.8 *	220.180	4.968
12	219.735	0.000 *	220.300	16.97	221.130	140.9	221.738	260.9	220.960	155.9 *	220.165	4.564
13	219.735	0.000 *	220.300	16.62	220.923	120.7	222.000	285.4 *	220.760	52.01	220.145	4.240 *
14	219.735	0.000 *	220.270	11.81	221.060	125.0 *	221.623	241.3	220.600	37.81	220.120	4.020 *
15	219.730	0.000 *	220.270	11.67	220.780	63.24 *	221.293	183.1	220.510	36.62	220.080	2.969
16	219.730	0.000 *	220.473	34.30	220.465	23.51	221.230	174.2	220.450	28.86 *	220.050	2.023
17	219.730	0.000 *	220.380	19.00 *	220.348	14.97	221.105	140.2	220.410	19.76	220.040	1.943
18	219.730	0.000 *	220.370	23.23	220.320	14.95	220.740	56.40 *	220.370	15.76	220.015	0.000 *
20	219.745	0.000 *	220.370	17.16	220.300	14.11	220.620	37.92	220.210	10.17	219.990	0.000 *
21	219.745	0.000 *	220.425	29.91	220.250	7.520 *	220.648	39.70	220.295	10.76	219.980	0.000 *
22	219.745	0.000 *	220.400	20.65	220.220	6.966	220.958	141.5	220.260	10.26	220.000	0.000 *
23	219.750	0.000 *	220.730	47.70	220.180	5.555	220.700	44.51	220.230	5.610 *	220.000	0.000 *
24	219.760	0.000 *	220.625	40.00 *	220.160	5.018	220.590	37.71	220.220	5.385	220.000	0.000 *
25	219.760	0.000 *	220.560	44.59	220.113	4.486	220.810	60.80 *	220.210	4.785	220.000	0.000 *
26	219.760	0.000 *	220.408	21.08	220.085	4.080	220.618	38.39	220.200	4.172	220.000	0.000 *
27	219.770	0.000 *	220.400	19.57	220.075	3.912	220.585	36.95	220.210	5.116	220.020	0.000 *
28	220.130	0.000 *	220.825	67.86	220.175	5.400 *	221.250	177.3	220.310	11.55	220.010	0.000 *
29	219.960	0.000 *	220.760	53.60	220.415	18.43	221.080	136.5	220.220	5.408	220.010	0.000 *
30	219.920	0.000 *	220.540	34.56	220.255	12.05	221.260	180.1	220.200	4.180 *	220.010	0.000 *
31			220.610	38.00 *	220.220	6.937			220.210	5.756		
Ten-Daily Mean												
I Ten-Daily	219.756	0.000	220.128	2.307	220.963	122.8	220.674	75.32	220.987	124.3	220.255	9.381
II Ten-Daily	219.734	0.000	220.331	17.54	220.645	60.06	221.244	166.7	220.581	55.54	220.079	2.473
III Ten-Daily	219.830	0.000	220.571	37.95	220.195	7.305	220.850	89.35	220.233	6.635	220.003	0.000
Monthly												
Min.	219.730	0.000	219.920	0.000	220.075	3.912	220.240	11.96	220.200	4.172	219.980	0.000
Max.	220.130	0.000	220.825	67.86	221.580	273.6	222.000	285.4	221.480	220.3	220.350	15.49
Mean	219.773	0	220.351	19.87	220.588	61.58	220.923	110.5	220.589	60.35	220.112	3.951

Annual Runoff in MCM = 676 Annual Runoff in mm = 232

Peak Observed Discharge = 273.6 cumecs on 08/08/2016 Corres. Water Level :221.58 m

Lowest Observed Discharge = 1.943 cumecs on 17/11/2016 Corres. Water Level :220.04 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Rampur (EMN0083)

Division : MD,CWC,Burla

Local River : Jonk

Sub-Division : UMSD,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	220.005	0.000 *	219.830	0.000 *	219.910	0.000 *	219.920	0.000 *	219.750	0.000 *	219.610	0.000 *
2	220.000	0.000 *	219.830	0.000 *	219.910	0.000 *	219.910	0.000 *	219.740	0.000 *	219.610	0.000 *
3	219.990	0.000 *	219.830	0.000 *	219.910	0.000 *	219.910	0.000 *	219.730	0.000 *	219.610	0.000 *
4	219.985	0.000 *	219.825	0.000 *	219.910	0.000 *	219.910	0.000 *	219.730	0.000 *	219.610	0.000 *
5	219.980	0.000 *	219.825	0.000 *	219.910	0.000 *	219.900	0.000 *	219.730	0.000 *	219.610	0.000 *
6	219.980	0.000 *	219.855	0.000 *	219.915	0.000 *	219.900	0.000 *	219.730	0.000 *	219.600	0.000 *
7	219.970	0.000 *	219.880	0.000 *	219.920	0.000 *	219.900	0.000 *	219.725	0.000 *	219.600	0.000 *
8	219.960	0.000 *	219.870	0.000 *	219.930	0.000 *	219.890	0.000 *	219.710	0.000 *	219.600	0.000 *
9	219.950	0.000 *	219.870	0.000 *	219.940	0.000 *	219.890	0.000 *	219.710	0.000 *	219.600	0.000 *
10	219.950	0.000 *	219.850	0.000 *	219.940	0.000 *	219.880	0.000 *	219.700	0.000 *	219.590	0.000 *
11	219.930	0.000 *	219.860	0.000 *	219.940	0.000 *	219.880	0.000 *	219.700	0.000 *	219.590	0.000 *
12	219.930	0.000 *	219.870	0.000 *	219.940	0.000 *	219.880	0.000 *	219.700	0.000 *	219.590	0.000 *
13	219.920	0.000 *	219.865	0.000 *	219.930	0.000 *	219.880	0.000 *	219.695	0.000 *	219.585	0.000 *
14	219.920	0.000 *	219.860	0.000 *	219.930	0.000 *	219.870	0.000 *	219.695	0.000 *	219.580	0.000 *
15	219.880	0.000 *	219.860	0.000 *	219.930	0.000 *	219.870	0.000 *	219.690	0.000 *	219.580	0.000 *
16	219.880	0.000 *	219.850	0.000 *	219.925	0.000 *	219.870	0.000 *	219.690	0.000 *	219.575	0.000 *
17	219.870	0.000 *	219.850	0.000 *	219.925	0.000 *	219.865	0.000 *	219.680	0.000 *	219.570	0.000 *
18	219.865	0.000 *	219.850	0.000 *	219.925	0.000 *	219.860	0.000 *	219.680	0.000 *	219.570	0.000 *
20	219.860	0.000 *	219.850	0.000 *	219.920	0.000 *	219.845	0.000 *	219.680	0.000 *	219.560	0.000 *
21	219.860	0.000 *	219.860	0.000 *	219.920	0.000 *	219.830	0.000 *	219.670	0.000 *	219.555	0.000 *
22	219.860	0.000 *	219.860	0.000 *	219.910	0.000 *	219.820	0.000 *	219.665	0.000 *	219.555	0.000 *
23	219.850	0.000 *	219.860	0.000 *	219.910	0.000 *	219.810	0.000 *	219.655	0.000 *	219.550	0.000 *
24	219.845	0.000 *	219.930	0.000 *	219.910	0.000 *	219.800	0.000 *	219.650	0.000 *	219.550	0.000 *
25	219.840	0.000 *	219.930	0.000 *	219.910	0.000 *	219.800	0.000 *	219.650	0.000 *	219.550	0.000 *
26	219.840	0.000 *	219.930	0.000 *	219.920	0.000 *	219.800	0.000 *	219.650	0.000 *	219.540	0.000 *
27	219.835	0.000 *	219.925	0.000 *	219.920	0.000 *	219.790	0.000 *	219.645	0.000 *	219.540	0.000 *
28	219.830	0.000 *	219.920	0.000 *	219.920	0.000 *	219.790	0.000 *	219.625	0.000 *	219.560	0.000 *
29	219.830	0.000 *	219.920	0.000 *			219.780	0.000 *	219.615	0.000 *	219.550	0.000 *
30	219.830	0.000 *	219.915	0.000 *			219.770	0.000 *	219.610	0.000 *	219.550	0.000 *
31	219.830	0.000 *	219.915	0.000 *			219.750	0.000 *			219.545	0.000 *
Ten-Daily Mean												
I Ten-Daily	219.977	0.000	219.847	0.000	219.920	0.000	219.901	0.000	219.725	0.000	219.604	0.000
II Ten-Daily	219.892	0.000	219.856	0.000	219.929	0.000	219.867	0.000	219.689	0.000	219.576	0.000
III Ten-Daily	219.841	0.000	219.906	0.000	219.915	0.000	219.795	0.000	219.644	0.000	219.550	0.000
Monthly												
Min.	219.830	0.000	219.825	0.000	219.910	0.000	219.750	0.000	219.610	0.000	219.540	0.000
Max.	220.005	0.000	219.930	0.000	219.940	0.000	219.920	0.000	219.750	0.000	219.610	0.000
Mean	219.901	0	219.871	0	219.922	0	219.852	0	219.686	0	219.576	0

Peak Computed Discharge = 285.4 cumecs on 13/09/2016

Corres. Water Level :222 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :219.77 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

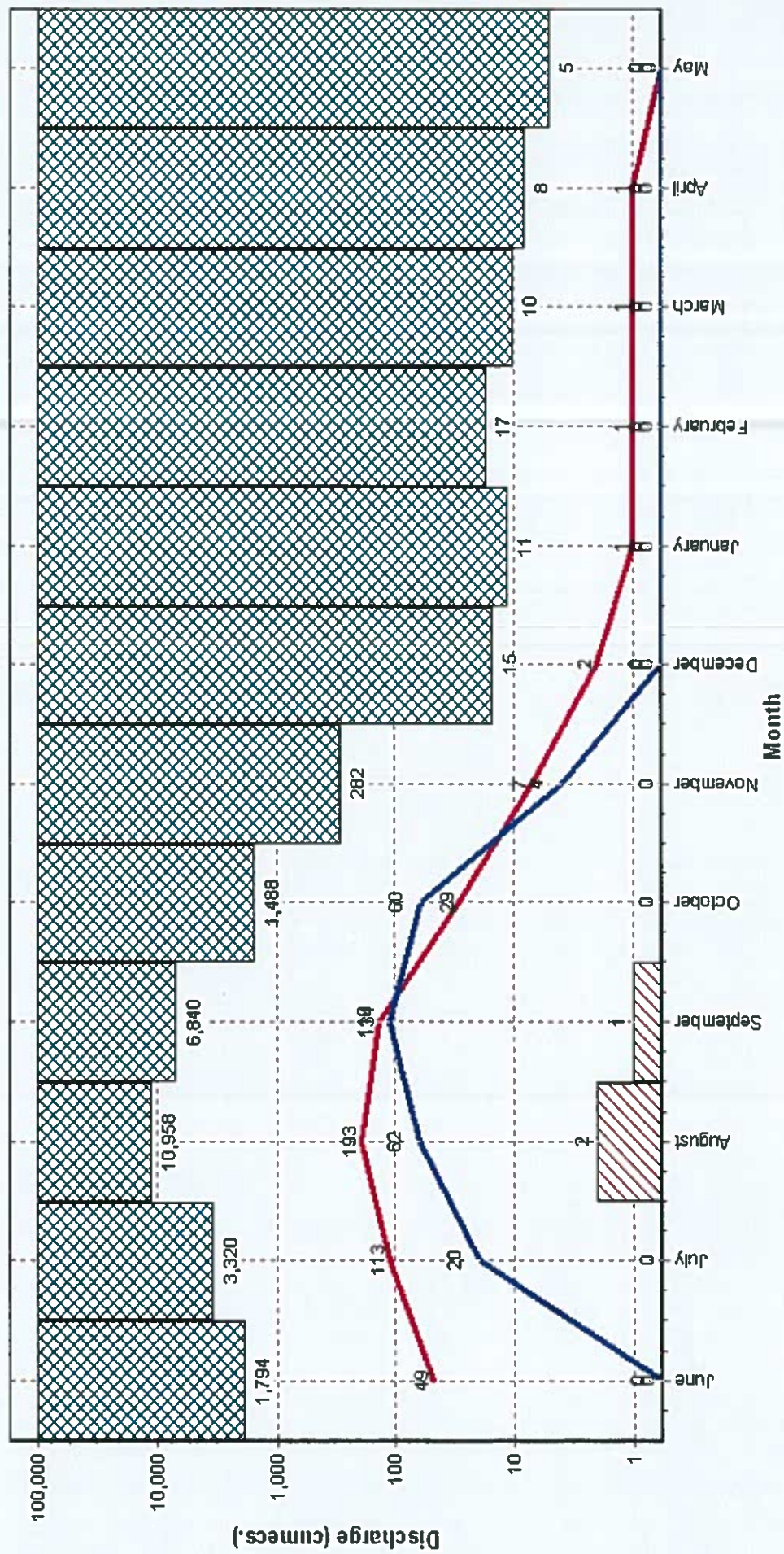
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Data considered : 1971-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



Annual Runoff Values for the period: 1971 - 2017

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

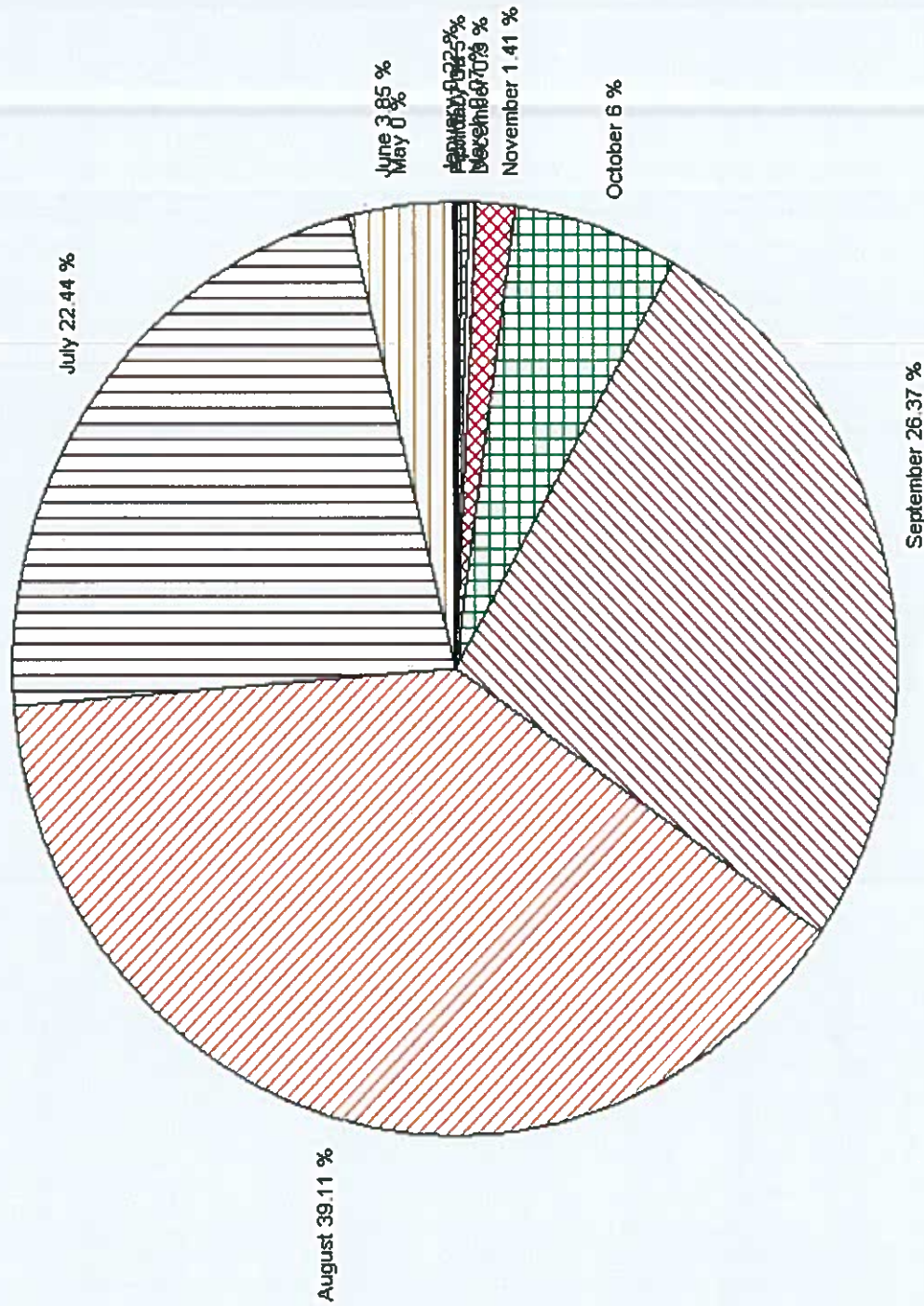


Monthly Average Runoff based on period : 1971-2016

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur

June	3.85 %
July	22.44 %
August	39.11 %
September	26.37 %
October	6 %
November	1.41 %
December	0.3 %
January	0.22 %
February	0.15 %
March	0.07 %
April	0.07 %
May	0 %

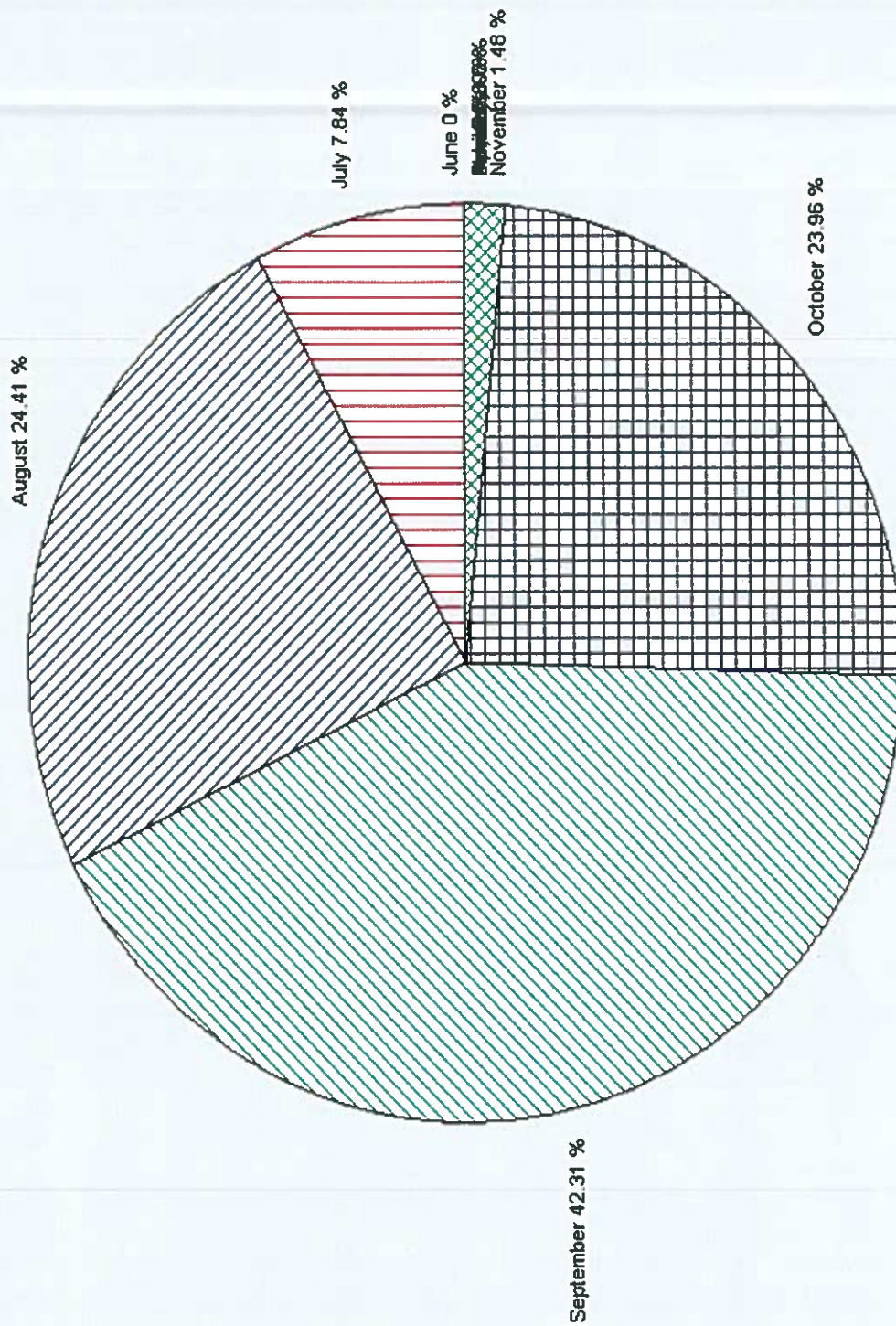


Monthly Runoff for the Year : 2016-2017

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

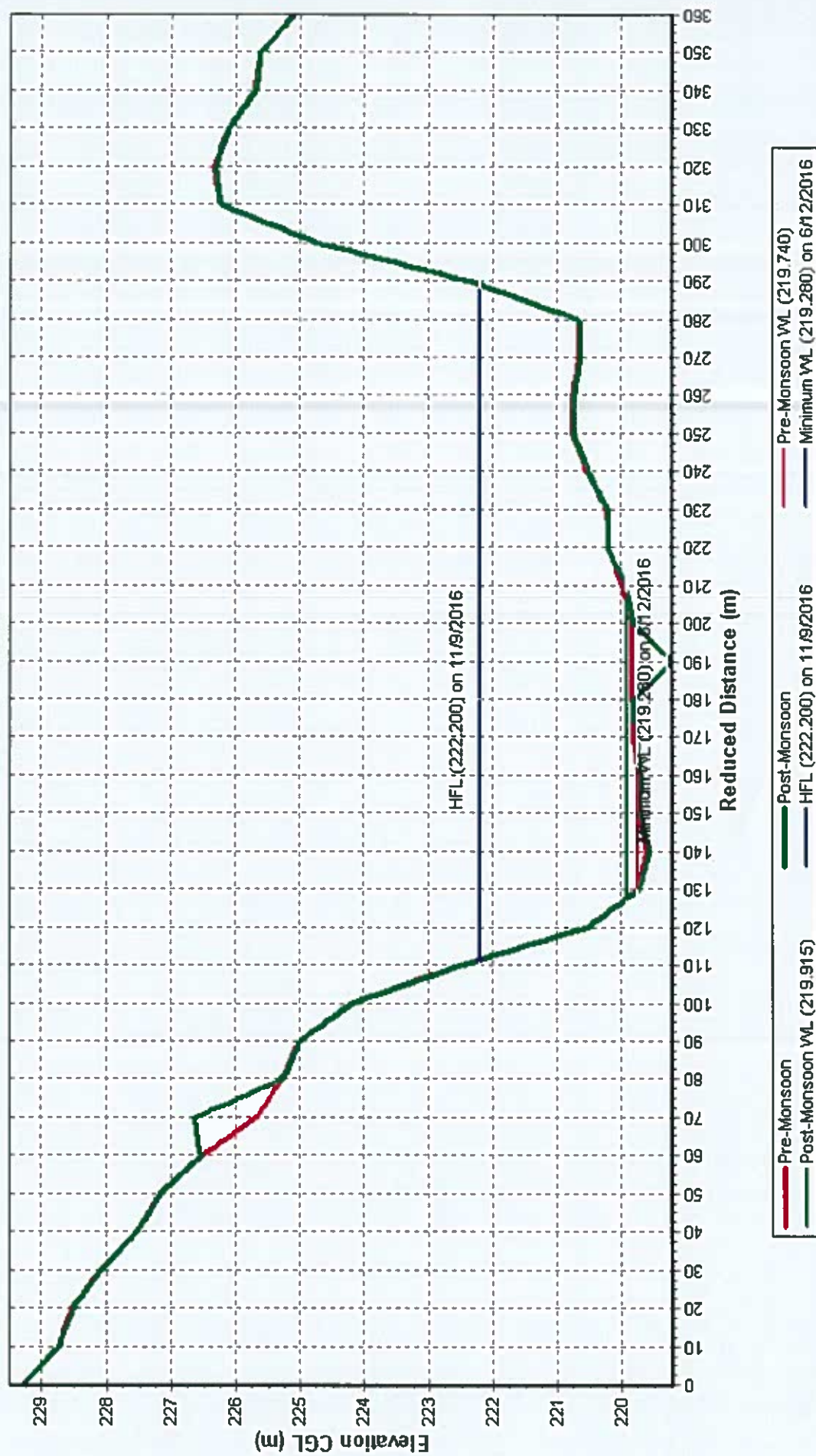
June	0 %
July	7.84 %
August	24.41 %
September	42.31 %
October	23.96 %
November	1.48 %
December	0 %
January	0 %
February	0 %
March	0 %
April	0 %
May	0 %



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur



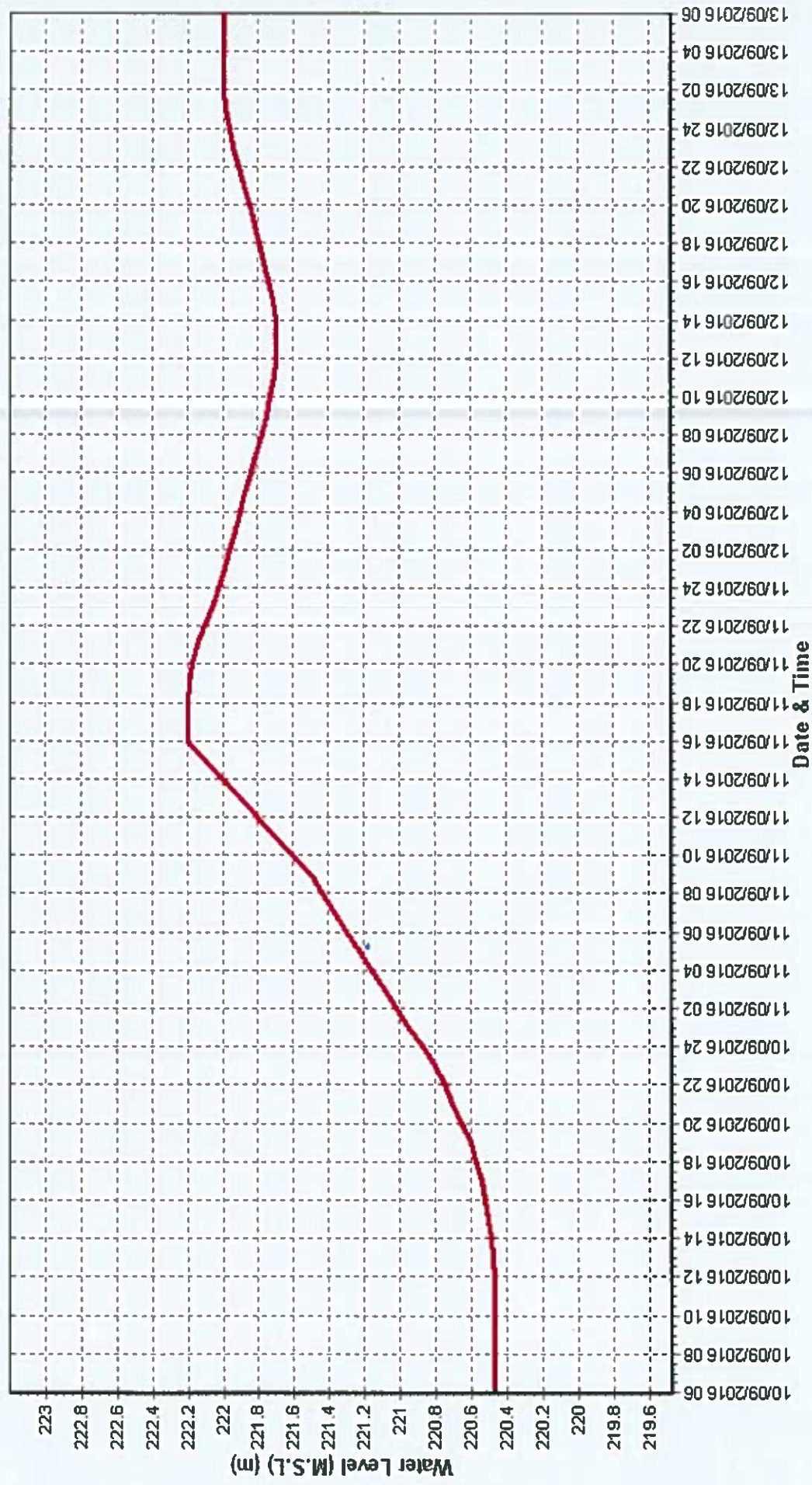
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



Time Span: 72 Hrs

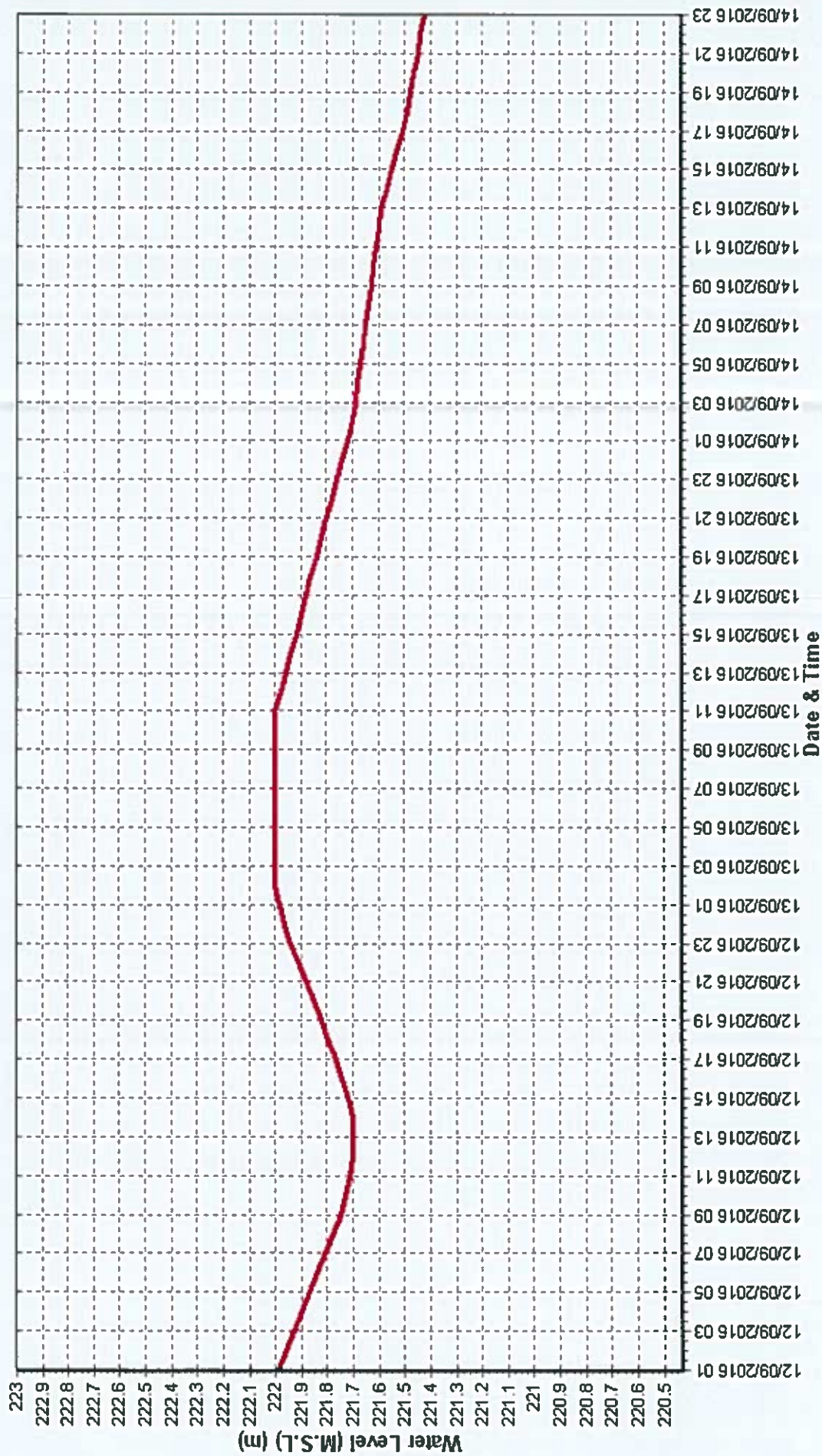
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur



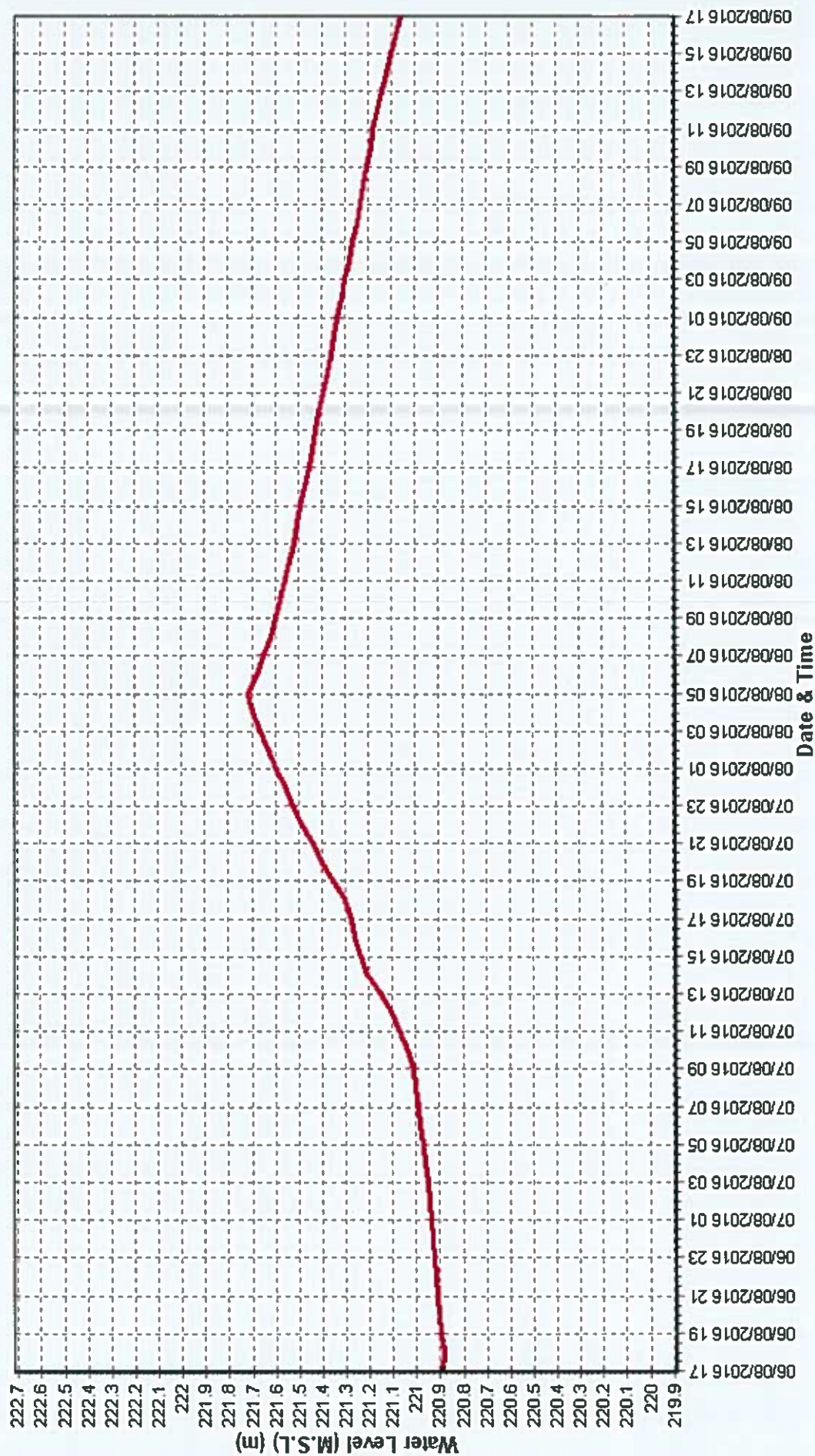
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur

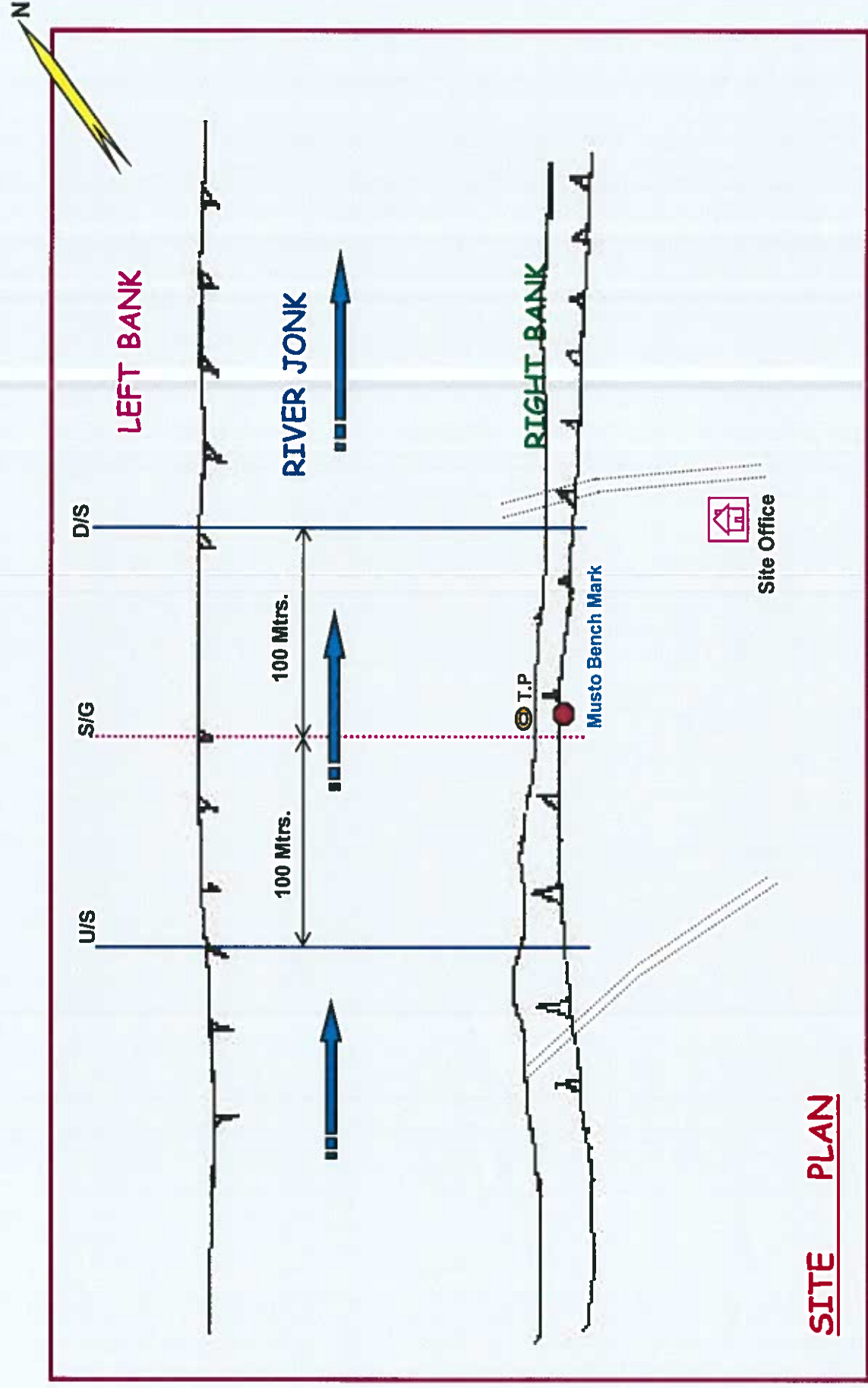


CENTRAL WATER COMMISSION, MAHANADI DIVISION, BURLA

Site : RAMPUR

Code : EMN000B3

Sub-Division : UMSD CWC Raipur



SECTION -II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur

Day	Jun					Jul					Aug							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	133.3	0.000	0.000	0.000	0.211	2430
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	48.54	0.000	0.000	0.000	0.196	822
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	58.28	0.000	0.000	0.000	0.231	1163
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	121.6	0.000	0.000	0.000	0.306	3214
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	83.86	0.000	0.000	0.000	0.176	1275
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	120.7	0.000	0.000	0.000	0.156	1622
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	120.1	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	8.184	0.000	0.000	0.446	0.446	315	273.6	0.000	0.000	0.000	0.242	5720
9	0.000	0.000	0.000	0.000	0.000	0	7.884	0.000	0.000	0.220	0.220	150	202.7	0.000	0.000	0.000	0.357	6252
10	0.000	0.000	0.000	0.000	0.000	0	7.000	0.000	0.000	0.000	0.000	0	65.33	0.000	0.000	0.000	0.380	2145
11	0.000	0.000	0.000	0.000	0.000	0	10.68	0.000	0.000	0.164	0.164	151	68.27	0.000	0.000	0.000	0.269	1587
12	0.000	0.000	0.000	0.000	0.000	0	16.97	0.000	0.000	0.572	0.572	839	140.9	0.000	0.000	0.000	0.266	3238
13	0.000	0.000	0.000	0.000	0.000	0	16.62	0.000	0.000	0.148	0.148	213	120.7	0.000	0.000	0.000	0.442	4609
14	0.000	0.000	0.000	0.000	0.000	0	11.81	0.000	0.000	0.239	0.239	244	125.0	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	11.67	0.000	0.000	0.201	0.201	203	63.24	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	34.30	0.000	0.000	0.205	0.205	608	23.51	0.000	0.000	0.000	0.172	349
17	0.000	0.000	0.000	0.000	0.000	0	19.00	0.000	0.000	0.000	0.000	0	14.97	0.000	0.000	0.000	0.126	163
18	0.000	0.000	0.000	0.000	0.000	0	23.23	0.000	0.000	0.348	0.348	698	14.95	0.000	0.000	0.000	0.116	150
20	0.000	0.000	0.000	0.000	0.000	0	17.16	0.000	0.000	0.188	0.188	279	14.11	0.000	0.000	0.000	0.081	99
21	0.000	0.000	0.000	0.000	0.000	0	29.91	0.000	0.000	0.342	0.342	884	7.520	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	20.65	0.000	0.000	0.325	0.325	580	6.966	0.000	0.000	0.000	0.055	33
23	0.000	0.000	0.000	0.000	0.000	0	47.70	0.000	0.000	0.266	0.266	1096	5.555	0.000	0.000	0.000	0.016	8
24	0.000	0.000	0.000	0.000	0.000	0	40.00	0.000	0.000	0.000	0.000	0	5.018	0.000	0.000	0.000	0.024	10
25	0.000	0.000	0.000	0.000	0.000	0	44.59	0.000	0.000	0.264	0.264	1017	4.486	0.000	0.000	0.000	0.018	7
26	0.000	0.000	0.000	0.000	0.000	0	21.08	0.000	0.000	0.329	0.329	599	4.080	0.000	0.000	0.000	0.011	4
27	0.000	0.000	0.000	0.000	0.000	0	19.57	0.000	0.000	0.221	0.221	374	3.912	0.000	0.000	0.000	0.021	7
28	0.000	0.000	0.000	0.000	0.000	0	67.86	0.000	0.000	0.149	0.149	874	5.400	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	53.60	0.000	0.000	0.201	0.201	931	18.43	0.000	0.000	0.000	0.032	51
30	0.000	0.000	0.000	0.000	0.000	0	34.56	0.000	0.000	0.183	0.183	546	12.05	0.000	0.000	0.000	0.034	35
31							38.00	0.000	0.000	0.000	0.000	0	6.937	0.000	0.000	0.000	0.042	25
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	2.307	0.000	0.000	0.067	0.067	47	122.8	0.000	0.000	0.000	0.226	2465
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	17.54	0.000	0.000	0.232	0.232	353	60.06	0.000	0.000	0.000	0.161	1038
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	37.95	0.000	0.000	0.207	0.207	627	7.305	0.000	0.000	0.000	0.023	16
Monthly																		
Total						0						10900						35208

318

Annual Sediment Load (Metric Tonnes) : 94465

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	11.96	0.000	0.000	0.056	0.056	58	212.5	0.000	0.000	0.117	0.117	2148
2	12.43	0.000	0.000	0.091	0.091	98	190.9	0.000	0.000	0.000	0.000	0
3	28.34	0.000	0.000	0.093	0.093	228	130.9	0.000	0.000	0.042	0.042	475
4	23.50	0.000	0.000	0.000	0.000	0	51.65	0.000	0.000	0.024	0.024	107
5	136.5	0.000	0.000	0.000	0.000	0	50.50	0.000	0.000	0.071	0.071	310
6	242.9	0.000	0.000	0.197	0.197	4134	135.1	0.000	0.000	0.066	0.066	770
7	141.0	0.000	0.000	0.181	0.181	2204	50.44	0.000	0.000	0.060	0.060	261
8	100.8	0.000	0.000	0.205	0.205	1785	49.71	0.000	0.000	0.075	0.075	322
9	29.92	0.000	0.000	0.213	0.213	551	150.5	0.000	0.000	0.000	0.000	0
10	25.91	0.000	0.000	0.251	0.251	562	220.3	0.000	0.000	0.000	0.000	0
11	238.6	0.000	0.000	0.000	0.000	0	185.8	0.000	0.000	0.000	0.000	0
12	260.9	0.000	0.000	0.377	0.377	8500	155.9	0.000	0.000	0.000	0.000	0
13	285.4	0.000	0.000	0.000	0.000	0	52.01	0.000	0.000	0.076	0.076	342
14	241.3	0.000	0.000	0.320	0.320	6671	37.81	0.000	0.000	0.013	0.013	42
15	183.1	0.000	0.000	0.102	0.102	1614	36.62	0.000	0.000	0.013	0.013	41
16	174.2	0.000	0.000	0.418	0.418	6290	28.86	0.000	0.000	0.000	0.000	0
17	140.2	0.000	0.000	0.177	0.177	2144	19.76	0.000	0.000	0.016	0.016	27
18	56.40	0.000	0.000	0.000	0.000	0	15.76	0.000	0.000	0.062	0.062	84
20	37.92	0.000	0.000	0.163	0.163	534	10.17	0.000	0.000	0.063	0.063	55
21	39.70	0.000	0.000	0.272	0.272	933	10.76	0.000	0.000	0.033	0.033	31
22	141.5	0.000	0.000	0.051	0.051	624	10.26	0.000	0.000	0.032	0.032	28
23	44.51	0.000	0.000	0.043	0.043	165	5.610	0.000	0.000	0.000	0.000	0
24	37.71	0.000	0.000	0.075	0.075	244	5.385	0.000	0.000	0.023	0.023	11
25	60.80	0.000	0.000	0.000	0.000	0	4.785	0.000	0.000	0.023	0.023	10
26	38.39	0.000	0.000	0.105	0.105	348	4.172	0.000	0.000	0.022	0.022	8
27	36.95	0.000	0.000	0.121	0.121	386	5.116	0.000	0.000	0.026	0.026	11
28	177.3	0.000	0.000	0.102	0.102	1563	11.55	0.000	0.000	0.032	0.032	32
29	136.5	0.000	0.000	0.103	0.103	1215	5.408	0.000	0.000	0.024	0.024	11
30	180.1	0.000	0.000	0.114	0.114	1773	4.180	0.000	0.000	0.000	0.000	0
31							5.756	0.000	0.000	0.024	0.024	12
Ten Daily Mean												
Ten Daily I	75.32	0.000	0.000	0.129	0.129	962	124.3	0.000	0.000	0.046	0.046	439
Ten Daily II	166.7	0.000	0.000	0.167	0.167	2622	55.54	0.000	0.000	0.029	0.029	64
Ten Daily III	89.35	0.000	0.000	0.099	0.099	725	6.635	0.000	0.000	0.022	0.022	14
Monthly												
Total						43091						5190

319

Annual Sediment Load (Metric Tonnes) : 94465

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD, CWC, Burla

Sub-Division : UMSD, CWC, Raipur

Day		Dec					Jan					Feb							
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
	1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	Ten Daily Mean																		
	Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
	Monthly																		
	Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 94465

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD,CWC,Burla

Sub-Division : UMSD,CWC,Raipur

Day	Mar				Apr				May			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly												
Total						0						0

Annual Sediment Load for period : 1977-2017

Station Name : Rampur (EMN00B3)

Division : MD,CWC,Burla

Local River : Jonk

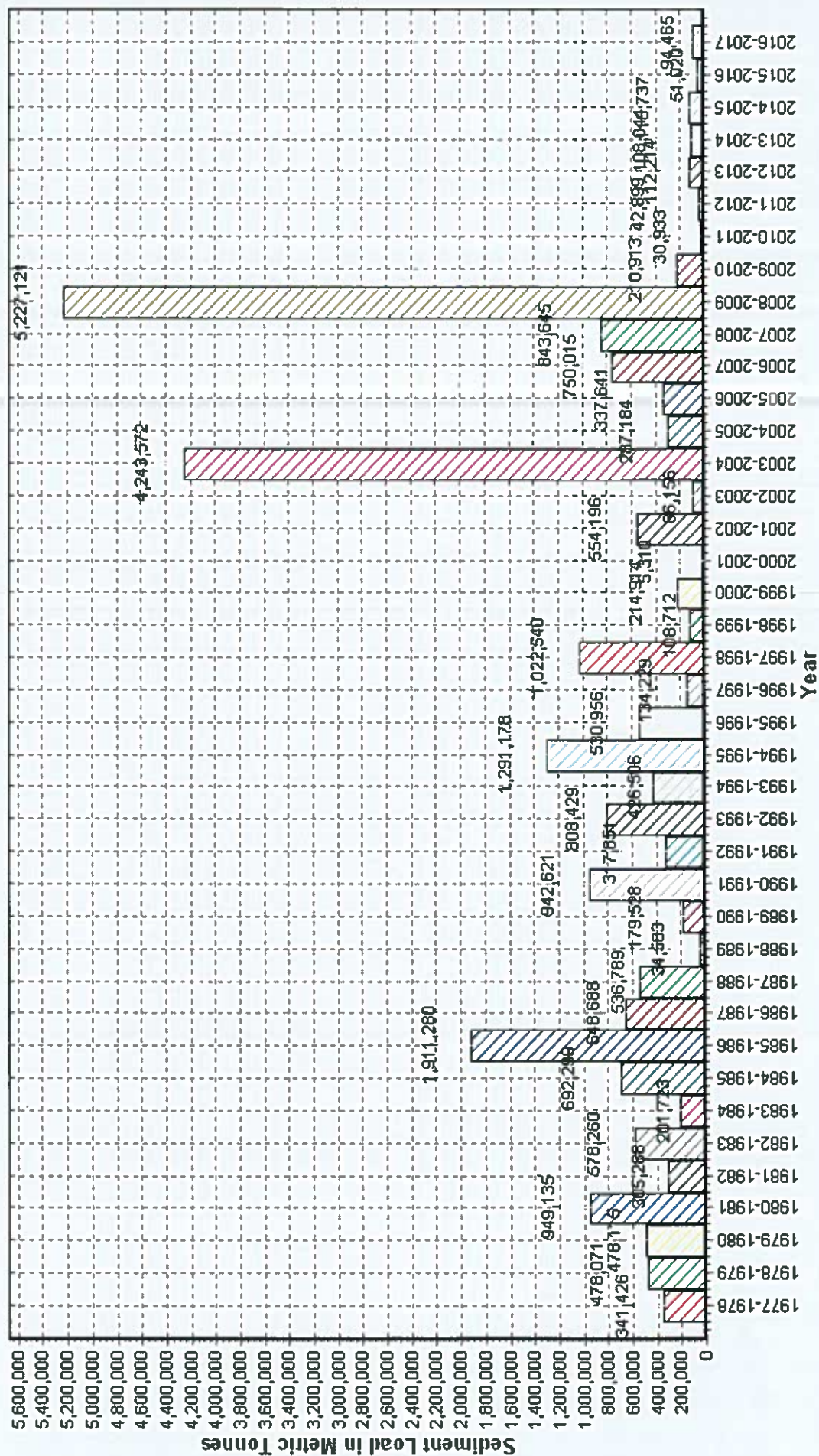
Sub-Division : UMSD,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1977-1978	341426	0	341426	1278
1978-1979	478071	0	478071	1303
1979-1980	478115	0	478115	725
1980-1981	949109	26	949135	2810
1981-1982	305288	0	305288	881
1982-1983	578258	2	578260	1193
1983-1984	201661	62	201723	919
1984-1985	692295	5	692299	1575
1985-1986	1911047	232	1911280	2493
1986-1987	648688	0	648688	1632
1987-1988	536720	69	536789	777
1988-1989	34583	0	34583	269
1989-1990	179528	0	179528	630
1990-1991	942621	0	942621	2175
1991-1992	317836	15	317851	822
1992-1993	808429	0	808429	1657
1993-1994	426506	0	426506	1406
1994-1995	1291178	0	1291178	3611
1995-1996	530956	0	530956	1025
1997-1998	1022540	0	1022540	1845
1998-1999	108712	0	108712	635
1999-2000	214914	0	214914	952
2000-2001	5310	0	5310	169
2001-2002	554196	0	554196	1452
2002-2003	86156	0	86156	499
2003-2004	4243551	21	4243572	4384
2004-2005	287184	0	287184	889
2005-2006	337641	0	337641	1001
2006-2007	750015	0	750015	2186
2007-2008	843645	0	843645	1797
2008-2009	5227121	0	5227121	1035
2009-2010	210913	0	210913	688
2010-2011	30933	0	30933	760
2011-2012	42899	0	42899	1263
2012-2013	112214	0	112214	1005
2013-2014	108043	1	108044	1318
2014-2015	118735	2	118737	1404
2015-2016	50997	23	51020	571
2016-2017	94465	0	94465	676

Annual Sediment Load for the period: 1977-2017

Station Name : Rampur (EMN00B3)
Local River : Jonk

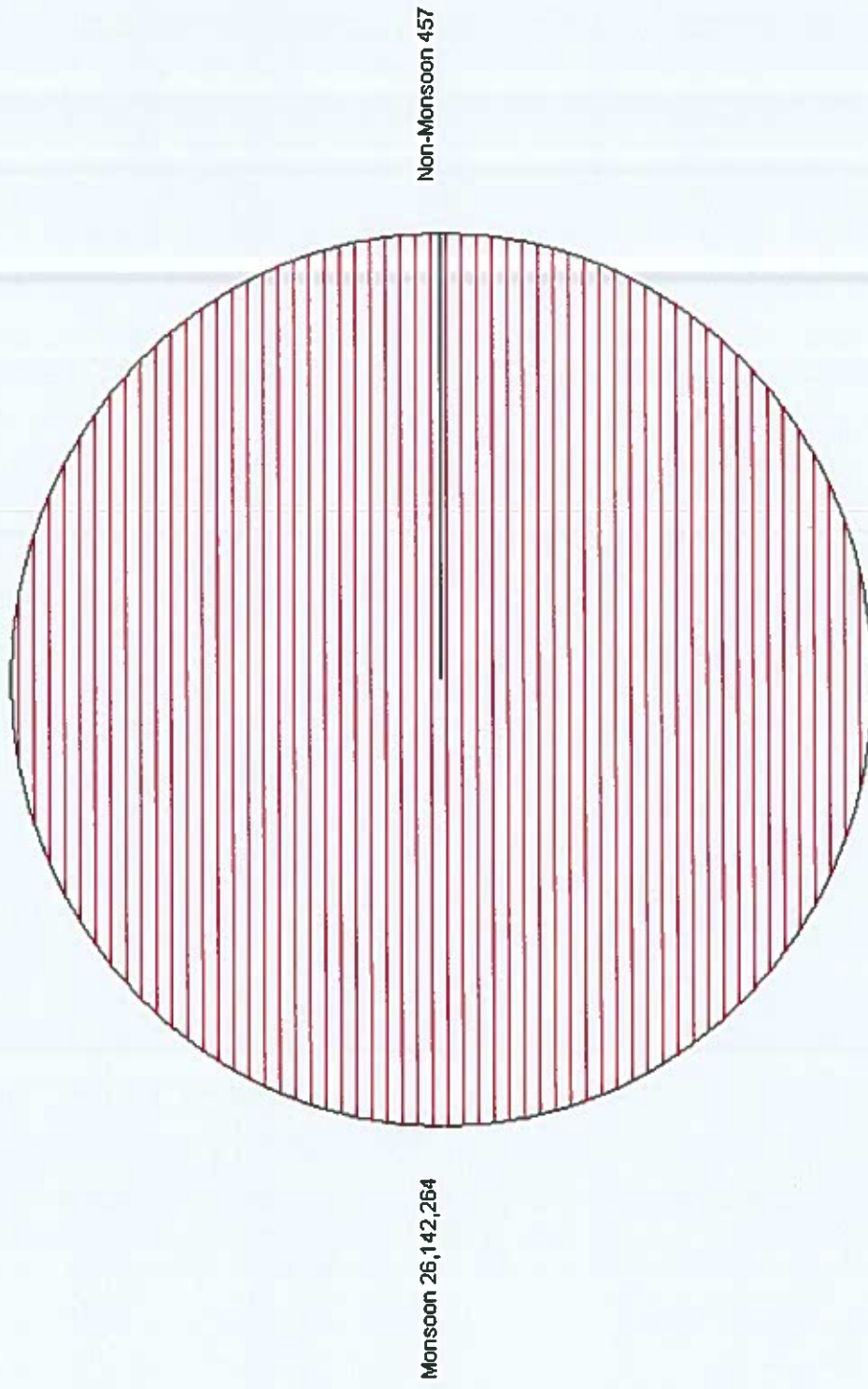
Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



Seasonal Sediment Load for the period : 1977-2016

Station Name : Rampur (EMN00B3)
Local River : Jonk

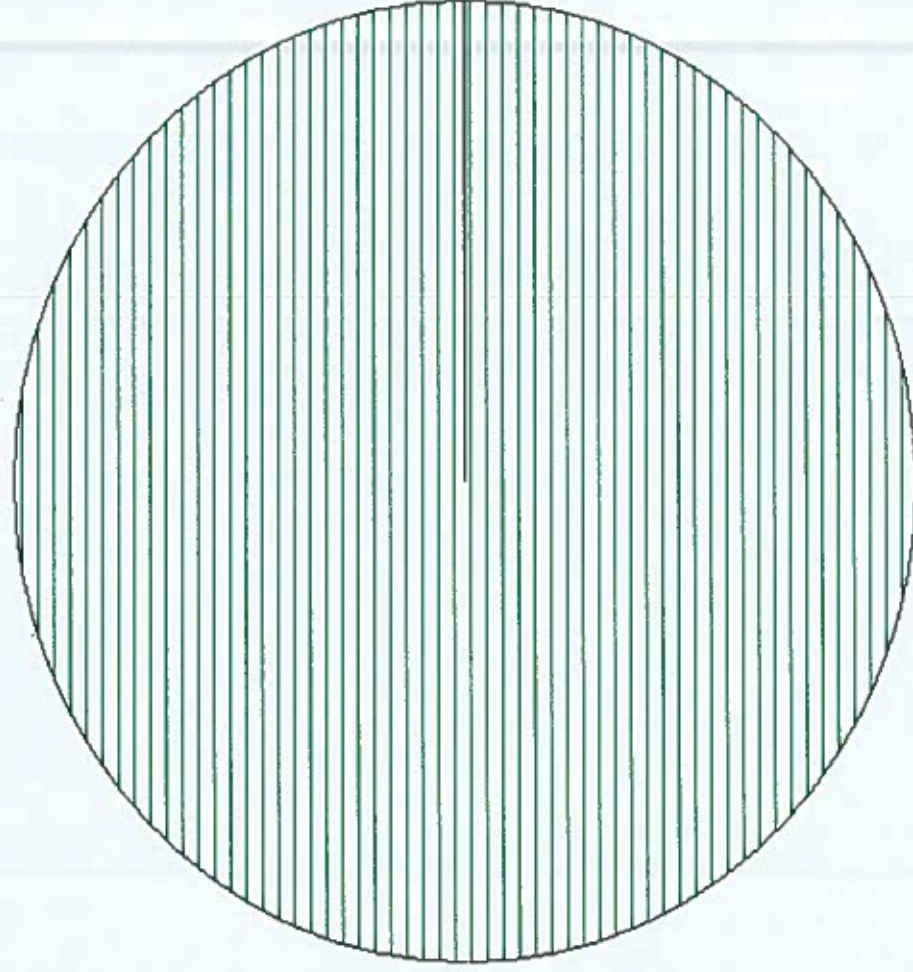
Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



Seasonal Sediment Load for the Year: 2016-2017

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD, CWC, Burla
Sub-Division : UMSD, CWC, Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	133.3	11.96	212.5	5.820	0.000	0.000	0.000	0.000	0.000	0.000
2	Colour_Cod (-)			Brown	Brown	Light Brown	Clear						
3	EC_FLD (µmho/cm)				118	105	140						
4	EC_GEN (µmho/cm)			142	155	161	194						
5	Odour_Code (-)			odour free	odour free	odour free	odour free						
6	pH_FLD (pH units)			7.6	7.9	8.1	7.0						
7	pH_GEN (pH units)			6.5	7.3	7.1	7.9						
8	Temp (deg C)			27.5	29.6	28.9	24.0						
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0						
2	ALK-TOT (mgCaCO3/L)			212	160	160	120						
3	Ca (mg/L)			45	34	50	48						
4	Cl (mg/L)			16.0	24.0	23.0	25.0						
5	CO3 (mg/L)			0.0	0.0	0.0	0.0						
6	HCO3 (mg/L)			129	98	98	73						
7	K (mg/L)			3.2	5.1	9.3	6.9						
8	Mg (mg/L)			1.9	14.6	58.3	1.9						
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			0.4	1.8	0.8	0.5						
2	DO (mg/L)			5.2	6.9	6.2	5.6						
3	DO SAT% (%)			65	90	79	67						
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			112	84	124	120						
2	HAR_Total (mgCaCO3/L)			120	145	367	128						
3	Na% (%)			16	17	12	17						
4	RSC (-)			0.0	0.0	0.0	0.0						
5	SAR (-)			0.4	0.5	0.5	0.5						
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : Rampur (EMN00B3)

Division : MD,CWC,Burla

Local River : Jonk

Sub-Division : UMSD,CWC,Raipur

River Water Summary					
S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
PHYSICAL					
1	Q (cumec)	365	285.4	0.000	21.45
2	EC_FLD (µmho/cm)	3	140	105	121
3	EC_GEN (µmho/cm)	4	194	142	163
4	pH_FLD (pH units)	4	8.1	7.0	7.6
5	pH_GEN (pH units)	4	7.9	6.5	7.2
6	Temp (deg C)	4	29.6	24.0	27.5
CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	4	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	4	212	120	163
3	Ca (mg/L)	4	50	34	44
4	Cl (mg/L)	4	25.0	16.0	22
5	CO3 (mg/L)	4	0.0	0.0	0
6	HCO3 (mg/L)	4	129	73	99
7	K (mg/L)	4	9.3	3.2	6.1
8	Mg (mg/L)	4	58.3	1.9	19.2
9	Na (mg/L)	4	24.1	10.8	15.5
BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	4	1.8	0.4	0.9
3	DO_SAT% (%)	4	90	65	75
TRACE & TOXIC					
CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	4	124	84	110
2	HAR_Total (mgCaCO3/L)	4	367	120	190
3	Na% (%)	4	17	12	16
4	RSC (-)	4	0.0	0.0	0
5	SAR (-)	4	0.5	0.4	0.5
PESTICIDES					

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rampur (EMN00B3)
Local River : Jonk

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	102.3	114.9	29.59	405.2	264.7	184.8	40.07	35.84	46.61	49.08	52.05	286.1	107.1	26.40	71.55
2	EC_FLD (µmho/cm)	154	196	221	186	164	96	163	164						290	112
3	EC_GEN (µmho/cm)	154	196	221	186	164	123	173	171	190	218	207	151	181	188	153
4	pH_FLD (pH units)	7.8	7.6	7.8	7.5	7.7	7.4	8.2	8.2	7.6	7.3	7.5	7.4	7.5	7.7	7.9
5	pH_GEN (pH units)	7.8	7.6	7.8	7.5	7.7	7.6	7.5	7.9	7.5	7.4	7.4	8.1	7.9	7.8	7.0
6	Temp (deg C)	28.3	27.2	30.0	30.0	27.7	28.4	28.0	29.5	29.8	28.0	28.3	27.6	28.8	29.2	28.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	4.7	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.0	0.0
2	ALK-TOT (mgCaCO3/L)	299	123	108	113		90	141	108	129	146	138	143	221	204	177
3	B (mg/L)				0.02		0.01	0.01	0.01	0.00	0.00	0.00				
4	Ca (mg/L)	18	14	42	17		9	13	12	14	16	17	18	25	25	43
5	Cl (mg/L)	15.4	23.0	9.5	17.9		6.3	13.6	6.1	4.4	6.7	9.4	15.3	11.0	15.0	21.0
6	CO3 (mg/L)	5.7	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	7.2	0.0
7	F (mg/L)		1.10		0.29		0.06	0.11	0.12	0.12	0.19	0.20				
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	K (mg/L)	3.4			1.1		1.3	0.8	1.2	1.5	2.0	1.2	2.6	3.1	3.7	5.9
11	Mg (mg/L)	6.1	3.7	8.6	4.7		5.8	7.4	6.7	8.1	9.0	9.4	5.3	5.6	9.5	24.9
12	Na (mg/L)	7.0			11.3		3.4	9.0	5.4	11.1	10.5	10.7	6.4	16.2	15.9	16.4
13	NO2+NO3 (mg N/L)	1.00		1.17	0.03	0.05	0.07	0.36								
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.02	0.02	0.01	0.02	0.03				
15	NO3-N (mgN/L)				0.03	0.05	0.06	0.34								
16	P-Tot (mgP/L)		0.020		0.013		0.010	0.020	0.020	0.023	0.025	0.080				
17	SiO2 (mg/L)				9.9		14.4	21.1	17.9	9.6	18.9	18.4				
18	SO4 (mg/L)	7.0	9.3	3.2	8.1		7.4	9.8	13.0	10.3	15.6	17.3				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rampur (EMN00B3)

Division : MD,CWC,Burla

Local River : Jonk

Sub-Division : UMSD,CWC,Raipur

River Water

S.No	Parameters	Flood Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	0.7	0.7	0.6	0.4	1.6	0.9	1.0	0.9	0.9	1.6	0.4	1.0	0.4	1.0
2	COD (mg/L)					17.6	14.4	14.0	17.3	18.7	22.0	25.0				
3	DO (mg/L)	7.7	5.7	5.6	5.6	6.7	6.9	6.1	6.5	5.6	5.8	6.7	6.9	6.7	6.4	6.1
4	DO_SAT% (%)	99	71	74	74	85	88	78	85	74	74	85	87	87	83	78
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	44	36	106	41		22	33	31	34	39	43	45	63	63	107
2	HAR_Total (mgCaCO3/L)	78	51	142	61		46	64	58	68	76	82	67	86	103	211
3	Na% (%)	16			29		14	24	16	26	22	23	17	29	24	15
4	RSC (-)	2.8	0.3	0.0	0.1		0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.0
5	SAR (-)	0.3			0.6		0.2	0.5	0.3	0.6	0.5	0.5	0.3	0.8	0.7	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rampur (EMN00B3)

Local River : Jonk

River Water

Division : MD,CWC,Burla
Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	PHYSICAL															
1	Q (cumec)	3.010	16.79	2.161	4.868	2.657	3.092	0.748	2.314	3.797	1.180	2.373	7.911	5.287	1.400	1.455
2	EC_FLD (µmho/cm)	200	258	313	280	250		285							253	140
3	EC_GEN (µmho/cm)	200	258	313	280	250	231	280	299	343	255	315	281	252	218	194
4	pH_FLD (pH units)	7.9	8.0	7.8	7.2	8.0		7.7	7.7	7.4	7.5	7.4	7.3	7.4	7.6	7.0
5	pH_GEN (pH units)	7.9	8.0	7.8	7.2	8.0	8.2	7.6	7.6	7.6	8.0	8.1	8.3	8.0	8.0	7.9
6	Temp (deg C)	26.5	24.3	24.5	26.0	23.0	19.3	21.9	22.2	22.3	21.3	19.5	20.5	20.3	24.5	24.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	2.7	0.0	3.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	455	248	222	187		200	203	216	239	180	232	312	263	194	120
3	B (mg/L)				0.11		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	31	47	29	24		20	20	22	27	20	31	31	35	35	48
5	Cl (mg/L)	6.0	45.3	8.0	28.4		23.9	23.8	8.5	19.6	17.1	12.1	17.0	16.3	8.0	25.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	3.2	0.0	4.8	0.0	0.0
7	F (mg/L)		0.93		0.08		0.16	0.09	0.12	0.11	0.14	0.20				
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0		0.1		
10	K (mg/L)	3.3			1.8		1.2	1.4	1.7	2.8	1.5	1.1	7.4	2.9	5.6	6.9
11	Mg (mg/L)	5.1	11.1	20.2	11.2		12.3	12.4	12.3	15.9	11.8	16.5	13.1	17.5	8.8	1.9
12	Na (mg/L)	8.8			13.0		15.4	16.8	8.7	20.2	16.0	37.2	23.7	18.8	14.3	12.5
13	NO2+NO3 (mg N/L)			1.37	0.05	0.11	0.08	0.52						0.21		
14	NO2-N (mgN/L)				0.00	0.01	0.01	0.01	0.03	0.04	0.02	0.03		0.03		
15	NO3-N (mgN/L)				0.05	0.11	0.07	0.50						0.18		
16	P-Tot (mgP/L)		0.010		0.013		0.020	0.020	0.037	0.060	0.057	0.050		0.040		
17	SiO2 (mg/L)				17.5		26.1	23.0	21.2	18.3	14.7	16.1		13.2		
18	SO4 (mg/L)		11.6	2.9	5.8		16.5	28.7	22.7	31.3	25.3	18.9		22.0		

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rampur (EMN00B3)

Division : MD,CWC,Burla

Local River : Jonk

River Water

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.4	0.4	0.8	0.8	0.3	0.5	0.5	1.4	0.4	0.8	1.1	0.9	1.1	0.4	0.5
2	COD (mg/L)					24.0	18.7	28.0	28.0	28.0	22.0	17.3				
3	DO (mg/L)	6.3	5.9	7.3	7.3	6.6	7.6	7.3	6.7	7.1	7.9	7.6	8.1	8.2	6.5	5.6
4	DO_SAT% (%)	78	76	87	89	77	81	82	77	81	88	83	89	90	78	67
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	77	116	72	59		49	51	54	67	50	78	78	88	88	120
2	HAR_Total (mgCaCO3/L)	98	162	155	106		101	103	105	133	99	146	133	161	125	128
3	Na% (%)	16			20		25	26	15	25	25	35	27	20	19	17
4	RSC (-)	2.6	0.1	0.1	0.0		0.1	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0	0.0
5	SAR (-)	0.4			0.5		0.7	0.7	0.4	0.8	0.7	1.3	0.9	0.6	0.6	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rampur (EMN000B3)
Local River : Jonk

River Water

Division : MD,CWC,Burla
Sub-Division : UMDS,CWC,Raipur

S.No	Parameters	Summer														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	2.150	1.800	1.190	1.900								1.532	0.000	0.000	0.000
2	EC_FLD (µmho/cm)		289				192									
3	EC_GEN (µmho/cm)		289				150						261			
4	pH_FLD (pH units)		8.2				8.8						7.7			
5	pH_GEN (pH units)		8.2				8.0						8.0			
6	Temp (deg C)						28.0						25.3			
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0				0.0						0.1			
2	ALK-TOT (mgCaCO3/L)		275				229						271			
3	B (mg/L)						0.01									
4	Ca (mg/L)		36				17						37			
5	Cl (mg/L)		15.0				17.5						18.7			
6	CO3 (mg/L)		0.0				0.0						0.1			
7	F (mg/L)						0.13									
8	Fe (mg/L)						0.1									
10	K (mg/L)						1.7						2.7			
11	Mg (mg/L)		5.0				10.7						11.7			
12	Na (mg/L)						16.6						20.9			
13	NO2+NO3 (mg N/L)						0.54									
14	NO2-N (mgN/L)						0.04									
15	NO3-N (mgN/L)						0.50									
16	P-Tot (mgP/L)						0.060									
17	SiO2 (mg/L)						20.0									
18	SO4 (mg/L)		3.0				12.0									

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Rampur (EMN000B3)

Division : MD,CWC,Burla

Local River : Jonk

River Water

Sub-Division : UMSD,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)		0.5				2.1						0.5	1.7		
2	COD (mg/L)						28.0									
3	DO (mg/L)		6.8				8.4						6.7			
4	DO_SAT% (%)						107						81			
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)		90				42						91			
2	HAR_Total (mgCaCO3/L)		110				87						140			
3	Na% (%)						29						24			
4	RSC (-)		0.5				0.6						0.1			
5	SAR (-)						0.8						0.8			
	PESTICIDES															

HASDEO SUB-BASIN

SITE MANENDRAGARH

HISTORY SHEET

Water Year : 2016-2017

Site : Manendragarh

Code : EMM00T7

State : Chhattisgarh

District : Korla

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Hasdeo

Sub Tributary :

Sub-Sub Tributary :

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

Drainage Area : 1100 Sq. Km.

Bank :

Latitude : 23°12'10"

Longitude : 82°12'54"

Zero of Gauge (m) : 411 (m.s.l)

21-06-1987 - 31-05-2015

Opening Date

Closing Date

Gauge : 21-06-1987

Discharge : 21-06-1989

Sediment : 09-07-1993

Water Quality : 01-10-1992

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1990-1991	2329	420.440	12-07-1990	0.171	412.630	04-04-1991
1991-1992	465.3	415.200	23-08-1991	0.062	412.410	31-03-1992
1992-1993	97.51	414.245	12-09-1992	0.310	412.450	09-02-1993
1993-1994	709.4	416.510	16-09-1993	0.099	412.240	21-03-1994
1994-1995	541.5	416.595	08-10-1994	0.202	411.580	24-04-1995
1995-1996	310.8	415.750	18-07-1995	0.450	411.560	30-06-1995
1996-1997	290.7	414.605	04-09-1996	1.145	412.435	31-12-1996
1997-1998	130.0	414.000	07-08-1997	0.450	412.110	17-11-1997
1998-1999	990.0	416.000	19-07-1998	0.217	412.130	06-04-1999
1999-2000	175.5	414.330	03-08-1999	1.250	412.210	22-06-1999
2000-2001	240.0	414.670	03-09-2000	0.244	412.470	14-02-2001
2001-2002	374.3	415.610	13-07-2001	0.140	412.260	03-05-2002
2002-2003	355.3	415.870	12-09-2002	0.070	412.340	10-04-2003
2003-2004	328.1	415.570	27-09-2003	0.368	412.355	20-04-2004
2004-2005	170.0	414.670	08-08-2004	0.657	411.900	06-04-2005
2005-2006	169.7	414.380	01-07-2005	0.532	412.270	28-02-2006
2006-2007	174.8	414.950	31-07-2006	0.440	411.720	31-03-2007
2007-2008	115.0	413.960	02-09-2007	0.496	411.650	18-01-2008
2008-2009	212.2	414.900	07-08-2008	0.402	411.700	20-02-2009
2009-2010	112.9	413.745	21-07-2009	0.120	411.540	10-03-2010
2010-2011	119.1	413.750	05-08-2010	0.329	411.600	31-12-2010
2011-2012	448.0	412.810	05-09-2011	0.718	411.560	20-12-2011

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2012-2013	235.4	415.225	10-07-2012	0.620	411.510	11-01-2013
2013-2014	85.00	413.490	28-07-2013	0.600	411.520	23-03-2014
2014-2015	279.2	414.735	05-08-2014	0.000	411.000	01-05-2015
2015-2016	127.8	413.758	09-07-2015	0.000	411.000	14-03-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Manendragarh (EMM00T7)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	411.000	0.000 *	411.490	0.993	412.080	27.68	412.250	36.33	412.205	31.40	411.645	3.062
2	411.000	0.000 *	411.550	1.409	412.535	38.77	412.475	40.30	412.170	26.00 *	411.640	2.937
3	411.000	0.000 *	411.560	1.500 *	412.453	37.04	412.275	36.53	412.248	32.64	411.635	2.894
4	411.000	0.000 *	411.795	6.371	412.255	34.74	412.565	39.00 *	412.020	23.25	411.630	3.114
5	411.000	0.000 *	411.765	5.855	411.910	22.42	412.480	39.70	411.905	14.55	411.625	2.719
6	411.000	0.000 *	412.280	28.00 *	411.815	16.38	412.163	33.15	411.930	16.22	411.625	2.600 *
7	411.000	0.000 *	411.860	17.64	412.930	51.00 *	412.048	26.03	412.203	28.19	411.620	2.861
8	411.000	0.000 *	411.703	11.29	412.395	39.62	411.920	25.32	412.145	24.18	411.620	2.802
9	411.000	0.000 *	412.215	32.02	412.040	29.92	411.978	26.02	412.270	37.00	411.615	2.598
10	411.000	0.000 *	411.830	17.00 *	412.240	36.22	412.193	32.72	412.170	26.35	411.605	2.733
11	411.000	0.000 *	411.670	8.979	412.365	38.09	411.920	25.00 *	412.060	21.00 *	411.600	2.776
12	411.000	0.000 *	411.660	7.313	412.415	41.04	411.960	25.60	411.940	15.00	411.590	2.465
13	411.000	0.000 *	411.660	6.732	414.440	278.9	412.070	27.69 *	411.880	13.27	411.590	1.950 *
14	411.000	0.000 *	412.420	37.57	413.360	60.00 *	412.665	42.60	411.845	12.23	411.585	1.800 *
15	411.000	0.000 *	411.968	26.24	412.890	50.00 *	412.685	43.12	411.800	8.134	411.585	1.973
16	411.000	0.000 *	411.993	28.11	412.620	41.54	412.408	38.71	411.620	3.500	411.580	1.893
17	411.000	0.000 *	413.100	55.00 *	412.615	40.35	412.240	35.58	411.595	6.645	411.580	1.781
18	411.000	0.000 *	412.335	36.13	412.443	37.58	412.015	27.00 *	411.655	7.477	411.565	1.599
19	411.000	0.000 *	412.228	31.74	414.310	262.5	412.145	31.96	411.640	6.984	411.560	1.659
20	411.000	0.000 *	412.255	33.30	412.405	39.59	412.693	42.99	411.625	6.609	411.560	1.600 *
21	411.548	0.633	411.870	21.88	412.310	34.00 *	412.620	40.06	411.610	6.108	411.555	1.615
22	411.515	1.083	411.925	23.34	412.230	36.98	412.488	37.74	411.600	5.606	411.555	1.574
23	411.495	0.239	412.290	32.16	412.645	42.18	412.383	36.44	411.595	2.500	411.550	1.552
24	411.480	0.230	411.970	25.00 *	412.630	41.06	412.505	40.15	411.670	4.298	411.550	1.539
25	411.515	0.479	411.745	11.19	412.375	37.46	412.335	35.00 *	411.680	3.745	411.545	1.501
26	411.555	0.650 *	411.630	7.396	412.625	40.49	412.530	39.79	411.665	3.547	411.540	1.420
27	411.595	0.721	412.205	28.40	412.685	43.40	412.253	35.44	411.655	3.326	411.535	1.400 *
28	411.765	5.721	411.960	23.82	412.490	38.00 *	412.618	40.15	411.658	3.317	411.530	1.390
29	411.625	2.406	411.760	14.48	412.175	30.54	412.705	44.04	411.655	3.240	411.530	1.369
30	411.535	1.088	411.778	14.64	412.150	28.73	412.380	36.44	411.650	4.000	411.525	1.310
31			412.905	50.00 *	412.155	28.03			411.645	3.187		
Ten-Daily Mean												
I Ten-Daily	411.000	0.000	411.805	12.21	412.265	33.38	412.235	33.51	412.127	25.98	411.626	2.832
II Ten-Daily	411.000	0.000	412.129	27.11	412.986	88.97	412.280	34.02	411.766	10.09	411.579	1.950
III Ten-Daily	411.563	1.325	412.003	22.94	412.406	36.44	412.482	38.53	411.644	3.898	411.542	1.467
Monthly												
Min.	411.000	0.000	411.490	0.993	411.815	16.38	411.920	25.00	411.595	2.500	411.525	1.310
Max.	411.765	5.721	413.100	55.00	414.440	278.9	412.705	44.04	412.270	37.00	411.645	3.114
Mean	411.188	0.442	411.980	20.82	412.548	52.4	412.332	35.35	411.839	13.02	411.582	2.083

Annual Runoff in MCM = 331 Annual Runoff in mm = 301

Peak Observed Discharge = 278.9 cumecs on 13/08/2016 Corres. Water Level :414.44 m

Lowest Observed Discharge = 0.230 cumecs on 24/06/2016 Corres. Water Level :411.48 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

335

Stage-Discharge Data for the period 2016 - 2017

Station Name : Manendragarh (EMM00T7)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	411.520	1.224	411.420	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
2	411.530	1.341	411.420	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
3	411.530	1.319	411.420	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
4	411.530	1.300 *	411.415	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
5	411.530	1.383	411.415	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
6	411.530	1.285	411.410	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
7	411.525	1.238	411.410	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
8	411.525	1.126	411.410	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
9	411.525	1.014	411.405	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
10	411.520	0.830	411.405	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
11	411.520	0.825 *	411.405	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
12	411.520	0.820 *	411.400	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
13	411.515	0.782	411.400	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
14	411.515	0.757	411.400	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
15	411.510	0.649	411.400	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
16	411.510	0.617	411.390	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
17	411.510	0.602	411.390	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
18	411.510	0.600 *	411.390	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
19	411.505	0.585	411.390	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
20	411.505	0.618	411.385	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
21	411.500	0.523	411.385	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
22	411.500	0.493	411.385	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
23	411.495	0.414	411.385	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
24	411.495	0.420	411.380	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
25	411.490	0.645 *	411.380	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
26	411.490	0.649	411.380	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
27	411.495	0.622	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
28	411.470	0.481	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
29	411.460	0.392	411.000	0.000 *			411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
30	411.450	0.385	411.000	0.000 *			411.000	0.000 *	411.000	0.000 *	411.000	0.000 *
31	411.430	0.342	411.000	0.000 *			411.000	0.000 *			411.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	411.526	1.206	411.413	0.000	411.000	0.000	411.000	0.000	411.000	0.000	411.000	0.000
II Ten-Daily	411.512	0.685	411.395	0.000	411.000	0.000	411.000	0.000	411.000	0.000	411.000	0.000
III Ten-Daily	411.480	0.488	411.209	0.000	411.000	0.000	411.000	0.000	411.000	0.000	411.000	0.000
Monthly												
Min.	411.430	0.342	411.000	0.000	411.000	0.000	411.000	0.000	411.000	0.000	411.000	0.000
Max.	411.530	1.383	411.420	0.000	411.000	0.000	411.000	0.000	411.000	0.000	411.000	0.000
Mean	411.505	0.783	411.335	0	411.000	0	411.000	0	411.000	0	411.000	0

Peak Computed Discharge = 60.00 cumecs on 14/08/2016

Corres. Water Level :413.36 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :411 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

338

337

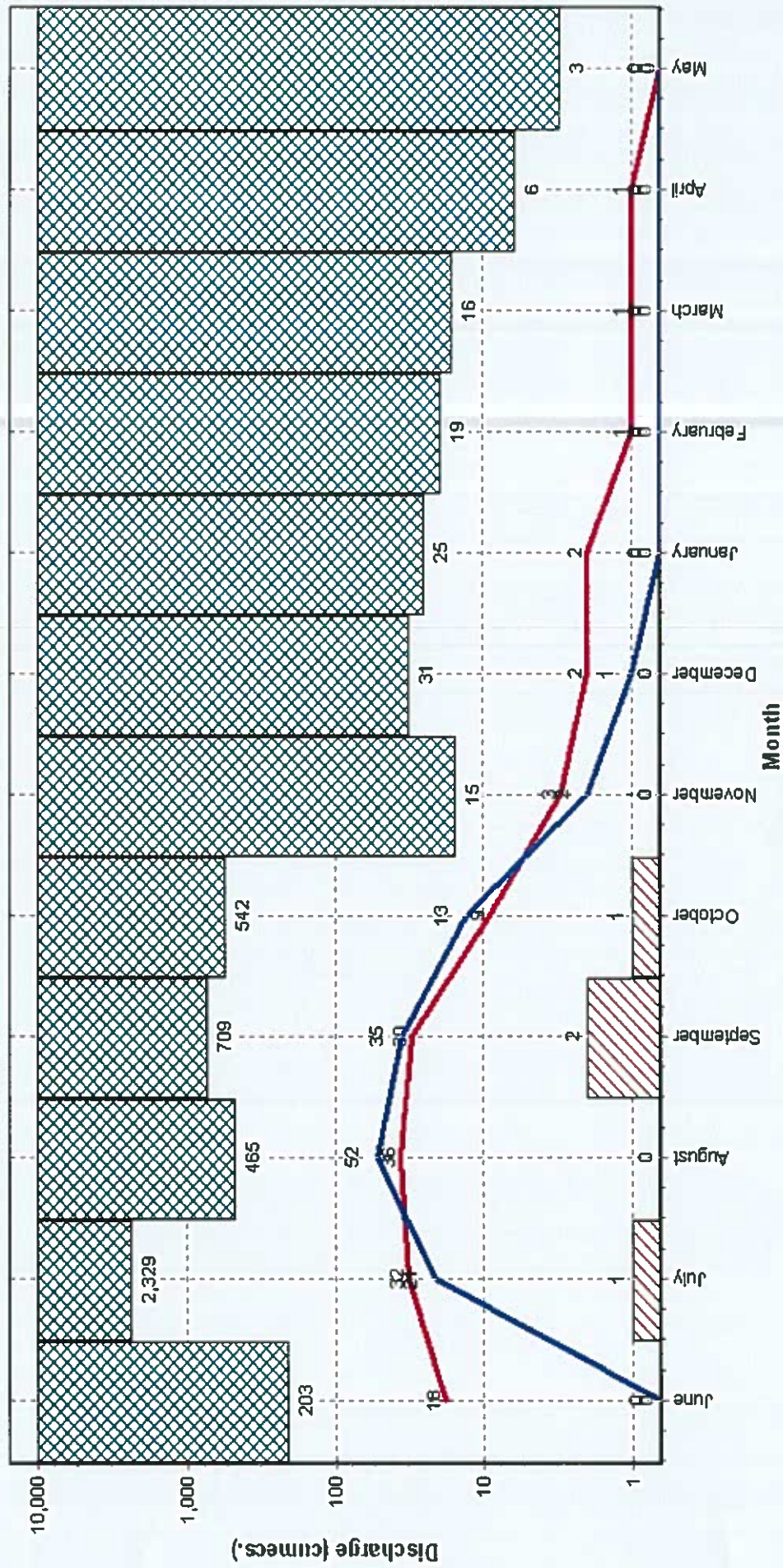
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Data considered : 1990-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Annual Runoff Values for the period: 1990 - 2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Monthly Average Runoff based on period : 1990-2016

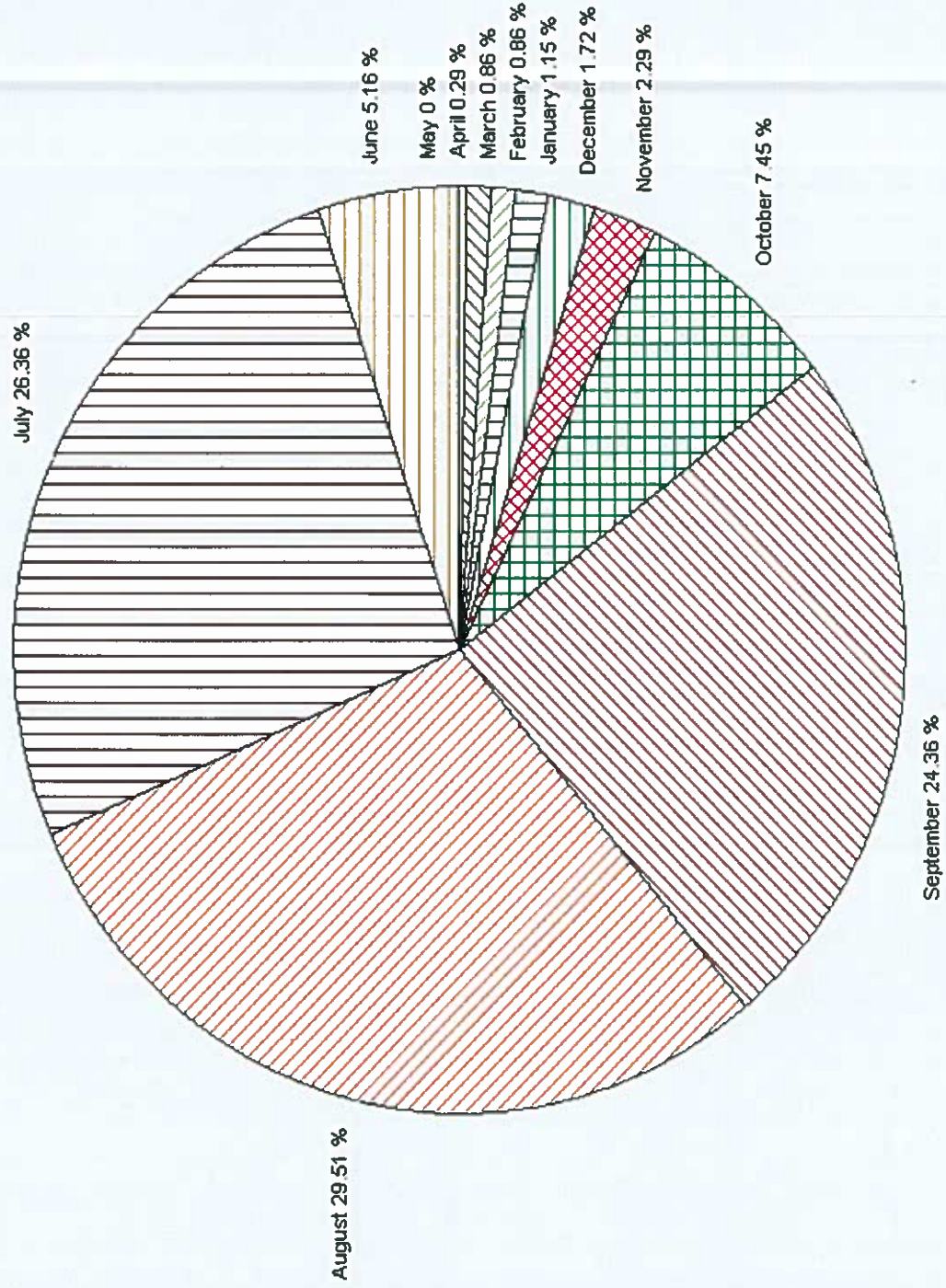
Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

June	5.16 %
July	26.36 %
August	29.51 %
September	24.36 %
October	7.45 %
November	2.29 %
December	1.72 %
January	1.15 %
February	0.86 %
March	0.86 %
April	0.29 %
May	0 %



Monthly Runoff for the Year : 2016-2017

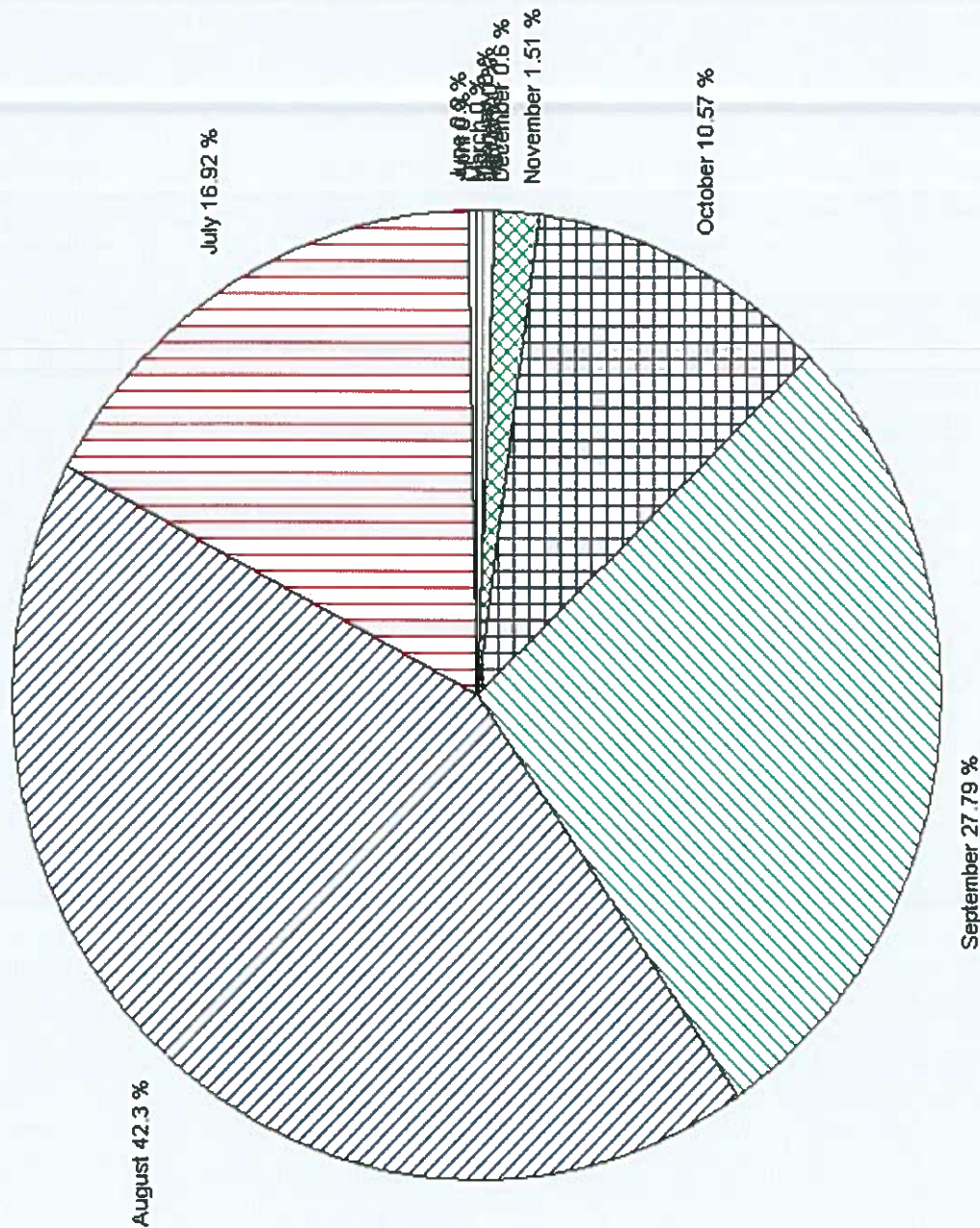
Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

June	0.3 %
July	16.92 %
August	42.3 %
September	27.79 %
October	10.57 %
November	1.51 %
December	0.6 %
January	0 %
February	0 %
March	0 %
April	0 %
May	0 %

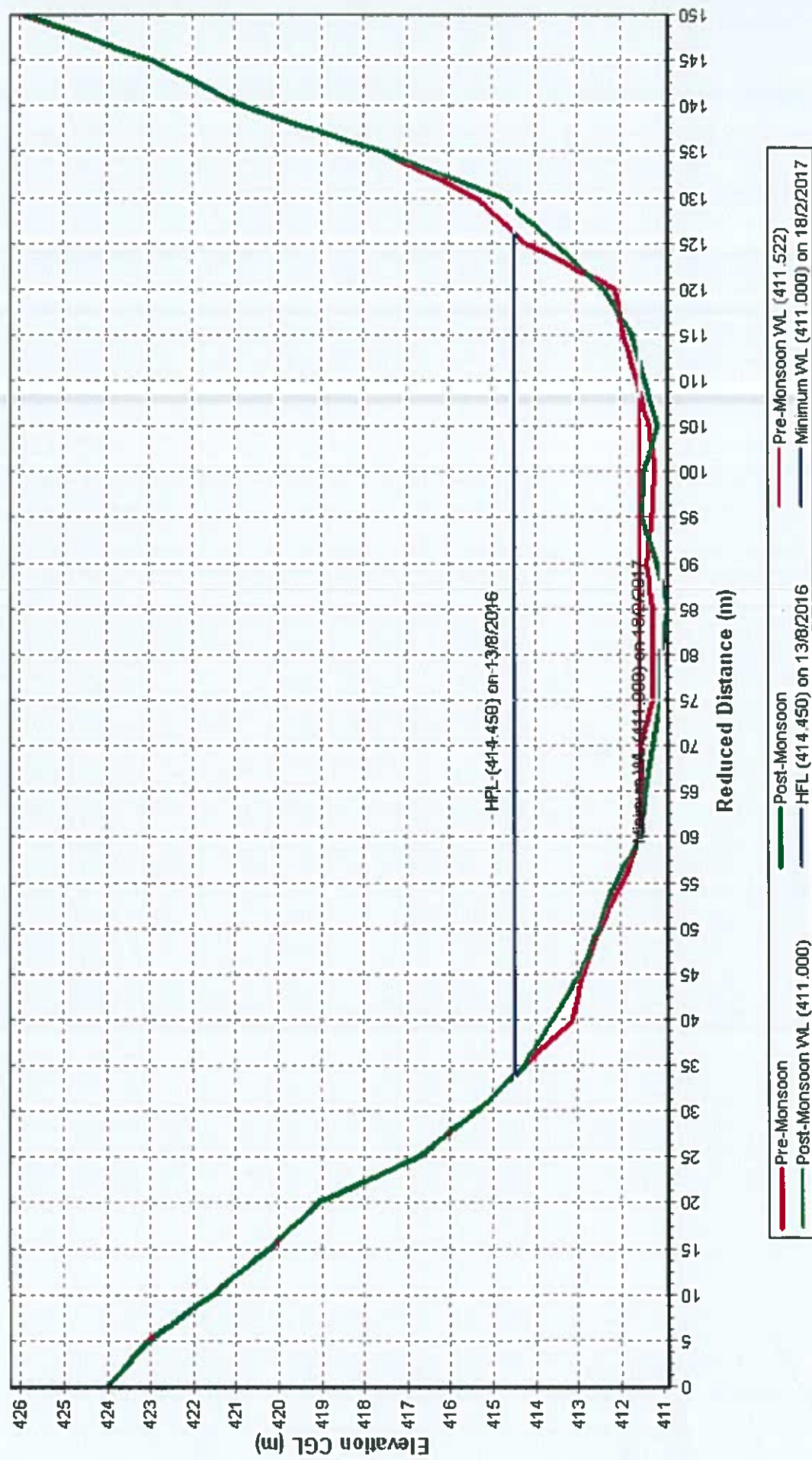


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



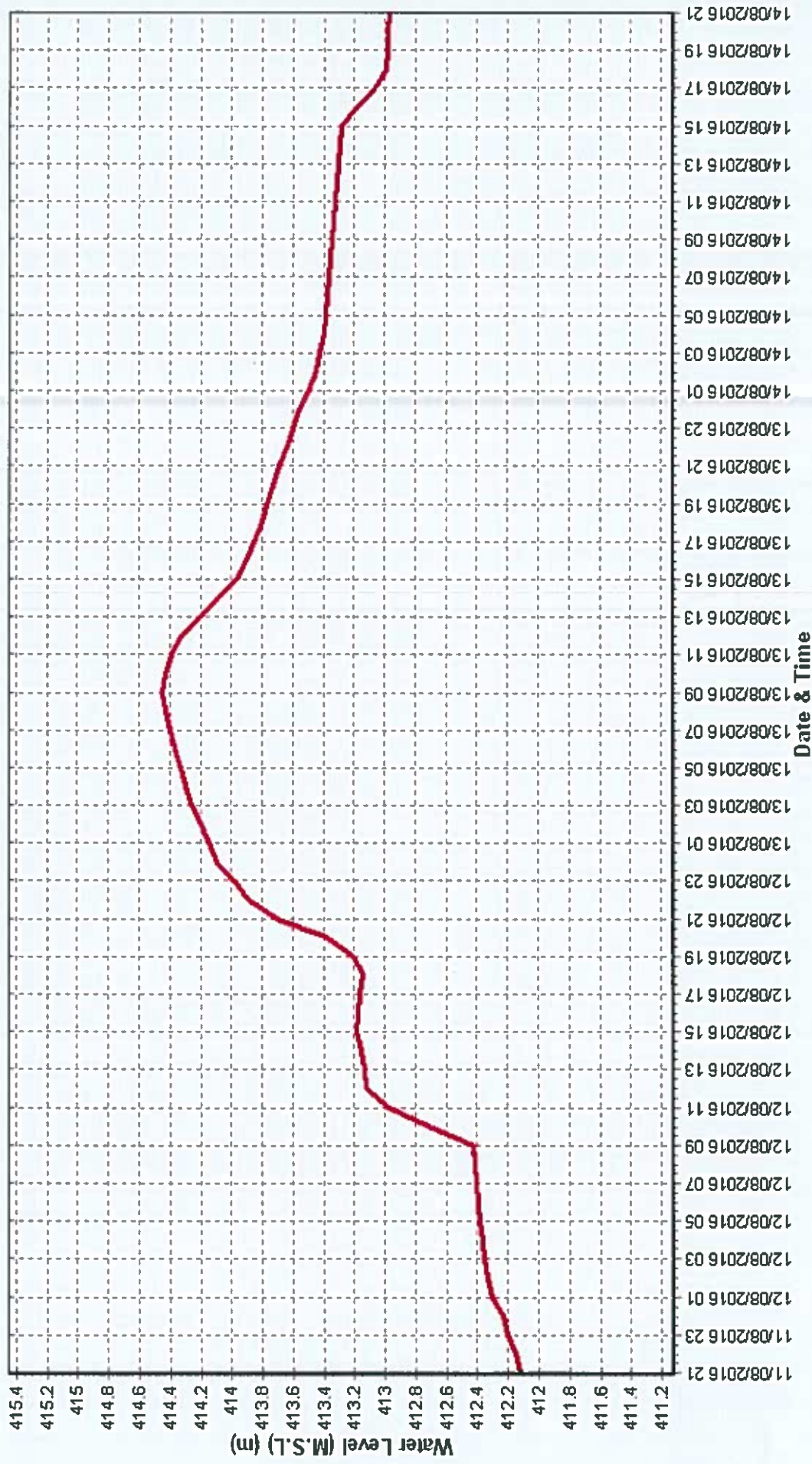
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur



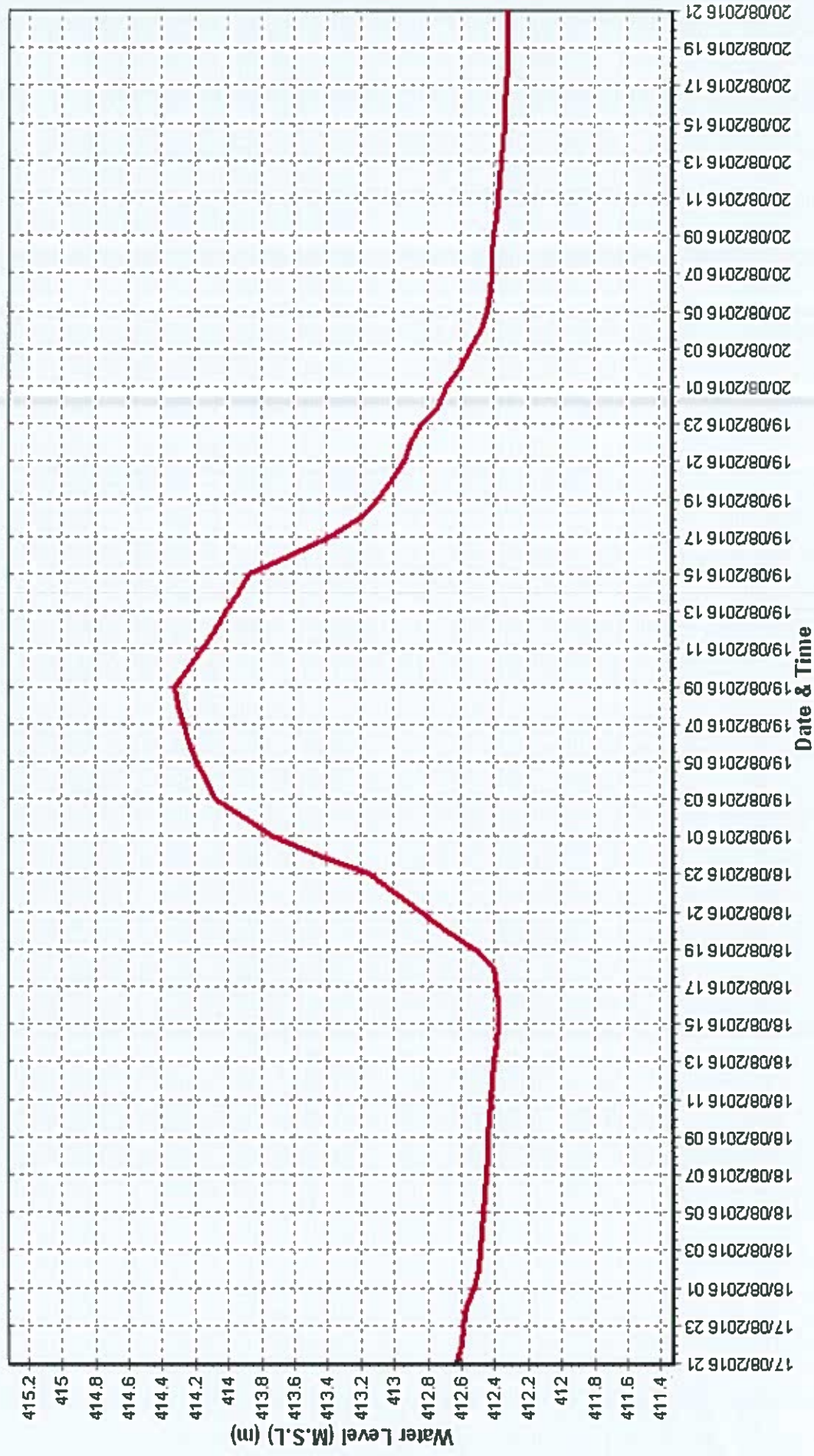
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



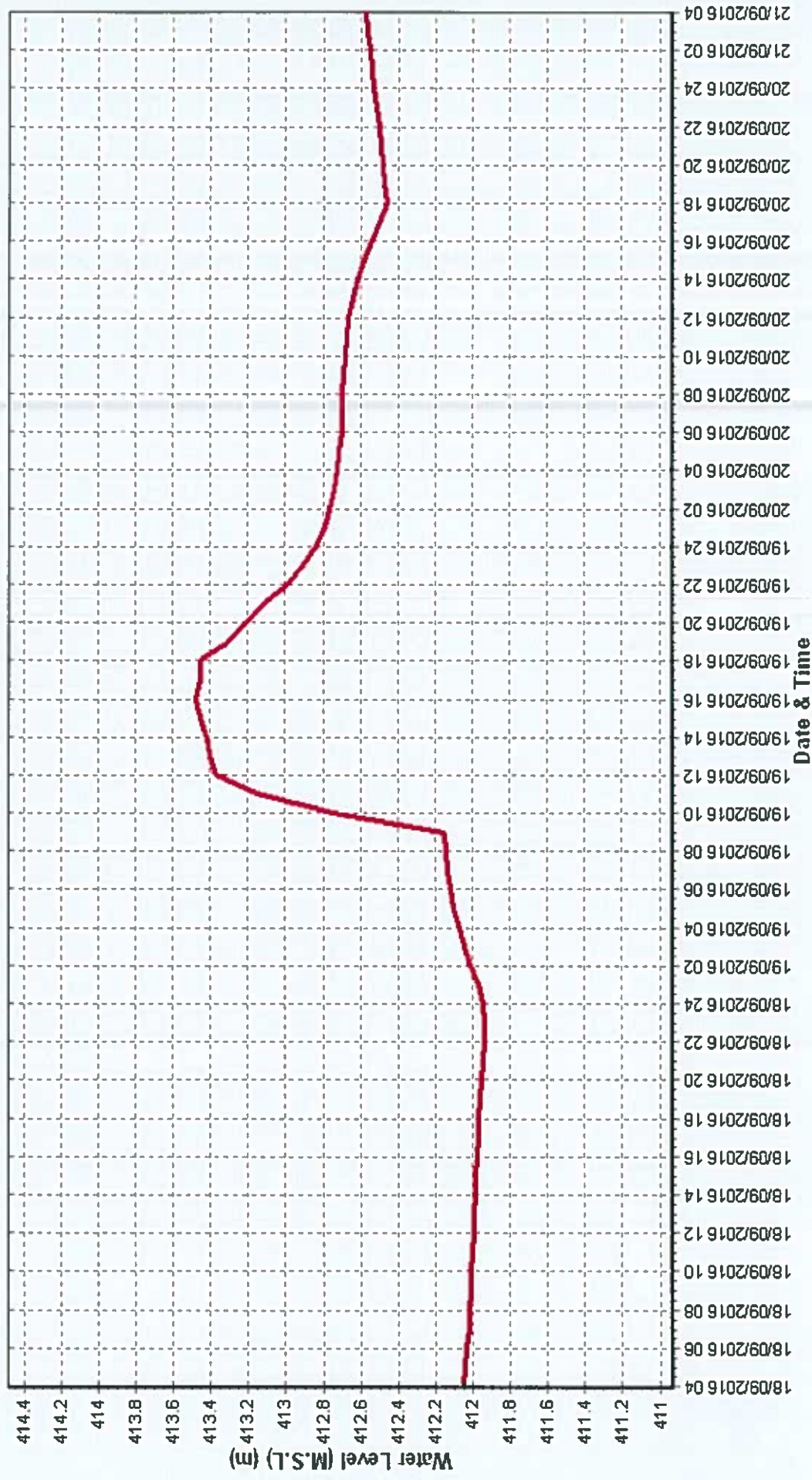
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Manendragarh (EMM00T7)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

Day	Jun					Jul					Aug								
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	0.000	0.000	0.000	0.000	0.000	0	0.993	0.000	0.000	0.008	0.008	1	27.68	0.000	0.000	0.000	0.212	0.212	507
2	0.000	0.000	0.000	0.000	0.000	0	1.409	0.000	0.000	0.010	0.010	1	38.77	0.000	0.000	0.000	0.530	0.530	1775
3	0.000	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0	37.04	0.000	0.000	0.000	0.102	0.102	326
4	0.000	0.000	0.000	0.000	0.000	0	6.371	0.000	0.000	0.017	0.017	9	34.74	0.000	0.000	0.000	0.114	0.114	342
5	0.000	0.000	0.000	0.000	0.000	0	5.855	0.000	0.000	0.014	0.014	7	22.42	0.000	0.000	0.000	0.054	0.054	105
6	0.000	0.000	0.000	0.000	0.000	0	28.00	0.000	0.000	0.000	0.000	0	16.38	0.000	0.000	0.000	0.030	0.030	42
7	0.000	0.000	0.000	0.000	0.000	0	17.64	0.000	0.000	0.016	0.016	24	51.00	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	11.29	0.000	0.000	0.014	0.014	14	39.62	0.000	0.000	0.000	0.122	0.122	418
9	0.000	0.000	0.000	0.000	0.000	0	32.02	0.000	0.000	0.062	0.062	172	29.92	0.000	0.000	0.000	0.070	0.070	181
10	0.000	0.000	0.000	0.000	0.000	0	17.00	0.000	0.000	0.000	0.000	0	36.22	0.000	0.000	0.000	0.060	0.060	188
11	0.000	0.000	0.000	0.000	0.000	0	8.979	0.000	0.000	0.018	0.018	14	38.09	0.000	0.000	0.000	0.071	0.071	234
12	0.000	0.000	0.000	0.000	0.000	0	7.313	0.000	0.000	0.010	0.010	6	41.04	0.000	0.000	0.000	0.088	0.088	312
13	0.000	0.000	0.000	0.000	0.000	0	6.732	0.000	0.000	0.016	0.016	9	278.9	0.000	0.000	0.000	0.055	0.055	1325
14	0.000	0.000	0.000	0.000	0.000	0	37.57	0.000	0.000	0.060	0.060	195	60.00	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	26.24	0.000	0.000	0.044	0.044	100	50.00	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	28.11	0.000	0.000	0.030	0.030	73	41.54	0.000	0.000	0.000	0.940	0.940	3373
17	0.000	0.000	0.000	0.000	0.000	0	55.00	0.000	0.000	0.000	0.000	0	40.35	0.000	0.000	0.000	0.082	0.082	286
18	0.000	0.000	0.000	0.000	0.000	0	36.13	0.000	0.000	0.037	0.037	116	37.58	0.000	0.000	0.000	0.086	0.086	279
19	0.000	0.000	0.000	0.000	0.000	0	31.74	0.000	0.000	0.056	0.056	154	262.5	0.000	0.000	0.000	0.590	0.590	13383
20	0.000	0.000	0.000	0.000	0.000	0	33.30	0.000	0.000	0.044	0.044	127	39.59	0.000	0.000	0.000	0.026	0.026	89
21	0.633	0.000	0.000	0.008	0.008	0	21.88	0.000	0.000	0.020	0.020	38	34.00	0.000	0.000	0.000	0.000	0.000	0
22	1.083	0.000	0.000	0.009	0.009	1	23.34	0.000	0.000	0.036	0.036	73	36.98	0.000	0.000	0.000	0.080	0.080	256
23	0.239	0.000	0.000	0.007	0.007	0	32.16	0.000	0.000	0.062	0.062	172	42.18	0.000	0.000	0.000	0.090	0.090	328
24	0.230	0.000	0.000	0.009	0.009	0	25.00	0.000	0.000	0.000	0.000	0	41.06	0.000	0.000	0.000	0.108	0.108	383
25	0.479	0.000	0.000	0.011	0.011	0	11.19	0.000	0.000	0.020	0.020	19	37.46	0.000	0.000	0.000	0.072	0.072	233
26	0.650	0.000	0.000	0.000	0.000	0	7.396	0.000	0.000	0.030	0.030	19	40.49	0.000	0.000	0.000	0.102	0.102	357
27	0.721	0.000	0.000	0.009	0.009	1	28.40	0.000	0.000	0.066	0.066	162	43.40	0.000	0.000	0.000	0.128	0.128	480
28	5.721	0.000	0.000	0.044	0.044	22	23.82	0.000	0.000	0.032	0.032	66	38.00	0.000	0.000	0.000	0.000	0.000	0
29	2.406	0.000	0.000	0.011	0.011	2	14.48	0.000	0.000	0.026	0.026	33	30.54	0.000	0.000	0.000	0.050	0.050	132
30	1.088	0.000	0.000	0.018	0.018	2	14.64	0.000	0.000	0.038	0.038	48	28.73	0.000	0.000	0.000	0.040	0.040	99
31							50.00	0.000	0.000	0.000	0.000	0	28.03	0.000	0.000	0.000	0.045	0.045	109
Ten Daily Mean																			
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	12.21	0.000	0.000	0.014	0.014	23	33.38	0.000	0.000	0.000	0.129	0.129	388
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	27.11	0.000	0.000	0.032	0.032	79	88.97	0.000	0.000	0.000	0.194	0.194	1928
Ten Daily III	1.325	0.000	0.000	0.013	0.013	3	22.94	0.000	0.000	0.030	0.030	57	36.44	0.000	0.000	0.000	0.065	0.065	216
Monthly																			
Total						28						1650							25543

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	36.33	0.000	0.000	0.110	0.110	345	31.40	0.000	0.000	0.080	0.080	217
2	40.30	0.000	0.000	0.115	0.115	400	26.00	0.000	0.000	0.000	0.000	0
3	36.53	0.000	0.000	0.080	0.080	252	32.64	0.000	0.000	0.100	0.100	282
4	39.00	0.000	0.000	0.000	0.000	0	23.25	0.000	0.000	0.090	0.090	181
5	39.70	0.000	0.000	0.092	0.092	316	14.55	0.000	0.000	0.060	0.060	75
6	33.15	0.000	0.000	0.081	0.081	232	16.22	0.000	0.000	0.058	0.058	81
7	26.03	0.000	0.000	0.050	0.050	112	28.19	0.000	0.000	0.091	0.091	222
8	25.32	0.000	0.000	0.040	0.040	87	24.18	0.000	0.000	0.084	0.084	176
9	26.02	0.000	0.000	0.060	0.060	135	37.00	0.000	0.000	0.000	0.000	0
10	32.72	0.000	0.000	0.080	0.080	226	26.35	0.000	0.000	0.000	0.000	0
11	25.00	0.000	0.000	0.000	0.000	0	21.00	0.000	0.000	0.000	0.000	0
12	25.60	0.000	0.000	0.025	0.025	55	15.00	0.000	0.000	0.000	0.000	0
13	27.69	0.000	0.000	0.000	0.000	0	13.27	0.000	0.000	0.064	0.064	73
14	42.60	0.000	0.000	0.096	0.096	353	12.23	0.000	0.000	0.050	0.050	53
15	43.12	0.000	0.000	0.131	0.131	488	8.134	0.000	0.000	0.030	0.030	21
16	38.71	0.000	0.000	0.101	0.101	338	3.500	0.000	0.000	0.000	0.000	0
17	35.58	0.000	0.000	0.090	0.090	277	6.645	0.000	0.000	0.020	0.020	11
18	27.00	0.000	0.000	0.000	0.000	0	7.477	0.000	0.000	0.010	0.010	6
19	31.96	0.000	0.000	0.084	0.084	232	6.984	0.000	0.000	0.009	0.009	5
20	42.99	0.000	0.000	0.119	0.119	442	6.609	0.000	0.000	0.009	0.009	5
21	40.06	0.000	0.000	0.104	0.104	360	6.108	0.000	0.000	0.008	0.008	4
22	37.74	0.000	0.000	0.095	0.095	310	5.606	0.000	0.000	0.008	0.008	4
23	36.44	0.000	0.000	0.090	0.090	283	2.500	0.000	0.000	0.000	0.000	0
24	40.15	0.000	0.000	0.101	0.101	350	4.298	0.000	0.000	0.010	0.010	4
25	35.00	0.000	0.000	0.000	0.000	0	3.745	0.000	0.000	0.009	0.009	3
26	39.79	0.000	0.000	0.105	0.105	361	3.547	0.000	0.000	0.007	0.007	2
27	35.44	0.000	0.000	0.088	0.088	269	3.326	0.000	0.000	0.008	0.008	2
28	40.15	0.000	0.000	0.106	0.106	368	3.317	0.000	0.000	0.006	0.006	2
29	44.04	0.000	0.000	0.134	0.134	510	3.240	0.000	0.000	0.006	0.006	2
30	36.44	0.000	0.000	0.090	0.090	283	4.000	0.000	0.000	0.000	0.000	0
31							3.187	0.000	0.000	0.005	0.005	1
Ten Daily Mean												
Ten Daily I	33.51	0.000	0.000	0.071	0.071	211	25.98	0.000	0.000	0.056	0.056	123
Ten Daily II	34.02	0.000	0.000	0.065	0.065	219	10.09	0.000	0.000	0.019	0.019	18
Ten Daily III	38.53	0.000	0.000	0.091	0.091	309	3.898	0.000	0.000	0.006	0.006	2
Monthly Total						7387						1434

Annual Sediment Load (Metric Tonnes) : 36045

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

Day	Dec					Jan					Feb							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.224	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	1.341	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	1.319	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	1.300	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1.383	0.000	0.000	0.005	0.005	1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	1.285	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	1.238	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	1.126	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	1.014	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.830	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.825	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.820	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.782	0.000	0.000	0.004	0.004	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.757	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.649	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.617	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.602	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.600	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.585	0.000	0.000	0.003	0.003	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.618	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.523	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.493	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.414	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.420	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.645	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.649	0.000	0.000	0.002	0.002	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.622	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.481	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.392	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.385	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.342	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	1.206	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.685	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.488	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						1						0						0

Annual Sediment Load (Metric Tonnes) : 36045

343

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

Day	Mar					Apr					May							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 36045

350

Annual Sediment Load for period : 1994-2017

Station Name : Manendragarh (EMM00T7)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1994-1995	144367	2	144369	563
1995-1996	36308	0	36308	296
1996-1997	84841	0	84841	463
1997-1998	26587	0	26587	233
1998-1999	118788	0	118788	408
1999-2000	91607	0	91607	417
2000-2001	59838	0	59838	288
2001-2002	77057	0	77057	545
2002-2003	36463	0	36463	216
2003-2004	73333	0	73333	464
2004-2005	29668	8	29677	294
2005-2006	29300	0	29300	423
2006-2007	22033	0	22033	259
2007-2008	14348	0	14348	153
2008-2009	40410	9	40419	309
2009-2010	24719	41	24760	148
2010-2011	54762	20	54782	185
2011-2012	28796	0	28796	444
2012-2013	18291	7	18298	267
2013-2014	9361	5	9365	237
2014-2015	5009	37	5047	278
2015-2016	1854	3	1856	98
2016-2017	36044	1	36045	331

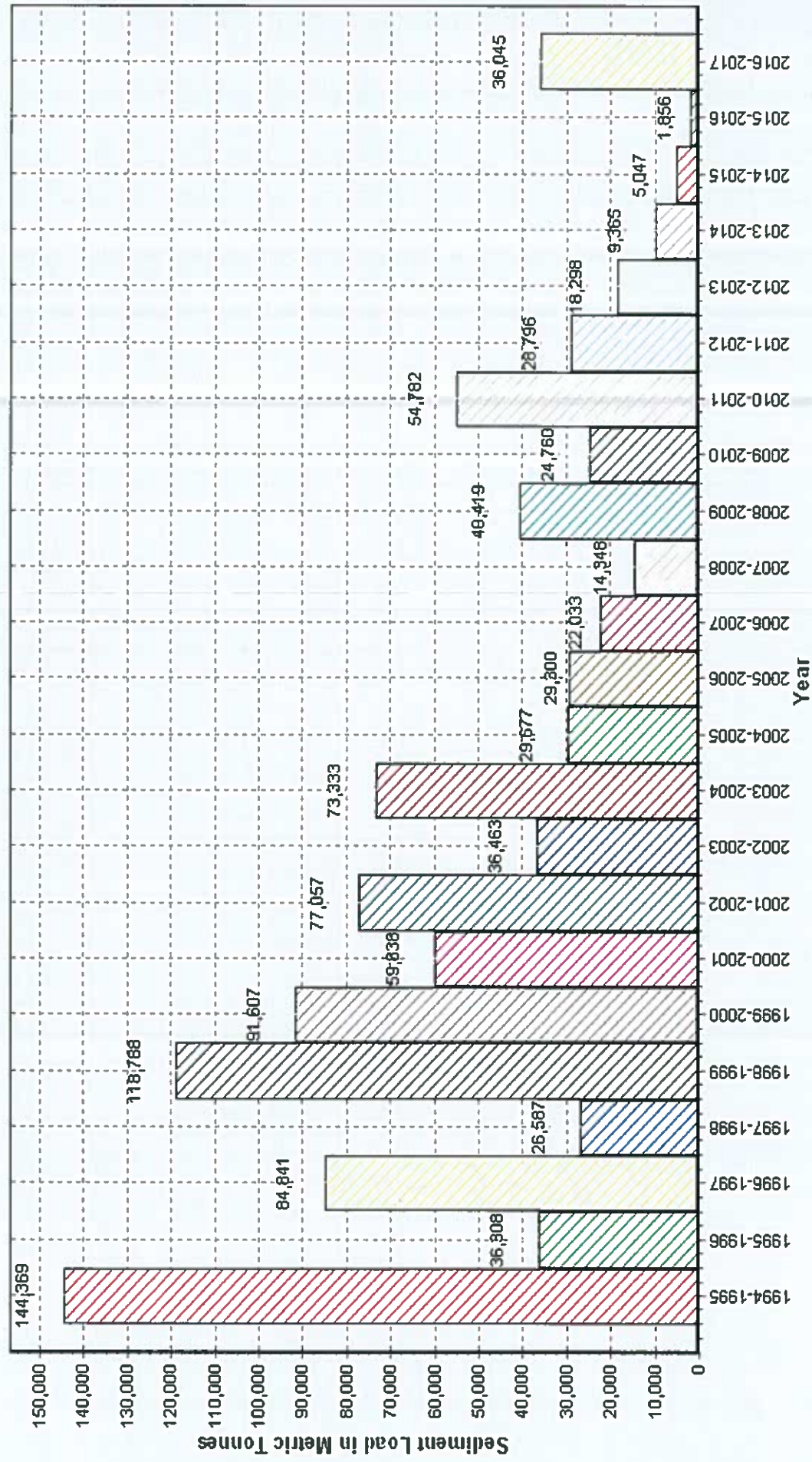
Annual Sediment Load for the period: 1994-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

Division : MD, CWC, Burla

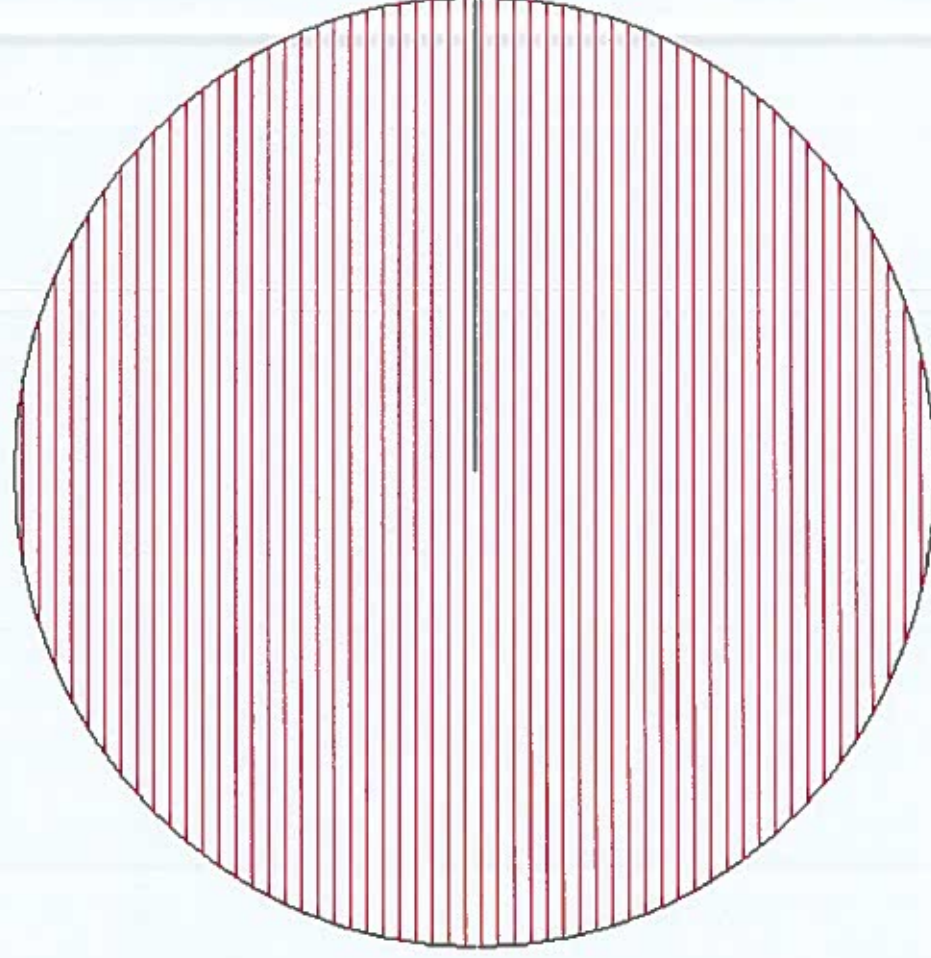
Sub-Division : MMSD I, CWC, Raipur



Seasonal Sediment Load for the period : 1994-2016

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

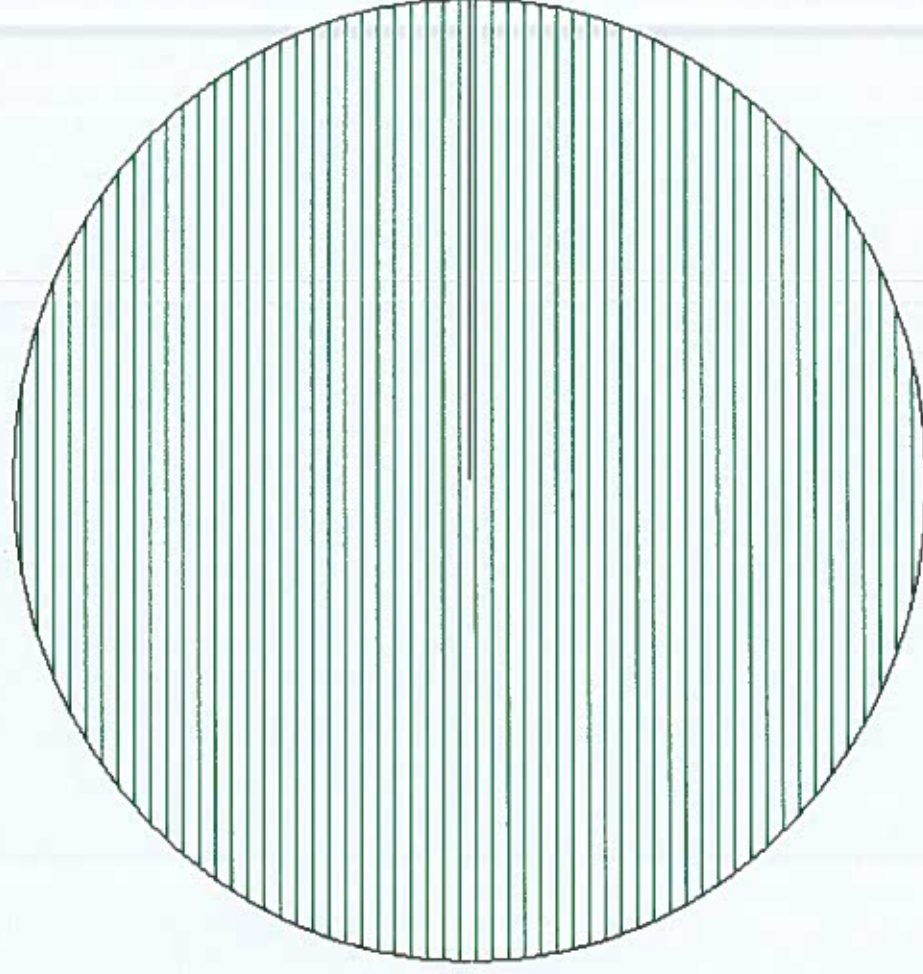
Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



Seasonal Sediment Load for the Year: 2016-2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-03-2017	01-04-2017	01-05-2017
	PHYSICAL											
1	Q (cumec)	0.000	0.993	27.68	36.33	31.40	3.062	1.224	0.000	0.000	0.000	0.000
2	Colour_Cod (-)		Clear	Brown	Light Brown	Brown	Clear	Clear	Clear			
3	EC_FLD (µmho/cm)		125	146	134	101	146	135	142			
4	EC_GEN (µmho/cm)		102	94	91	311	215	172	170			
5	Odour_Code (-)		odour free	odour free	odour free	rotten egg	odour free	odour free	odour free			
6	pH_FLD (pH units)		6.6	6.8	7.6	6.8	6.8	8.2	7.3			
7	pH_GEN (pH units)		7.5	7.2	7.4	7.4	8.4	8.3	8.3			
8	Temp (deg C)		29.5	28.0	24.5	26.0	17.7	15.5	15.0			
	CHEMICAL											
1	Alk-Phen (mgCaCO ₃ /L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2	ALK-TOT (mgCaCO ₃ /L)		132	276	80	88	92	120	104			
3	Ca (mg/L)		37	40	24	61	56	66	56			
4	Cl (mg/L)		18.0	14.0	11.0	19.0	27.0	20.0	25.0			
5	CO ₃ (mg/L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0			
6	HCO ₃ (mg/L)		81	168	49	54	56	73	63			
7	K (mg/L)		12.8	6.7	15.5	12.9	17.4	9.0	14.1			
8	Mg (mg/L)		4.9	5.8	9.7	21.4	14.6	10.7	16.5			
9	Na (mg/L)		15.5	11.2	23.4	30.9	34.9	23.5	29.4			
	BIOLOGICAL/BACTERIOLOGICAL											
1	BOD ₃₋₂₇ (mg/L)		1.0	0.8	0.7	1.8	2.0	1.4	1.2			
2	DO (mg/L)		4.1	6.2	6.1	6.8	6.8	7.2	8.0			
3	DO_SAT% (%)		53	79	73	84	70	71	79			
	TRACE & TOXIC											
	CHEMICAL INDICES											
1	HAR_Ca (mgCaCO ₃ /L)		92	100	60	152	140	164	140			
2	HAR_Total (mgCaCO ₃ /L)		112	124	101	241	201	209	209			
3	Na% (%)		21	16	30	21	25	19	22			
4	RSC (-)		0.0	0.3	0.0	0.0	0.0	0.0	0.0			
5	SAR (-)		0.6	0.4	1.0	0.9	1.1	0.7	0.9			
	PESTICIDES											

Water Quality Summary for the period : 2016-2017

Station Name : Manendragarh (EMM00T7)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	278.9	0.000	10.50
2	EC_FLD (µmho/cm)	7	146	101	133
3	EC_GEN (µmho/cm)	7	311	91	165
4	pH_FLD (pH units)	7	8.2	6.6	7.1
5	pH_GEN (pH units)	7	8.4	7.2	7.8
6	Temp (deg C)	7	29.5	15.0	22.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	7	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	7	276	80	127
3	Ca (mg/L)	7	66	24	49
4	Cl (mg/L)	7	27.0	11.0	19.1
5	CO3 (mg/L)	7	0.0	0.0	0
6	HCO3 (mg/L)	7	168	49	78
7	K (mg/L)	7	17.4	6.7	12.6
8	Mg (mg/L)	7	21.4	4.9	11.9
9	Na (mg/L)	7	34.9	11.2	24.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	7	2.0	0.7	1.3
2	DO (mg/L)	7	8.0	4.1	6.5
3	DO_SAT% (%)	7	84	53	73
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	7	164	60	121
2	HAR_Total (mgCaCO3/L)	7	241	101	171
3	Na% (%)	7	30	16	22
4	RSC (-)	7	0.3	0.0	0
5	SAR (-)	7	1.1	0.4	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Flood Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	6.529	38.07	8.658			26.89	21.73	16.87	21.59	32.40	18.48	16.10	14.84	3.774	19.28
2	EC_FLD (µmho/cm)	167	80	106			172	89	189		85		149		233	127
3	EC_GEN (µmho/cm)	167	80	106			139	154	177	112	121	139	100	244	136	150
4	pH_FLD (pH units)	7.8	7.4	7.7			7.5	7.6	7.6	7.1	7.4		7.2		7.1	6.9
5	pH_GEN (pH units)	7.8	7.4	7.7			7.5	7.6	7.7	7.6	7.6	7.8	8.1	7.9	7.8	7.4
6	Temp (deg C)	26.1	24.3	30.0			27.3	22.8	27.0	27.0	25.2	26.5	27.9	27.3	27.5	27.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.6	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0
2	ALK-TOT (mgCaCO3/L)	100	91	103			59	131	131	78	87	105	88	118	113	144
3	B (mg/L)						0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	16	9	15			6	12	14	8	10	14	12	16	19	40
5	Cl (mg/L)	5.3	15.6	12.0			3.6	7.1	3.7	3.6	7.5	8.8	13.8	14.0	17.8	15.5
6	CO3 (mg/L)	0.7	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0
7	F (mg/L)		1.07				0.05	0.08	0.06	0.08	0.16	0.13				
8	Fe (mg/L)						0.0	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	60	56	86			36	80	80	47	53	64	54	72	62	88
10	K (mg/L)	7.9					0.8	1.3	1.4	1.4	1.9	1.2	2.8	3.1	7.0	12.0
11	Mg (mg/L)	5.8	2.4	8.1			3.2	6.1	7.5	4.4	5.8	6.0	4.9	7.0	9.9	10.4
12	Na (mg/L)	5.0					11.7	5.5	3.6	10.9	3.7	5.3	3.4	17.4	17.6	20.2
13	NO2+NO3 (mg N/L)			1.36			0.05	0.64								
14	NO2-N (mgN/L)						0.01	0.02	0.02	0.01	0.02	0.02				
15	NO3-N (mgN/L)						0.05	0.62								
16	P-Tot (mgP/L)		0.030				0.010	0.020	0.050	0.015	0.027	0.043				
17	SiO2 (mg/L)						5.8	13.1	11.3	6.6	7.6	10.3				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
18	SO4 (mg/L)	7.6	25.5	6.5			8.5	5.8	13.0	9.4	7.7	13.0				
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	1.2	0.9			0.6	1.1	1.4	0.9	0.9	1.4	1.0	0.8	1.1	1.1
2	COD (mg/L)						8.0	18.0	18.0	14.0	28.0	18.7				
3	DO (mg/L)	8.5	5.2	5.0			8.3	7.2	6.5	6.1	6.9	7.9	6.9	6.0	5.9	5.8
4	DO_SAT% (%)	104	61	66			100	83	82	77	84	97	88	75	74	72
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	40	24	37			15	31	35	20	24	34	31	40	47	101
2	HAR_Total (mgCaCO3/L)	64	34	70			28	56	66	38	48	59	51	69	89	145
3	Na% (%)	14					49	17	10	34	15	16	12	34	27	22
4	RSC (-)	0.2	0.1	0.0			0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	0.3					1.0	0.3	0.2	0.7	0.2	0.3	0.2	0.9	0.8	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

River Water

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	PHYSICAL															
1	Q (cumec)	0.699	4.587	5.423			1.076	1.435	0.932	0.679	2.914	1.594	2.077	2.479	0.811	1.072
2	EC_FLD (µmho/cm)	149	192	198			199	108	149	294	140		83	760	85	141
3	EC_GEN (µmho/cm)	149	192	198			162	148	176	230	176		216	199	143	186
4	pH_FLD (pH units)	8.3	7.6	7.8			7.7	7.6	8.1	7.4	7.8		6.7	6.5	6.8	7.4
5	pH_GEN (pH units)	8.3	7.6	7.8			8.0	7.6	8.3	7.7	8.1		8.2	7.9	8.3	8.3
6	Temp (deg C)	18.9	22.5	24.0			10.5	15.0	18.5	26.0	18.5		17.8	16.9	18.3	16.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	1.0	0.0	0.0			0.0	0.0	8.3	0.0	0.0		1.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	93	187	151			120	131	94	163	129		198	192	114	105
3	B (mg/L)						0.01	0.00	0.00	0.00	0.00					
4	Ca (mg/L)	13	40	11			13	13	13	17	13		31	28	19	59
5	Cl (mg/L)	5.1	17.0	5.7			18.0	11.0	7.1	8.1	6.2		23.3	20.3	14.3	24.0
6	CO3 (mg/L)	1.3	0.0	0.0			0.0	0.0	9.9	0.0	0.0		1.2	0.0	0.0	0.0
7	F (mg/L)		0.47				0.08	0.09	0.18	0.18	0.14					
8	Fe (mg/L)						0.0	0.0	0.0	0.0	0.0			0.1		
9	HCO3 (mg/L)	55	69	92			73	80	47	99	78		120	117	70	64
10	K (mg/L)	3.0		1.2			2.5	2.2	1.9	1.4	1.6		9.8	5.4	5.7	13.5
11	Mg (mg/L)	2.8	-5.2	8.8			6.3	6.6	6.6	10.2	7.8		20.9	18.7	9.0	13.9
12	Na (mg/L)	4.8		4.9			14.8	8.8	6.5	3.5	7.4		23.0	21.0	17.9	29.2
13	NO2+NO3 (mg N/L)			1.48			0.18	0.86						0.13		
14	NO2-N (mgN/L)						0.01	0.01	0.01	0.02	0.01			0.02		
15	NO3-N (mgN/L)						0.17	0.85						0.11		
16	P-Tot (mgP/L)						0.020	0.035	0.010	0.030	0.020			0.020		
17	SiO2 (mg/L)						13.0	12.5	8.4	13.2	4.2			10.0		

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Manendragarh (EMM00T7)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

River Water

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
18	SO4 (mg/L)	6.9	19.7	16.7			28.5	16.0	37.5	26.6	21.6			18.5		
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9	0.6	0.7			1.2	0.5	0.8	0.4	0.5		1.7	2.6	0.9	1.5
2	COD (mg/L)						20.0	22.0	14.0	20.0	16.0					
3	DO (mg/L)	9.4	5.1	8.5			9.7	8.2	8.7	7.7	8.5		8.3	7.8	8.1	7.3
4	DO_SAT% (%)	101		101			88	81	92	95	90		87	80	86	74
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	34	100	27			33	32	33	42	32		78	71	47	148
2	HAR_Total (mgCaCO3/L)	45	79	63			59	60	60	85	65		165	149	84	206
3	Na% (%)	13		14			34	24	18	8	20		20	22	30	22
4	RSC (-)	0.2	0.0	0.5			0.0	0.1	0.0	0.0	0.0		0.0	0.0	0.0	0.0
5	SAR (-)	0.2		0.3			0.8	0.5	0.4	0.2	0.4		0.8	0.7	0.9	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Manendragarh (EMM00T7)

Local River : Hasdeo

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	0.476	0.896	0.860					0.292				1.304	0.200	0.000	0.000
2	EC_FLD (µmho/cm)	185	284											785		
3	EC_GEN (µmho/cm)	185	284				157						520	409		
4	pH_FLD (pH units)	8.5	7.9											6.6		
5	pH_GEN (pH units)	8.5	8.0				8.4						7.6	7.9		
6	Temp (deg C)	20.0					15.0						17.0	24.3		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	3.6	0.0				9.2						0.0	6.0		
2	ALK-TOT (mgCaCO3/L)	96	279				103						320	232		
3	B (mg/L)						0.01									
4	Ca (mg/L)	12	15				11						61	53		
5	Cl (mg/L)	3.0	15.0				18.4						48.0	33.0		
6	CO3 (mg/L)	4.3	0.0				11.1						0.0	7.2		
7	F (mg/L)						0.07									
8	Fe (mg/L)						0.1							0.1		
9	HCO3 (mg/L)	54	170				52						195	134		
10	K (mg/L)						1.0						3.6	7.1		
11	Mg (mg/L)	2.6	7.5				5.8						10.9	20.4		
12	Na (mg/L)						14.0						40.9	20.3		
13	NO2+NO3 (mg N/L)						0.28							0.17		
14	NO2-N (mgN/L)						0.01							0.06		
15	NO3-N (mgN/L)						0.27							0.10		
16	P-Tot (mgP/L)						0.020							0.015		
17	SiO2 (mg/L)						11.8							10.7		

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Manendragarh (EMM00T7)

Division : MD,CWC,Burla

Local River : Hasdeo

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
18	SO4 (mg/L)		30.0				16.0							14.8		
BIOLOGICAL/BACTERIOLOGICAL																
1	BOD3-27 (mg/L)		0.7				1.4					0.8	10.8			
2	COD (mg/L)						16.0									
3	DO (mg/L)	7.4	7.3									5.0	6.1			
4	DO_SAT% (%)	78										52	72			
TRACE & TOXIC																
CHEMICAL INDICES																
1	HAR_Ca (mgCaCO3/L)	30	38				28					152	132			
2	HAR_Total (mgCaCO3/L)	41	69				52					198	217			
3	Na% (%)						36					31	21			
4	RSC (-)	0.2	1.4				0.2					0.0	0.0			
5	SAR (-)						0.8					1.3	0.8			
PESTICIDES																

SITE BAHMNIDHI

HISTORY SHEET

Water Year : 2016-2017

Site : Bamnidhi

Code : EMM00B3

State : Chhattisgarh

District : Janjgir-champa

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Hasdeo

Sub Tributary :

Sub-Sub Tributary :

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

Drainage Area : 9730 Sq. Km.

Bank :

Latitude : 21°53'55"

Longitude : 82°42'29"

Zero of Gauge (m) : 223 (m.s.l)

29-01-1971 - 31-12-2025

Opening Date

Closing Date

Gauge : 29-01-1971

Discharge : 18-02-1971

Sediment : 01-01-1973

Water Quality : 01-09-1972

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1971-1972	8843	228.510	28-07-1971	1.000	224.425	28-05-1972
1972-1973	4688	227.948	13-09-1972	1.100	224.410	15-06-1972
1973-1974	5801	228.340	04-09-1973	1.200	224.380	01-06-1973
1974-1975	1955	227.555	18-08-1974	1.600	224.680	14-05-1975
1975-1976	12700	228.883	22-08-1975	2.194	224.420	30-04-1976
1976-1977	5445	228.250	15-08-1976	1.491	224.390	10-02-1977
1977-1978	5802	228.055	16-07-1977	2.057	224.385	02-06-1977
1978-1979	2900	227.375	12-08-1978	1.000	224.350	31-05-1979
1979-1980	2348	227.315	09-08-1979	0.864	224.330	10-05-1980
1980-1981	4916	228.250	20-09-1980	1.292	224.360	02-06-1980
1981-1982	2665	228.600	23-08-1981	3.245	224.395	02-06-1981
1982-1983	2571	227.600	31-08-1982	2.850	224.515	16-04-1983
1983-1984	2001	227.665	09-09-1983	2.000	224.520	12-06-1983
1984-1985	4502	228.200	09-08-1984	3.460	224.710	02-06-1984
1985-1986	3500	227.350	08-08-1985	2.950	224.765	02-06-1985
1986-1987	3480	228.185	28-06-1986	2.200	224.525	12-06-1986
1987-1988	6658	228.453	15-09-1987	3.580	224.675	02-06-1987
1988-1989	1547	227.070	11-08-1988	2.531	224.490	12-05-1989
1989-1990	914.0	226.395	28-07-1989	2.511	224.485	03-06-1989
1990-1991	1381	226.750	20-07-1990	5.255	224.525	06-06-1990
1991-1992	1691	227.050	14-08-1991	3.500	224.630	24-05-1992
1992-1993	758.9	226.380	20-08-1992	5.000	224.655	21-03-1993

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1993-1994	1259	226.645	27-09-1993	7.000	224.700	13-06-1993
1994-1995	5169	228.560	04-08-1994	17.93	224.735	26-02-1995
1995-1996	1551	227.370	18-07-1995	17.69	224.655	28-05-1996
1996-1997	1701	227.020	26-07-1996	9.846	224.625	15-05-1997
1997-1998	814.3	226.390	09-09-1997	18.97	224.690	22-06-1997
1998-1999	4163	227.600	12-09-1998	11.00	224.645	16-05-1999
1999-2000	1719	227.220	09-08-1999	16.72	224.820	12-05-2000
2000-2001	930.8	226.550	27-07-2000	20.88	224.850	11-05-2001
2001-2002	3036	227.840	24-07-2001	29.31	224.870	19-06-2001
2002-2003	805.9	226.110	25-06-2002	13.37	224.480	12-05-2003
2003-2004	6731	228.520	08-09-2003	9.500	224.450	15-06-2003
2004-2005	4691	228.257	12-08-2004	21.27	224.830	25-04-2005
2005-2006	3267	227.730	05-08-2005	10.86	224.580	08-05-2006
2006-2007	1640	226.880	23-08-2006	22.95	224.785	09-01-2007
2007-2008	1379	226.615	21-08-2007	4.520	224.600	18-05-2008
2008-2009	752.9	226.355	19-09-2008	8.232	224.640	04-06-2008
2009-2010	346.7	225.925	14-07-2009	1.884	224.560	21-05-2010
2010-2011	803.3	226.155	06-08-2010	4.002	224.480	24-05-2011
2011-2012	7732	228.620	10-09-2011	2.500	224.350	27-05-2012
2012-2013	827.4	226.380	23-08-2012	2.460	224.330	04-06-2012
2013-2014	718.7	226.275	29-08-2013	2.914	224.330	19-05-2014
2014-2015	7392	228.615	06-08-2014	4.280	224.280	04-07-2014
2015-2016	811.5	226.300	18-08-2015	1.589	224.240	12-05-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : Bamnidhi (EMM00B3)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	224.460	12.53	224.593	28.31	225.160	80.30	225.700	385.4	225.280	135.0	224.510	21.26
2	224.470	16.08	224.595	31.39	225.110	77.18	225.110	114.9	225.180	120.0 *	224.480	19.63
3	224.540	18.53	224.640	22.00 *	225.255	102.5	224.725	56.77	225.300	143.5	224.460	17.73
4	224.480	14.70	224.715	30.14	225.860	694.2	225.060	100.0 *	225.280	148.7	224.420	15.56
5	224.455	12.00 *	225.025	55.45	226.040	1007	225.070	119.5	225.243	136.3	224.400	6.586
6	224.450	14.01	224.980	50.00 *	226.320	1083	225.070	135.2	225.040	109.4	224.480	10.00 *
7	224.450	13.39	224.825	39.63	225.780	400.0 *	224.870	114.3	224.840	77.53	224.545	14.18
8	224.445	15.22	224.875	37.34	225.780	513.0	224.790	90.52	224.803	76.89	224.630	16.63
9	224.440	13.84	224.860	44.58	225.310	117.0	224.740	81.80	225.070	95.00 *	224.590	18.31
10	224.430	13.01	224.745	40.00 *	225.130	118.2	224.685	71.24	225.000	90.00 *	224.560	16.42
11	224.390	9.854	224.730	29.31	225.120	120.3	224.620	40.00 *	224.950	85.00 *	224.550	15.88
12	224.340	5.400 *	224.865	45.47	225.305	133.7	224.695	75.74	224.890	74.00 *	224.580	16.96
13	224.390	9.610	224.753	30.30	225.815	671.8	224.780	50.00 *	224.865	58.00	224.620	16.10 *
14	224.385	9.743	224.830	40.98	225.710	335.0 *	224.845	107.0	224.705	53.45	224.800	40.00 *
15	224.380	10.17	224.645	19.49	225.650	250.0 *	224.815	102.9	224.708	61.03	224.470	10.27
16	224.375	8.642	224.825	39.81	225.305	150.0	224.695	87.67	224.715	50.00 *	224.510	12.10
17	224.380	7.372	224.860	45.00 *	225.255	134.5	224.575	60.74	224.535	52.42	224.610	21.24
18	224.340	5.142	225.518	201.0	225.705	494.6	224.675	47.00 *	224.565	51.47	224.850	45.37
19	224.260	2.000 *	225.410	148.3	225.310	158.6	224.660	58.12	224.465	43.28	224.760	36.74
20	224.510	13.80	225.020	85.50	225.258	144.2	224.768	66.79	224.443	41.18	224.700	28.00 *
21	224.540	12.75	225.265	90.86	225.230	150.0 *	224.837	87.50	224.475	38.29	224.650	33.48
22	224.600	18.50	225.285	100.5	224.970	82.51	224.645	60.60	224.255	12.28	224.570	17.28
23	224.620	19.00	225.068	62.67	224.878	75.21	224.685	59.10	224.295	12.00 *	224.500	16.38
24	224.625	19.49	225.070	60.00 *	224.888	68.32	224.700	60.35	224.285	14.04	224.470	15.70
25	224.630	18.42	224.880	52.21	224.950	81.53	224.605	30.00 *	224.280	13.07	224.510	17.31
26	224.770	32.00 *	224.880	52.48	225.055	111.9	224.655	63.94	224.715	44.25	224.620	27.31
27	224.605	17.39	224.973	62.57	225.020	103.5	225.955	718.1	224.700	44.73	224.620	17.00 *
28	224.540	15.83	225.133	75.24	225.080	85.00 *	226.185	1042	224.660	34.44	224.500	12.92
29	224.795	35.67	225.213	104.4	224.858	88.93	226.185	908.9	224.613	37.08	224.490	11.65
30	224.823	36.83	224.885	68.34	224.725	57.24	225.260	151.0	224.580	24.00 *	224.490	11.66
31			224.890	47.00 *	224.660	52.78			224.605	25.02		
Ten-Daily Mean												
I Ten-Daily	224.462	14.33	224.785	37.88	225.575	419.3	224.982	127.0	225.103	113.2	224.507	15.63
II Ten-Daily	224.375	8.174	224.945	68.52	225.443	259.3	224.713	69.59	224.684	56.98	224.645	24.27
III Ten-Daily	224.655	22.59	225.049	70.57	224.938	86.99	225.171	318.2	224.497	27.20	224.542	18.07
Monthly												
Min.	224.260	2.000	224.592	19.49	224.660	52.78	224.575	30.00	224.255	12.00	224.400	6.586
Max.	224.822	36.83	225.518	201.0	226.320	1083	226.185	1042	225.300	148.7	224.850	45.37
Mean	224.497	15.03	224.931	59.37	225.306	249.8	224.955	171.6	224.753	64.56	224.565	19.32

Annual Runoff In MCM = 1669 Annual Runoff in mm = 172

Peak Observed Discharge = 1083 cumecs on 06/08/2016 Corres. Water Level :226.32 m

Lowest Observed Discharge = 3.137 cumecs on 06/04/2017 Corres. Water Level :224.4 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m * :Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : Bamnidhi (EMM00B3)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	224.490	11.16	224.490	13.35 *	224.415	7.654	224.430	8.173	224.400	3.673	224.440	4.467
2	224.500	12.76	224.480	13.29	224.415	7.691	224.430	8.001	224.400	3.650 *	224.450	6.812
3	224.560	13.76	224.490	13.90	224.420	8.018	224.420	7.714	224.390	3.414	224.440	6.705
4	224.510	12.50 *	224.480	13.83	224.420	7.716	224.410	7.414	224.410	3.571	224.440	8.445
5	224.450	10.17	224.460	11.19	224.410	7.450 *	224.410	7.410 *	224.410	3.363	224.440	5.107
6	224.460	10.62	224.400	8.135	224.410	7.497	224.400	5.801	224.400	3.137	224.420	4.467
7	224.470	11.14	224.370	5.904	224.410	7.509	224.410	5.834	224.410	3.611	224.420	4.548 *
8	224.480	12.14	224.380	6.000 *	224.410	7.503	224.440	6.458	224.410	3.330	224.420	4.909
9	224.510	12.50	224.470	12.60	224.410	7.609	224.400	4.794	224.410	3.320 *	224.450	5.332
10	224.550	15.02	224.470	12.54	224.415	8.004	224.410	4.766	224.410	3.906	224.430	4.972 *
11	224.520	12.60 *	224.460	12.03	224.415	8.022	224.400	4.595	224.400	3.466	224.410	4.339
12	224.530	12.65 *	224.460	11.32	224.415	8.000 *	224.400	5.800 *	224.520	9.531	224.420	4.520
13	224.680	34.46	224.450	11.18	224.460	9.158	224.410	5.830 *	224.540	10.01	224.430	4.670
14	224.630	26.06	224.450	10.87	224.410	7.584	224.460	4.792	224.450	6.190 *	224.520	10.85 *
15	224.480	12.89	224.450	10.85 *	224.410	8.019	224.410	4.814	224.450	6.199	224.735	31.30
16	224.450	12.10	224.460	11.93	224.410	7.488	224.400	4.556	224.445	6.100 *	224.570	18.34
17	224.490	13.29	224.470	12.44	224.420	7.723	224.400	4.355	224.440	5.379	224.450	5.919
18	224.480	12.20 *	224.470	11.77	224.420	8.295	224.400	4.467	224.430	4.704	224.450	6.497
19	224.460	12.44	224.440	10.34	224.420	8.290 *	224.400	4.460 *	224.420	3.923	224.450	5.926
20	224.450	10.47	224.450	10.81	224.420	8.063	224.440	5.449	224.420	3.192	224.450	6.077
21	224.460	10.38	224.450	9.912	224.420	7.861	224.440	5.080	224.440	5.744	224.440	6.120 *
22	224.440	9.197	224.450	9.850 *	224.415	7.602	224.500	10.78	224.500	9.807	224.430	5.229
23	224.470	10.82	224.450	10.23	224.430	8.990	224.500	10.42	224.530	10.50 *	224.420	4.979
24	224.480	11.27	224.460	10.75	224.420	8.437	224.450	8.000	224.520	13.15	224.420	5.938
25	224.470	11.45 *	224.460	11.32	224.430	7.744	224.430	5.444	224.450	8.820	224.420	5.130
26	224.490	11.80	224.440	10.33 *	224.420	8.400 *	224.430	5.440 *	224.440	8.235	224.410	4.955
27	224.550	16.19	224.410	7.477	224.420	8.403	224.420	5.099	224.440	6.412	224.500	8.880
28	224.530	15.37	224.410	7.506	224.440	8.838	224.410	4.147	224.450	6.515	224.510	12.10 *
29	224.510	15.39	224.410	7.475 *			224.400	3.925	224.440	5.987	224.450	14.09
30	224.480	11.64	224.420	7.850			224.400	3.735	224.440	5.950 *	224.450	6.447
31	224.500	14.58	224.410	7.512			224.400	3.889			224.460	6.667
Ten-Daily Mean												
I Ten-Daily	224.498	12.18	224.449	11.07	224.413	7.665	224.416	6.637	224.405	3.498	224.435	5.576
II Ten-Daily	224.517	15.92	224.456	11.35	224.420	8.064	224.412	4.912	224.451	5.869	224.488	9.844
III Ten-Daily	224.489	12.55	224.434	9.110	224.424	8.284	224.435	5.996	224.465	8.112	224.446	7.322
Monthly												
Min.	224.440	9.197	224.370	5.904	224.410	7.450	224.400	3.735	224.390	3.137	224.410	4.339
Max.	224.680	34.46	224.490	13.90	224.460	9.158	224.500	10.78	224.540	13.15	224.735	31.30
Mean	224.501	13.52	224.446	10.47	224.419	7.985	224.421	5.853	224.440	5.826	224.456	7.572

Peak Computed Discharge = 400.0 cumecs on 07/08/2016

Corres. Water Level :225.78 m

Lowest Computed Discharge = 2.000 cumecs on 19/06/2016

Corres. Water Level :224.26 m

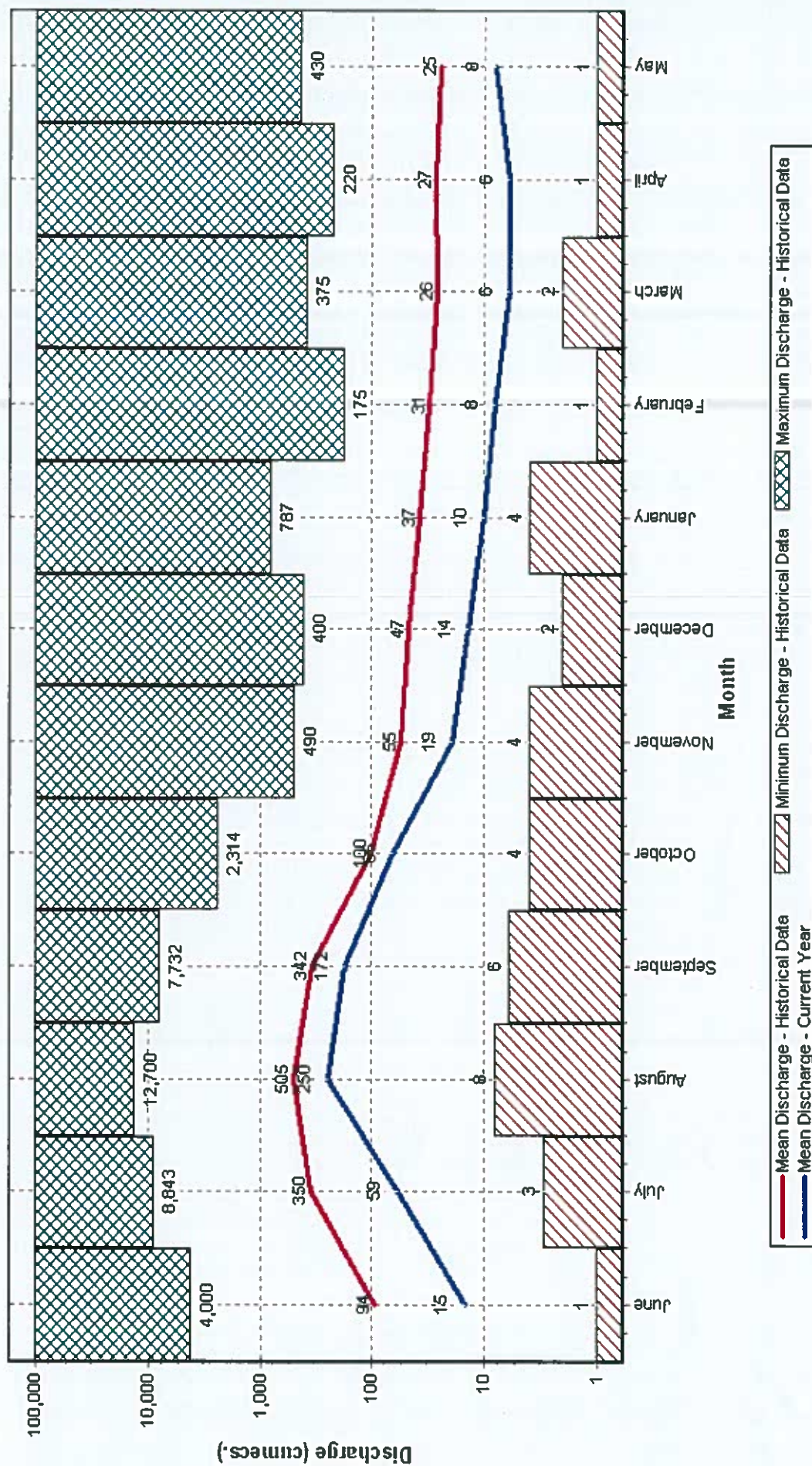
Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017 Data considered : 1971-2017

Station Name : Bamnidhi (EMM000B3)
Local River : Hasdeo

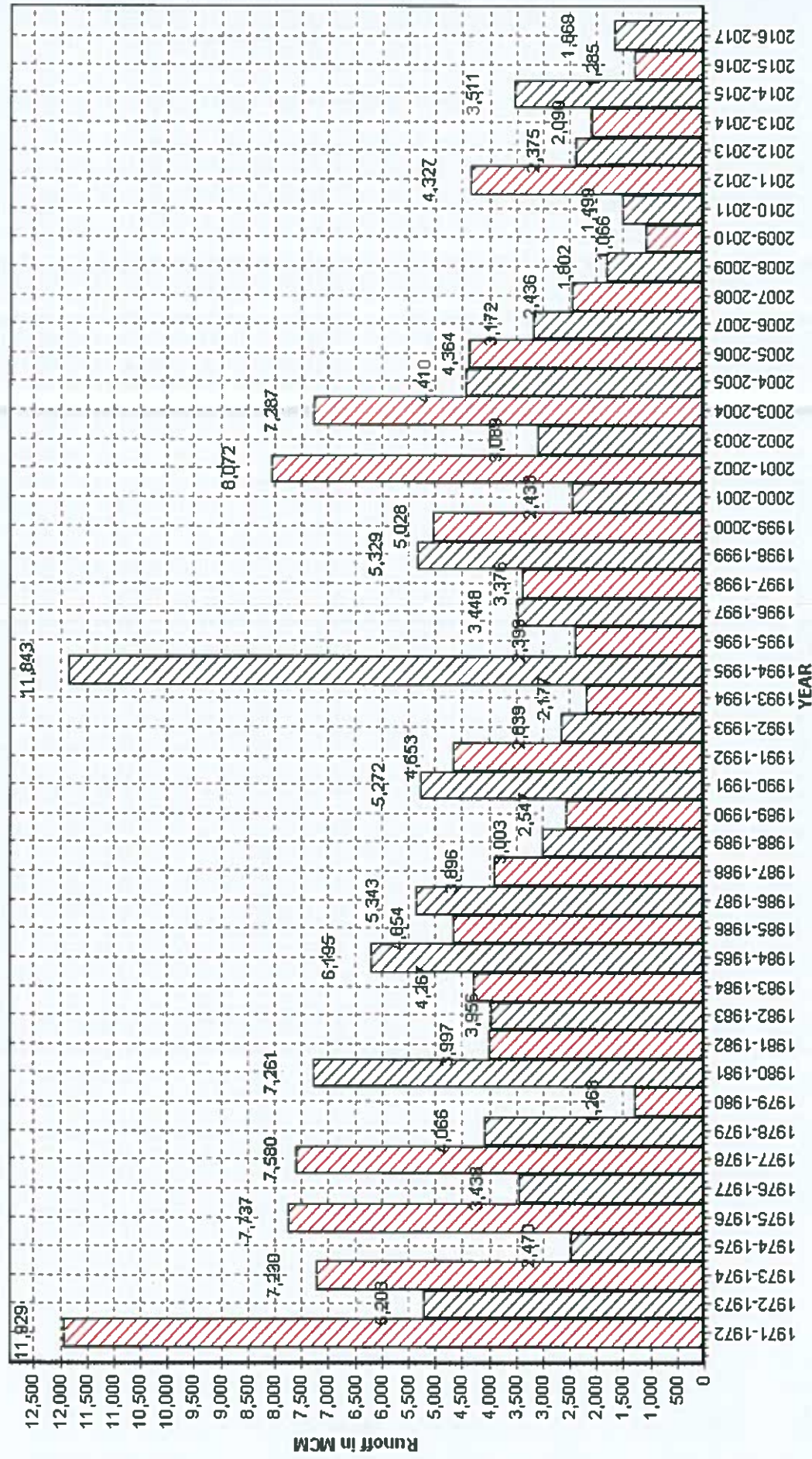
Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



Annual Runoff Values for the period: 1971 - 2017

Station Name : Bamnidhi (EMM000B3)
Local River : Hasdeo

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

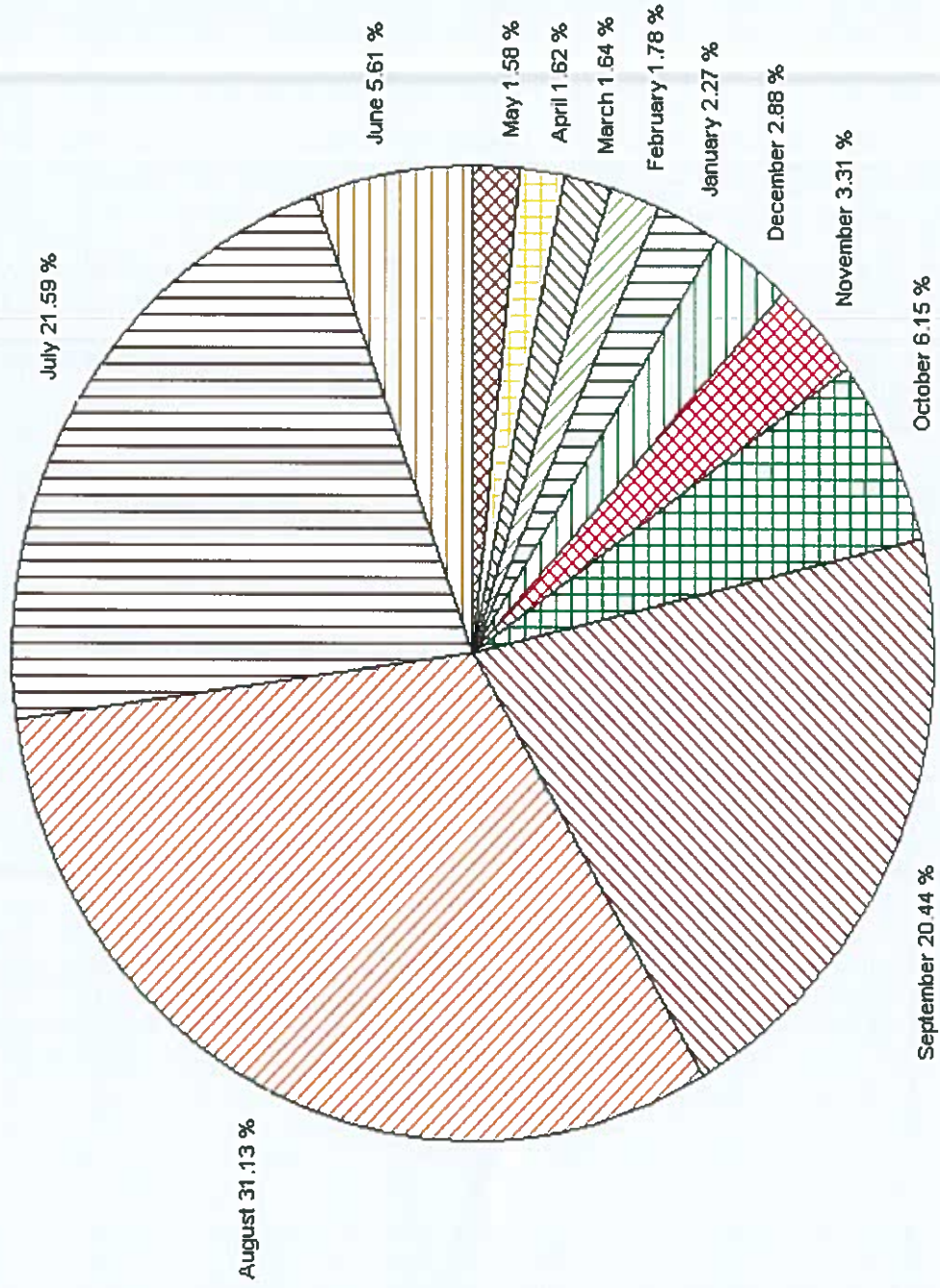


Monthly Average Runoff based on period : 1971-2016

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

June	5.61 %
July	21.59 %
August	31.13 %
September	20.44 %
October	6.15 %
November	3.31 %
December	2.88 %
January	2.27 %
February	1.78 %
March	1.64 %
April	1.62 %
May	1.58 %

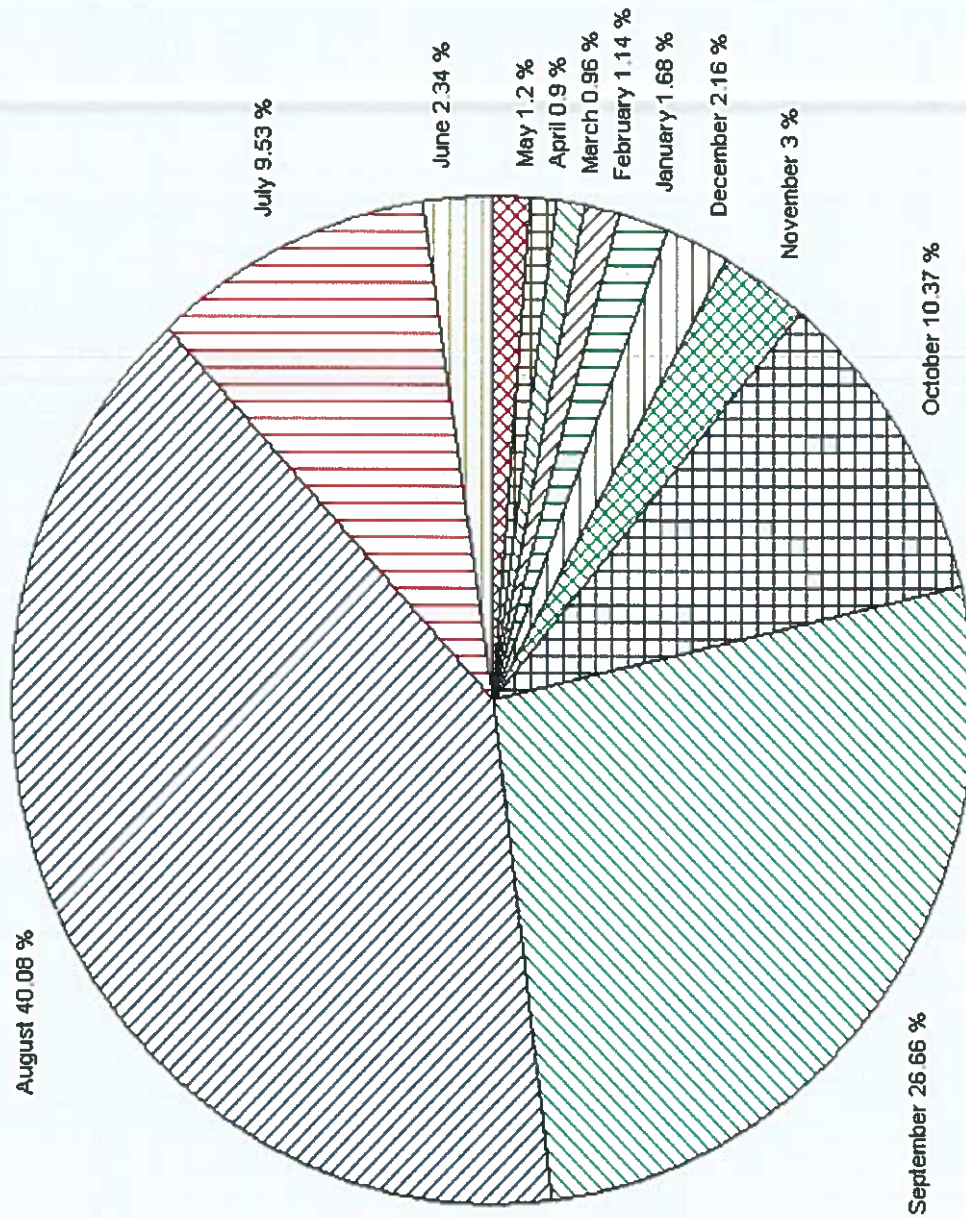


Monthly Runoff for the Year : 2016-2017

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

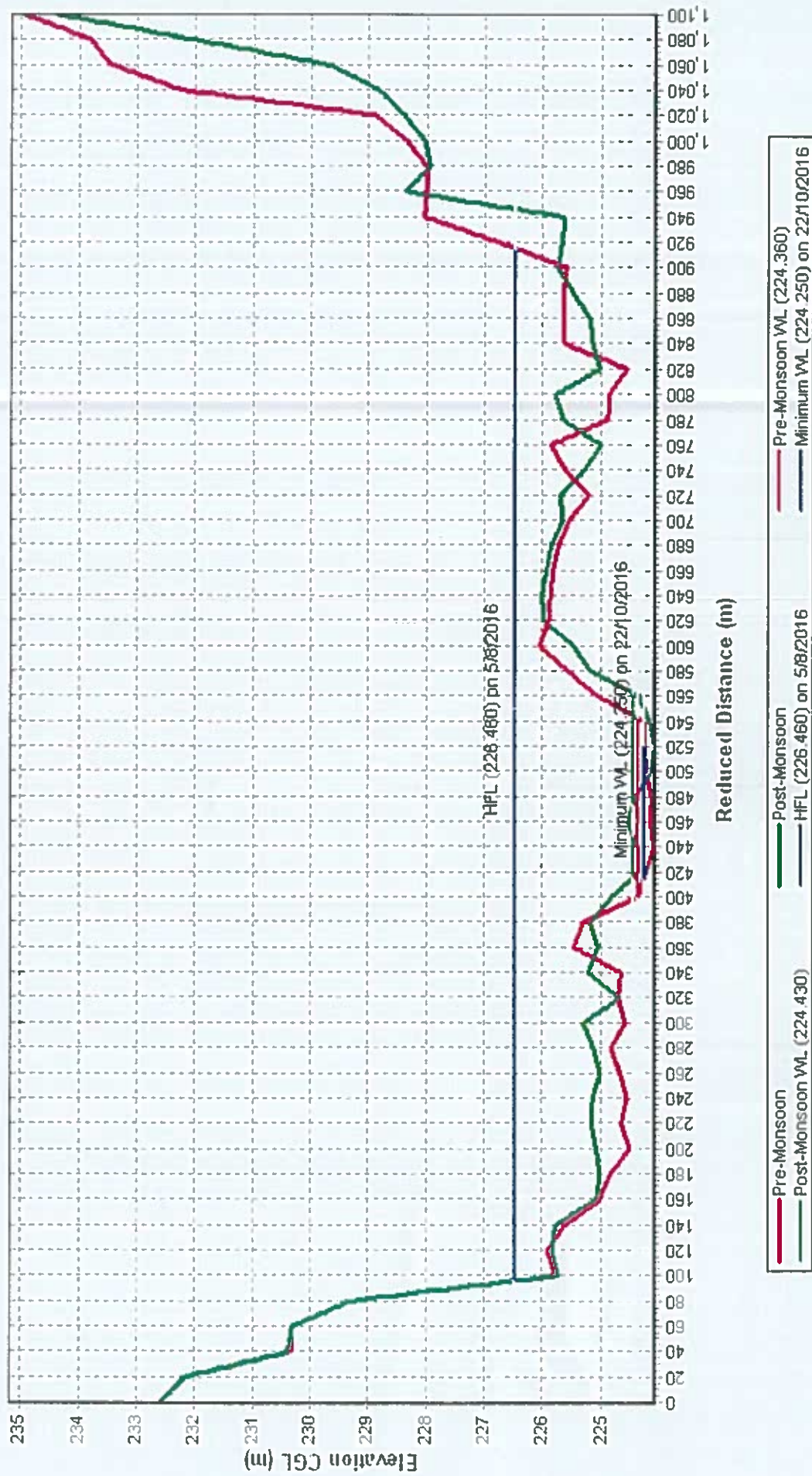
June	2.34 %
July	9.53 %
August	40.08 %
September	26.66 %
October	10.37 %
November	3 %
December	2.16 %
January	1.68 %
February	1.14 %
March	0.96 %
April	0.9 %
May	1.2 %



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

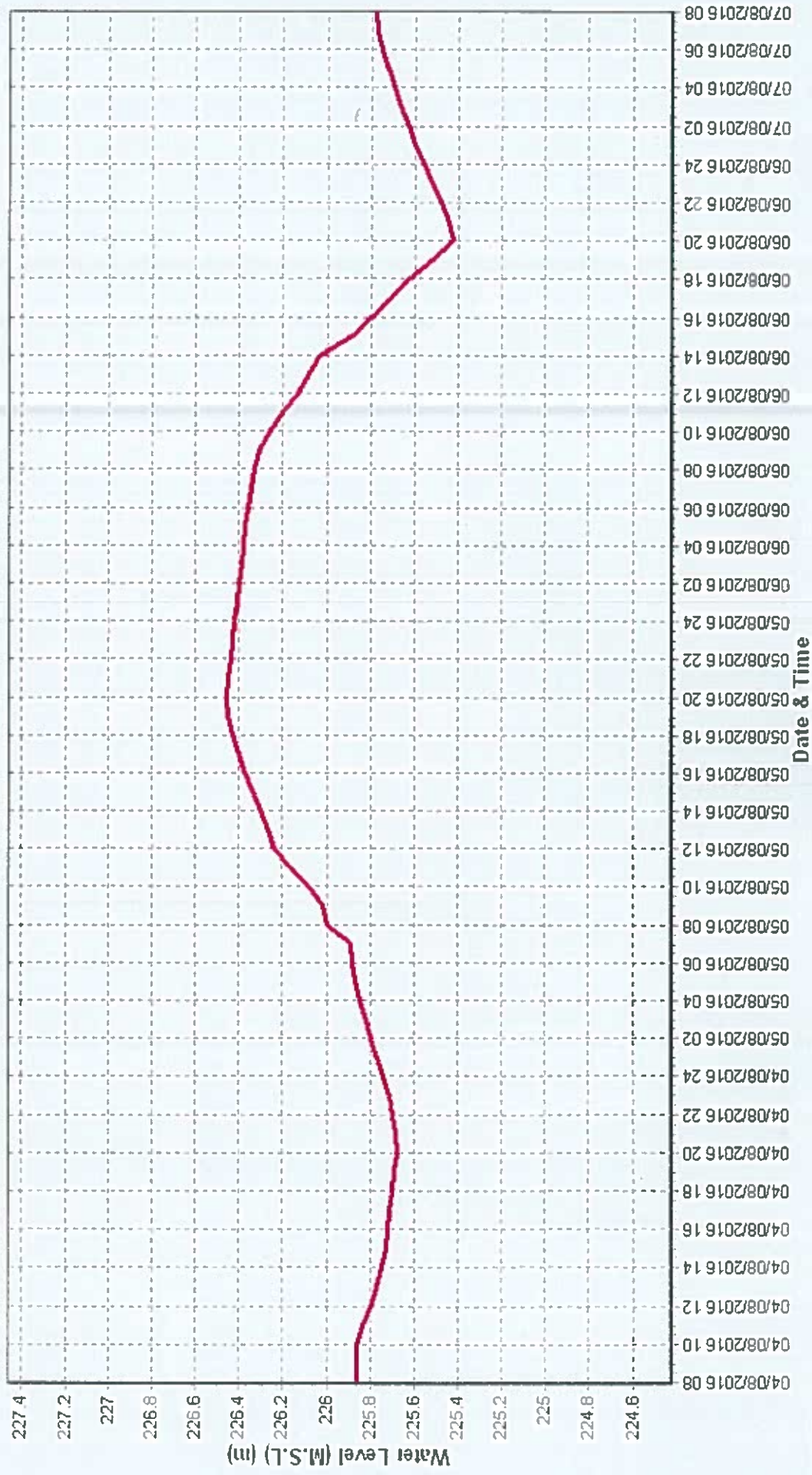


Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur



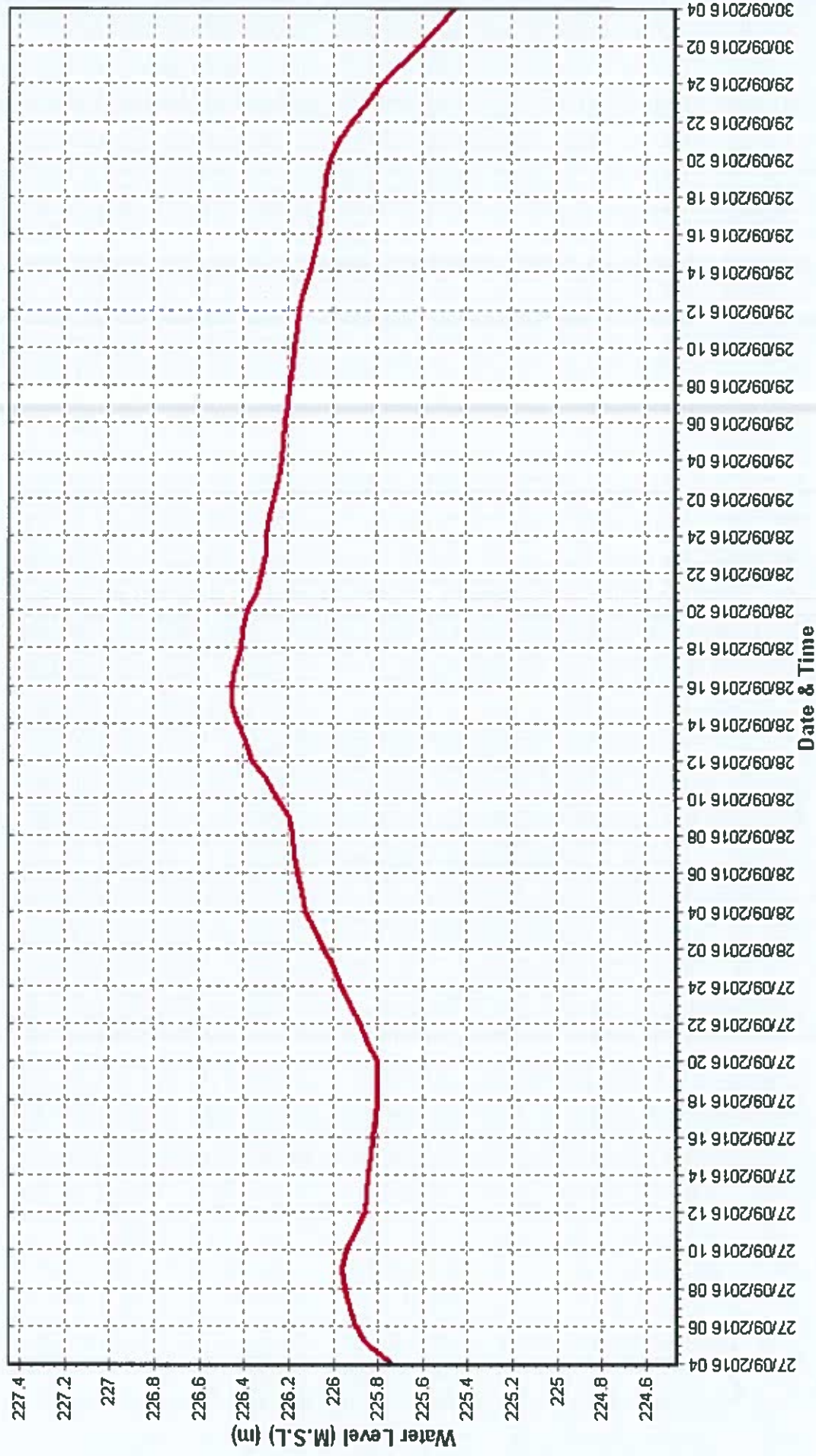
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur



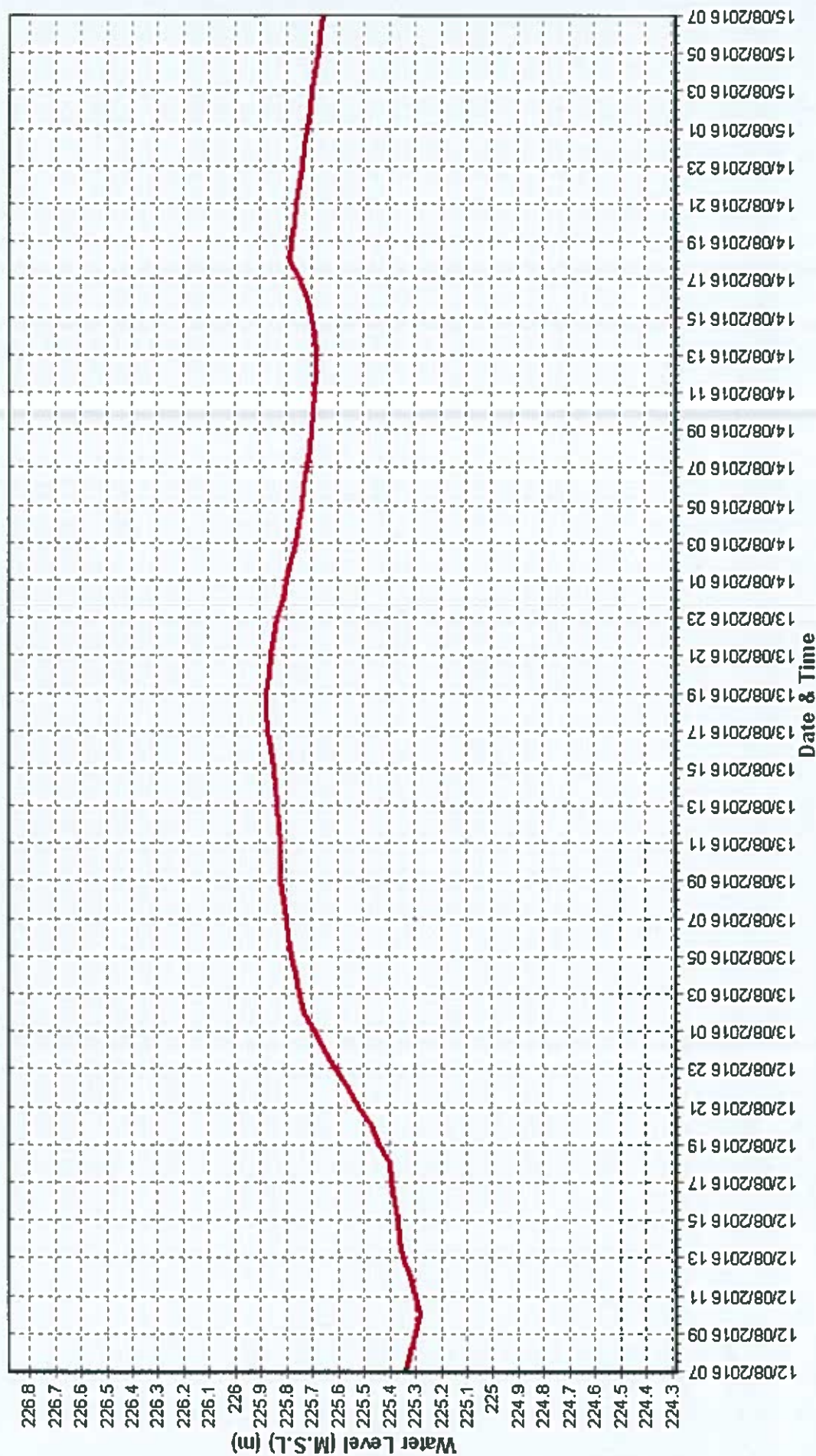
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : Bamnidhi (EMM00B3)

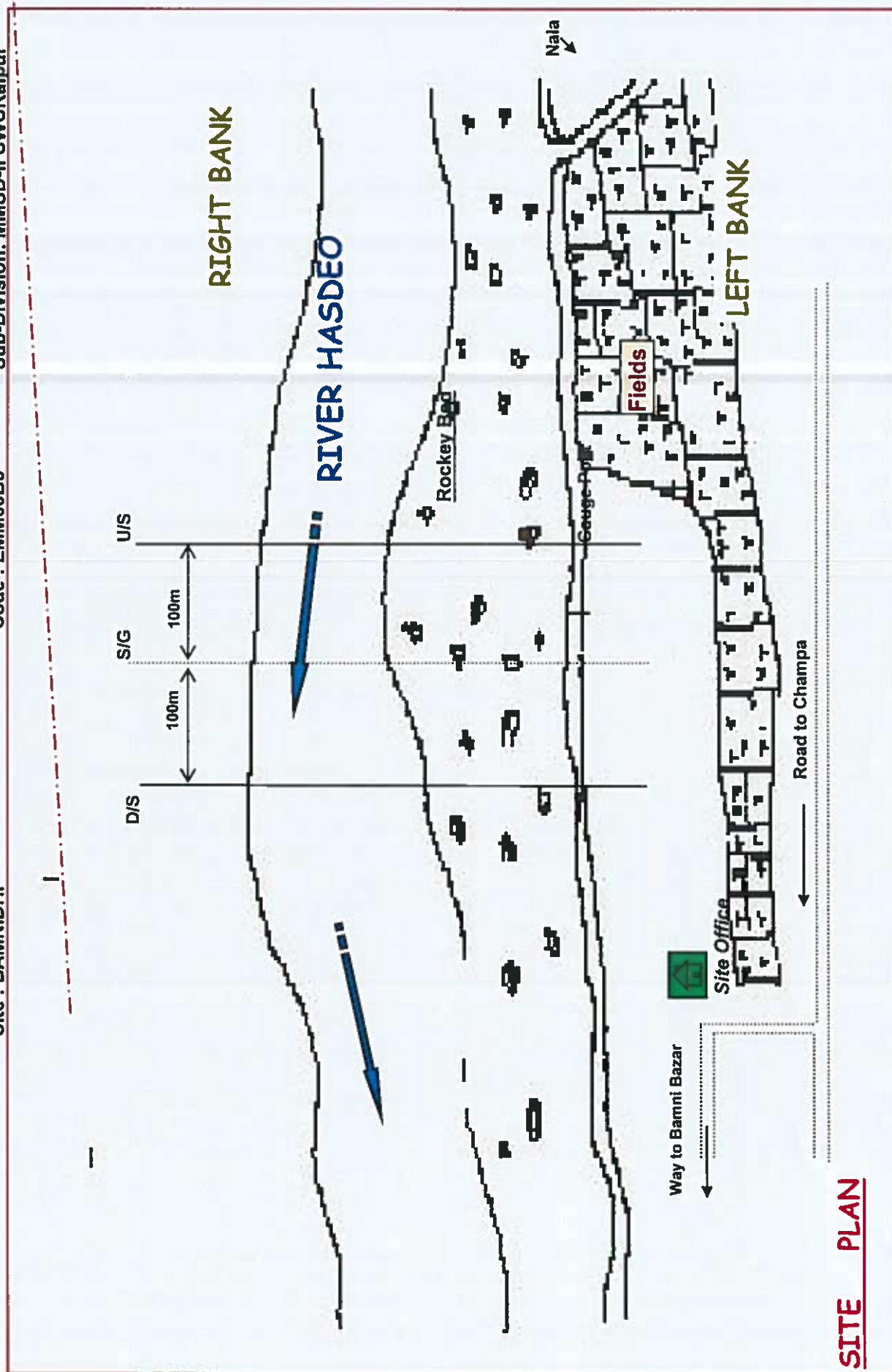
Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur



Time Span: 72 Hrs



SITE PLAN

SECTION – II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

Day	Jun					Jul					Aug							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	12.53	0.000	0.000	0.034	0.034	37	28.31	0.000	0.000	0.058	0.058	142	80.30	0.000	0.000	0.063	0.063	437
2	16.08	0.000	0.000	0.035	0.035	49	31.39	0.000	0.000	0.057	0.057	155	77.18	0.000	0.000	0.095	0.095	634
3	18.53	0.000	0.000	0.033	0.033	53	22.00	0.000	0.000	0.000	0.000	0	102.5	0.000	0.000	0.098	0.098	868
4	14.70	0.000	0.000	0.034	0.034	43	30.14	0.000	0.000	0.065	0.065	169	694.2	0.000	0.000	0.105	0.105	6298
5	12.00	0.000	0.000	0.000	0.000	0	55.45	0.000	0.000	0.058	0.058	278	1007	0.000	0.000	0.115	0.115	10009
6	14.01	0.000	0.000	0.035	0.035	42	50.00	0.000	0.000	0.000	0.000	0	1083	0.000	0.000	0.105	0.105	9824
7	13.39	0.000	0.000	0.036	0.036	42	39.63	0.000	0.000	0.063	0.063	216	400.0	0.000	0.000	0.000	0.000	0
8	15.22	0.000	0.000	0.034	0.034	45	37.34	0.000	0.000	0.068	0.068	219	513.0	0.000	0.000	0.098	0.098	4344
9	13.84	0.000	0.000	0.036	0.036	43	44.58	0.000	0.000	0.056	0.056	216	117.0	0.000	0.000	0.096	0.096	971
10	13.01	0.000	0.000	0.035	0.035	39	40.00	0.000	0.000	0.000	0.000	0	118.2	0.000	0.000	0.095	0.095	970
11	9.854	0.000	0.000	0.036	0.036	31	29.31	0.000	0.000	0.057	0.057	144	120.3	0.000	0.000	0.087	0.087	904
12	5.400	0.000	0.000	0.000	0.000	0	45.47	0.000	0.000	0.059	0.059	232	133.7	0.000	0.000	0.085	0.085	982
13	9.610	0.000	0.000	0.035	0.035	29	30.30	0.000	0.000	0.063	0.063	165	671.8	0.000	0.000	0.082	0.082	4760
14	9.743	0.000	0.000	0.037	0.037	31	40.98	0.000	0.000	0.065	0.065	230	335.0	0.000	0.000	0.000	0.000	0
15	10.17	0.000	0.000	0.038	0.038	33	19.49	0.000	0.000	0.067	0.067	113	250.0	0.000	0.000	0.000	0.000	0
16	8.642	0.000	0.000	0.036	0.036	27	39.81	0.000	0.000	0.069	0.069	237	150.0	0.000	0.000	0.084	0.084	1089
17	7.372	0.000	0.000	0.035	0.035	22	45.00	0.000	0.000	0.000	0.000	0	134.5	0.000	0.000	0.087	0.087	1011
18	5.142	0.000	0.000	0.036	0.036	16	201.0	0.000	0.000	0.095	0.095	1650	494.6	0.000	0.000	0.079	0.079	3376
19	2.000	0.000	0.000	0.000	0.000	0	148.3	0.000	0.000	0.094	0.094	1205	158.6	0.000	0.000	0.075	0.075	1028
20	13.80	0.000	0.000	0.034	0.034	41	85.50	0.000	0.000	0.075	0.075	554	144.2	0.000	0.000	0.075	0.075	935
21	12.75	0.000	0.000	0.032	0.032	35	90.86	0.000	0.000	0.068	0.068	534	150.0	0.000	0.000	0.000	0.000	0
22	18.50	0.000	0.000	0.033	0.033	53	100.5	0.000	0.000	0.065	0.065	565	82.51	0.000	0.000	0.067	0.067	478
23	19.00	0.000	0.000	0.036	0.036	59	62.67	0.000	0.000	0.063	0.063	341	75.21	0.000	0.000	0.065	0.065	422
24	19.49	0.000	0.000	0.034	0.034	57	60.00	0.000	0.000	0.000	0.000	0	68.32	0.000	0.000	0.063	0.063	372
25	18.42	0.000	0.000	0.035	0.035	56	52.21	0.000	0.000	0.068	0.068	307	81.53	0.000	0.000	0.065	0.065	458
26	32.00	0.000	0.000	0.000	0.000	0	52.48	0.000	0.000	0.065	0.065	295	111.9	0.000	0.000	0.059	0.059	570
27	17.39	0.000	0.000	0.036	0.036	54	62.57	0.000	0.000	0.075	0.075	405	103.5	0.000	0.000	0.058	0.058	519
28	15.83	0.000	0.000	0.037	0.037	51	75.24	0.000	0.000	0.085	0.085	553	85.00	0.000	0.000	0.000	0.000	0
29	35.67	0.000	0.000	0.038	0.038	117	104.4	0.000	0.000	0.095	0.095	857	88.93	0.000	0.000	0.057	0.057	438
30	36.83	0.000	0.000	0.037	0.037	118	68.34	0.000	0.000	0.075	0.075	443	57.24	0.000	0.000	0.055	0.055	272
31							47.00	0.000	0.000	0.000	0.000	0	52.78	0.000	0.000	0.057	0.057	260
Ten Daily Mean																		
Ten Daily I	14.33	0.000	0.000	0.031	0.031	39	37.88	0.000	0.000	0.043	0.043	139	419.3	0.000	0.000	0.087	0.087	3435
Ten Daily II	8.174	0.000	0.000	0.029	0.029	23	68.52	0.000	0.000	0.064	0.064	453	259.3	0.000	0.000	0.065	0.065	1408
Ten Daily III	22.59	0.000	0.000	0.032	0.032	60	70.57	0.000	0.000	0.060	0.060	391	86.99	0.000	0.000	0.050	0.050	344
Monthly																		
Total						1222						10223						52227

376

Annual Sediment Load (Metric Tonnes) : 111064

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD,CWC,Burla

Sub-Division : MMSD I,CWC,Raipur

Day	Sep					Oct					Nov							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	385.4	0.000	0.000	0.088	0.088	2930	135.0	0.000	0.000	0.088	0.088	1027	21.26	0.000	0.000	0.000	0.000	0
2	114.9	0.000	0.000	0.075	0.075	744	120.0	0.000	0.000	0.000	0.000	0	19.63	0.000	0.000	0.000	0.000	0
3	56.77	0.000	0.000	0.055	0.055	270	143.5	0.000	0.000	0.095	0.095	1178	17.73	0.000	0.000	0.000	0.000	0
4	100.0	0.000	0.000	0.000	0.000	0	148.7	0.000	0.000	0.085	0.085	1092	15.56	0.000	0.000	0.000	0.000	0
5	119.5	0.000	0.000	0.087	0.087	898	136.3	0.000	0.000	0.066	0.066	777	6.586	0.000	0.000	0.000	0.000	0
6	135.2	0.000	0.000	0.086	0.086	1005	109.4	0.000	0.000	0.063	0.063	595	10.00	0.000	0.000	0.000	0.000	0
7	114.3	0.000	0.000	0.084	0.084	829	77.53	0.000	0.000	0.055	0.055	368	14.18	0.000	0.000	0.055	0.055	67
8	90.52	0.000	0.000	0.082	0.082	641	76.89	0.000	0.000	0.050	0.050	332	16.63	0.000	0.000	0.000	0.000	0
9	81.80	0.000	0.000	0.078	0.078	551	95.00	0.000	0.000	0.000	0.000	0	18.31	0.000	0.000	0.000	0.000	0
10	71.24	0.000	0.000	0.076	0.076	468	90.00	0.000	0.000	0.000	0.000	0	16.42	0.000	0.000	0.000	0.000	0
11	40.00	0.000	0.000	0.000	0.000	0	85.00	0.000	0.000	0.000	0.000	0	15.88	0.000	0.000	0.000	0.000	0
12	75.74	0.000	0.000	0.073	0.073	478	74.00	0.000	0.000	0.000	0.000	0	16.96	0.000	0.000	0.000	0.000	0
13	50.00	0.000	0.000	0.000	0.000	0	58.00	0.000	0.000	0.065	0.065	326	16.10	0.000	0.000	0.000	0.000	0
14	107.0	0.000	0.000	0.065	0.065	601	53.45	0.000	0.000	0.063	0.063	291	40.00	0.000	0.000	0.000	0.000	0
15	102.9	0.000	0.000	0.063	0.063	560	61.03	0.000	0.000	0.060	0.060	316	10.27	0.000	0.000	0.000	0.000	0
16	87.67	0.000	0.000	0.058	0.058	439	50.00	0.000	0.000	0.000	0.000	0	12.10	0.000	0.000	0.000	0.000	0
17	60.74	0.000	0.000	0.055	0.055	289	52.42	0.000	0.000	0.055	0.055	249	21.24	0.000	0.000	0.000	0.000	0
18	47.00	0.000	0.000	0.000	0.000	0	51.47	0.000	0.000	0.053	0.053	236	45.37	0.000	0.000	0.000	0.000	0
19	58.12	0.000	0.000	0.065	0.065	326	43.28	0.000	0.000	0.051	0.051	191	36.74	0.000	0.000	0.000	0.000	0
20	66.79	0.000	0.000	0.060	0.060	346	41.18	0.000	0.000	0.048	0.048	171	28.00	0.000	0.000	0.000	0.000	0
21	87.50	0.000	0.000	0.057	0.057	431	38.29	0.000	0.000	0.046	0.046	152	33.48	0.000	0.000	0.058	0.058	168
22	60.60	0.000	0.000	0.055	0.055	288	12.28	0.000	0.000	0.045	0.045	48	17.28	0.000	0.000	0.000	0.000	0
23	59.10	0.000	0.000	0.054	0.054	276	12.00	0.000	0.000	0.000	0.000	0	16.38	0.000	0.000	0.000	0.000	0
24	60.35	0.000	0.000	0.053	0.053	276	14.04	0.000	0.000	0.047	0.047	57	15.70	0.000	0.000	0.000	0.000	0
25	30.00	0.000	0.000	0.000	0.000	0	13.07	0.000	0.000	0.040	0.040	45	17.31	0.000	0.000	0.000	0.000	0
26	63.94	0.000	0.000	0.078	0.078	431	44.25	0.000	0.000	0.038	0.038	145	27.31	0.000	0.000	0.000	0.000	0
27	718.1	0.000	0.000	0.098	0.098	6080	44.73	0.000	0.000	0.037	0.037	143	17.00	0.000	0.000	0.000	0.000	0
28	1042	0.000	0.000	0.108	0.108	9724	34.44	0.000	0.000	0.035	0.035	104	12.92	0.000	0.000	0.051	0.051	57
29	908.9	0.000	0.000	0.105	0.105	8245	37.08	0.000	0.000	0.032	0.032	103	11.65	0.000	0.000	0.000	0.000	0
30	151.0	0.000	0.000	0.085	0.085	1109	24.00	0.000	0.000	0.000	0.000	0	11.66	0.000	0.000	0.000	0.000	0
31							25.02	0.000	0.000	0.035	0.035	76						
Ten Daily Mean																		
Ten Daily I	127.0	0.000	0.000	0.071	0.071	834	113.2	0.000	0.000	0.050	0.050	537	15.63	0.000	0.000	0.006	0.006	7
Ten Daily II	69.59	0.000	0.000	0.044	0.044	304	56.98	0.000	0.000	0.040	0.040	178	24.27	0.000	0.000	0.000	0.000	0
Ten Daily III	318.2	0.000	0.000	0.069	0.069	2686	27.20	0.000	0.000	0.032	0.032	79	18.07	0.000	0.000	0.011	0.011	22
Monthly						38237						8022						292
Total																		

Annual Sediment Load (Metric Tonnes) : 111064

377

323

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Bamnidhi (EMM00B3)

Local River : Hasdeo

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur

Day	Dec				Jan				Feb			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	11.16	0.000	0.000	0.000	0.000	0	13.35	0.000	0.000	0.000	0.000	7.654
2	12.76	0.000	0.000	0.000	0.000	0	13.29	0.000	0.036	0.036	0.000	41
3	13.76	0.000	0.000	0.000	0.000	0	13.90	0.000	0.000	0.000	0.000	0
4	12.50	0.000	0.000	0.000	0.000	0	13.83	0.000	0.000	0.000	0.000	0
5	10.17	0.000	0.000	0.036	0.036	32	11.19	0.000	0.000	0.000	0.000	0
6	10.62	0.000	0.000	0.000	0.000	0	8.135	0.000	0.000	0.000	0.000	0
7	11.14	0.000	0.000	0.000	0.000	0	5.904	0.000	0.000	0.000	0.000	0
8	12.14	0.000	0.000	0.000	0.000	0	6.000	0.000	0.000	0.000	0.000	0
9	12.50	0.000	0.000	0.000	0.000	0	12.60	0.000	0.035	0.035	0.000	38
10	15.02	0.000	0.000	0.000	0.000	0	12.54	0.000	0.000	0.000	0.000	0
11	12.60	0.000	0.000	0.000	0.000	0	12.03	0.000	0.000	0.000	0.000	0
12	12.65	0.000	0.000	0.050	0.050	55	11.32	0.000	0.000	0.000	0.000	0
13	34.46	0.000	0.000	0.000	0.000	0	11.18	0.000	0.000	0.000	0.000	0
14	26.06	0.000	0.000	0.000	0.000	0	10.87	0.000	0.000	0.000	0.000	0
15	12.89	0.000	0.000	0.000	0.000	0	10.85	0.000	0.000	0.000	0.000	0
16	12.10	0.000	0.000	0.000	0.000	0	11.93	0.000	0.028	0.028	0.000	29
17	13.29	0.000	0.000	0.000	0.000	0	12.44	0.000	0.000	0.000	0.000	0
18	12.20	0.000	0.000	0.000	0.000	0	11.77	0.000	0.000	0.000	0.000	0
19	12.44	0.000	0.000	0.048	0.048	52	10.34	0.000	0.000	0.000	0.000	0
20	10.47	0.000	0.000	0.000	0.000	0	10.81	0.000	0.000	0.000	0.000	0
21	10.38	0.000	0.000	0.000	0.000	0	9.912	0.000	0.000	0.000	0.000	0
22	9.197	0.000	0.000	0.000	0.000	0	9.850	0.000	0.000	0.000	0.000	0
23	10.82	0.000	0.000	0.000	0.000	0	10.23	0.000	0.025	0.025	0.000	22
24	11.27	0.000	0.000	0.000	0.000	0	10.75	0.000	0.000	0.000	0.000	0
25	11.45	0.000	0.000	0.000	0.000	0	11.32	0.000	0.000	0.000	0.000	0
26	11.80	0.000	0.000	0.035	0.035	36	10.33	0.000	0.000	0.000	0.000	0
27	16.19	0.000	0.000	0.000	0.000	0	7.477	0.000	0.000	0.000	0.000	0
28	15.37	0.000	0.000	0.000	0.000	0	7.506	0.000	0.000	0.000	0.000	0
29	15.39	0.000	0.000	0.000	0.000	0	7.475	0.000	0.000	0.000	0.000	0
30	11.64	0.000	0.000	0.000	0.000	0	7.850	0.000	0.024	0.024	0.000	16
31	14.58	0.000	0.000	0.000	0.000	0	7.512	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	12.18	0.000	0.000	0.004	0.004	3	11.07	0.000	0.007	0.007	0.004	8
Ten Daily II	15.92	0.000	0.000	0.010	0.010	11	11.35	0.000	0.003	0.003	0.008	3
Ten Daily III	12.55	0.000	0.000	0.003	0.003	3	9.110	0.000	0.004	0.004	0.005	3
Monthly												
Total						174						147
												111

378

Annual Sediment Load (Metric Tonnes) : 111064

348

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : Bannidhi (EMM00B3)

Local River : Hasdeo

Division : MD, CWC, Burla

Sub-Division : MMSD I, CWC, Raipur

Day		Mar					Apr					May								
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1		8.173	0.000	0.000	0.000	0.000	0	3.673	0.000	0.000	0.000	0.000	0.000	0	4.467	0.000	0.000	0.037	0.037	14
2		8.001	0.000	0.000	0.000	0.000	0	3.650	0.000	0.000	0.000	0.000	0.000	0	6.812	0.000	0.000	0.000	0.000	0
3		7.714	0.000	0.000	0.000	0.000	0	3.414	0.000	0.000	0.034	0.034	0.034	10	6.705	0.000	0.000	0.000	0.000	0
4		7.414	0.000	0.000	0.000	0.000	0	3.571	0.000	0.000	0.000	0.000	0.000	0	8.445	0.000	0.000	0.000	0.000	0
5		7.410	0.000	0.000	0.000	0.000	0	3.363	0.000	0.000	0.000	0.000	0.000	0	5.107	0.000	0.000	0.000	0.000	0
6		5.801	0.000	0.000	0.035	0.035	18	3.137	0.000	0.000	0.000	0.000	0.000	0	4.467	0.000	0.000	0.000	0.000	0
7		5.834	0.000	0.000	0.000	0.000	0	3.611	0.000	0.000	0.000	0.000	0.000	0	4.548	0.000	0.000	0.000	0.000	0
8		6.458	0.000	0.000	0.000	0.000	0	3.330	0.000	0.000	0.000	0.000	0.000	0	4.909	0.000	0.000	0.035	0.035	15
9		4.794	0.000	0.000	0.000	0.000	0	3.320	0.000	0.000	0.000	0.000	0.000	0	5.332	0.000	0.000	0.000	0.000	0
10		4.766	0.000	0.000	0.000	0.000	0	3.906	0.000	0.000	0.036	0.036	0.036	12	4.972	0.000	0.000	0.000	0.000	0
11		4.595	0.000	0.000	0.000	0.000	0	3.466	0.000	0.000	0.000	0.000	0.000	0	4.339	0.000	0.000	0.000	0.000	0
12		5.800	0.000	0.000	0.000	0.000	0	9.531	0.000	0.000	0.000	0.000	0.000	0	4.520	0.000	0.000	0.000	0.000	0
13		5.830	0.000	0.000	0.000	0.000	0	10.01	0.000	0.000	0.000	0.000	0.000	0	4.670	0.000	0.000	0.000	0.000	0
14		4.792	0.000	0.000	0.037	0.037	15	6.190	0.000	0.000	0.000	0.000	0.000	0	10.85	0.000	0.000	0.000	0.000	0
15		4.814	0.000	0.000	0.000	0.000	0	6.199	0.000	0.000	0.000	0.000	0.000	0	31.30	0.000	0.000	0.057	0.057	154
16		4.556	0.000	0.000	0.000	0.000	0	6.100	0.000	0.000	0.000	0.000	0.000	0	18.34	0.000	0.000	0.000	0.000	0
17		4.355	0.000	0.000	0.000	0.000	0	5.379	0.000	0.000	0.038	0.038	0.038	18	5.919	0.000	0.000	0.000	0.000	0
18		4.467	0.000	0.000	0.000	0.000	0	4.704	0.000	0.000	0.000	0.000	0.000	0	6.497	0.000	0.000	0.000	0.000	0
19		4.460	0.000	0.000	0.000	0.000	0	3.923	0.000	0.000	0.000	0.000	0.000	0	5.926	0.000	0.000	0.000	0.000	0
20		5.449	0.000	0.000	0.039	0.039	18	3.192	0.000	0.000	0.000	0.000	0.000	0	6.077	0.000	0.000	0.000	0.000	0
21		5.080	0.000	0.000	0.000	0.000	0	5.744	0.000	0.000	0.000	0.000	0.000	0	6.120	0.000	0.000	0.000	0.000	0
22		10.78	0.000	0.000	0.000	0.000	0	9.807	0.000	0.000	0.000	0.000	0.000	0	5.229	0.000	0.000	0.036	0.036	16
23		10.42	0.000	0.000	0.000	0.000	0	10.50	0.000	0.000	0.000	0.000	0.000	0	4.979	0.000	0.000	0.000	0.000	0
24		8.000	0.000	0.000	0.000	0.000	0	13.15	0.000	0.000	0.043	0.043	0.043	49	5.938	0.000	0.000	0.000	0.000	0
25		5.444	0.000	0.000	0.000	0.000	0	8.820	0.000	0.000	0.000	0.000	0.000	0	5.130	0.000	0.000	0.000	0.000	0
26		5.440	0.000	0.000	0.000	0.000	0	8.235	0.000	0.000	0.000	0.000	0.000	0	4.955	0.000	0.000	0.000	0.000	0
27		5.099	0.000	0.000	0.037	0.037	16	6.412	0.000	0.000	0.000	0.000	0.000	0	8.880	0.000	0.000	0.000	0.000	0
28		4.147	0.000	0.000	0.000	0.000	0	6.515	0.000	0.000	0.000	0.000	0.000	0	12.10	0.000	0.000	0.000	0.000	0
29		3.925	0.000	0.000	0.000	0.000	0	5.987	0.000	0.000	0.000	0.000	0.000	0	14.09	0.000	0.000	0.045	0.045	55
30		3.735	0.000	0.000	0.000	0.000	0	5.950	0.000	0.000	0.000	0.000	0.000	0	6.447	0.000	0.000	0.000	0.000	0
31		3.889	0.000	0.000	0.000	0.000	0								6.667	0.000	0.000	0.000	0.000	0
Ten Daily Mean																				
Ten Daily I		6.637	0.000	0.000	0.004	0.004	2	3.498	0.000	0.000	0.007	0.007	0.007	2	5.576	0.000	0.000	0.007	0.007	3
Ten Daily II		4.912	0.000	0.000	0.008	0.008	3	5.869	0.000	0.000	0.004	0.004	0.004	2	9.844	0.000	0.000	0.006	0.006	15
Ten Daily III		5.996	0.000	0.000	0.003	0.003	1	8.112	0.000	0.000	0.004	0.004	0.004	5	7.322	0.000	0.000	0.007	0.007	6
Monthly																				
Total							68							89						254

379

Annual Sediment Load (Metric Tonnes) : 111064

Annual Sediment Load for period : 1973-2017

Station Name : Bamnidhi (EMM00B3)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

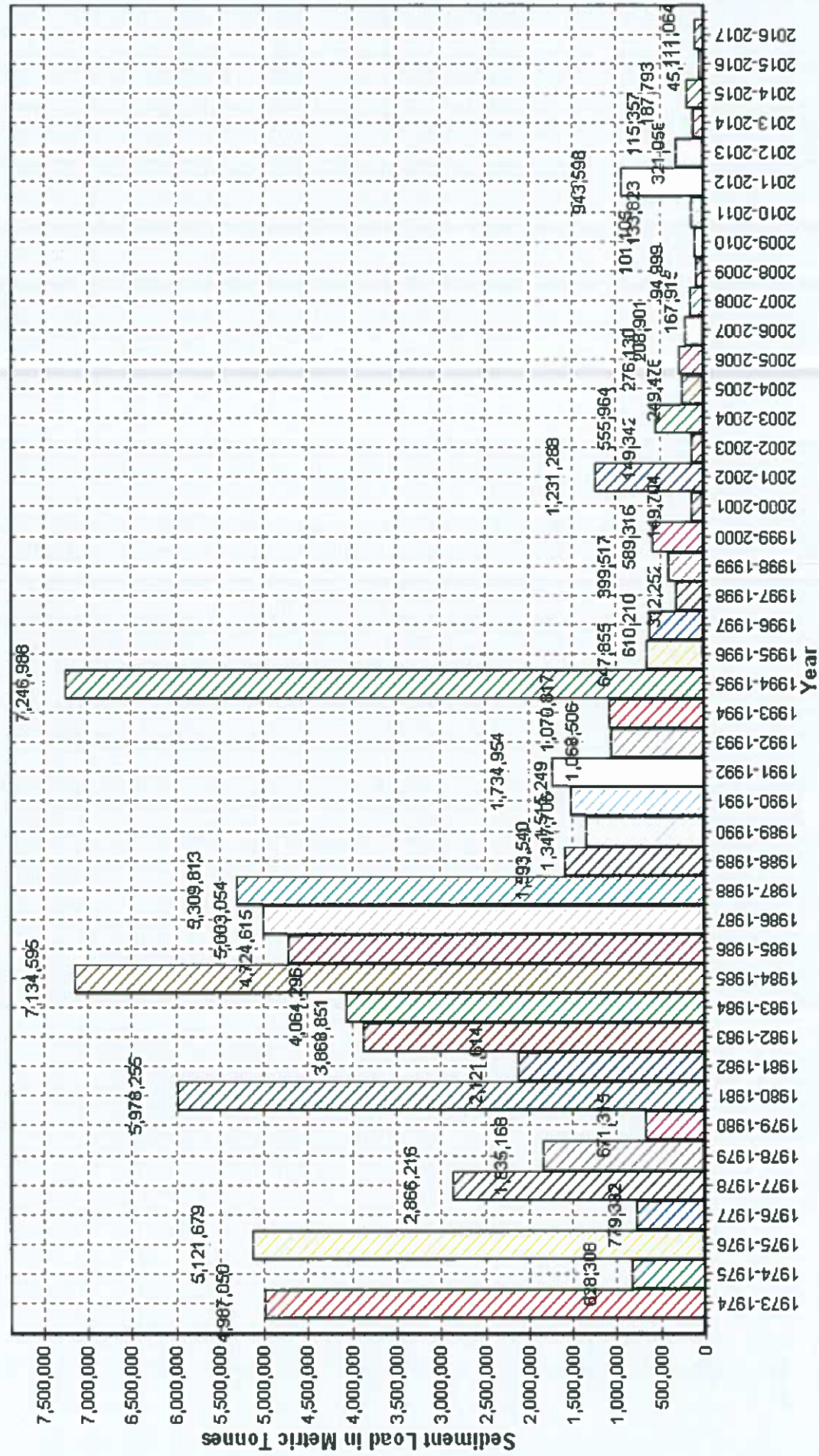
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	4985905	1145	4987050	7230
1974-1975	827802	506	828308	2470
1975-1976	5121021	658	5121679	7724
1976-1977	777248	2084	779332	3438
1977-1978	2850762	15454	2866216	7580
1978-1979	1818635	16533	1835168	4065
1979-1980	671245	70	671315	1268
1980-1981	5975583	2672	5978255	7261
1981-1982	2116994	4620	2121614	3997
1982-1983	3863897	4954	3868851	3956
1983-1984	4062501	1795	4064296	4267
1984-1985	7125910	8684	7134595	6195
1985-1986	4720960	3655	4724615	4654
1986-1987	4998838	4216	5003054	5343
1987-1988	5309089	724	5309813	3896
1988-1989	1592501	1039	1593540	3003
1989-1990	1342945	4761	1347706	2547
1990-1991	1507793	7455	1515249	5272
1991-1992	1731227	3728	1734954	4653
1992-1993	1053635	14871	1068506	2639
1993-1994	1066243	4574	1070817	2177
1994-1995	7237568	9420	7246988	11843
1995-1996	644833	3023	647855	2399
1996-1997	608151	2060	610210	3448
1997-1998	306204	6048	312252	3376
1998-1999	389270	10248	399517	5329
1999-2000	582621	6695	589316	5028
2000-2001	143985	5720	149704	2433
2001-2002	1227180	4108	1231288	8072
2002-2003	147706	1635	149342	3089
2003-2004	555515	449	555964	7287
2004-2005	246644	2833	249476	4410
2005-2006	269829	6302	276130	4364
2006-2007	204522	4380	208901	3172
2007-2008	164272	3643	167915	2436
2008-2009	94371	629	94999	1802
2009-2010	100236	870	101105	1066
2010-2011	133560	263	133823	1499
2011-2012	943246	352	943598	4327
2012-2013	320026	1032	321058	2375
2013-2014	113957	1400	115357	2090
2014-2015	186657	1136	187793	3511
2015-2016	44705	406	45111	1285
2016-2017	110223	842	111064	1669

Annual Sediment Load for the period: 1973-2017

Station Name : Bamnidhi (EMM0083)

Local River : Hasdeo

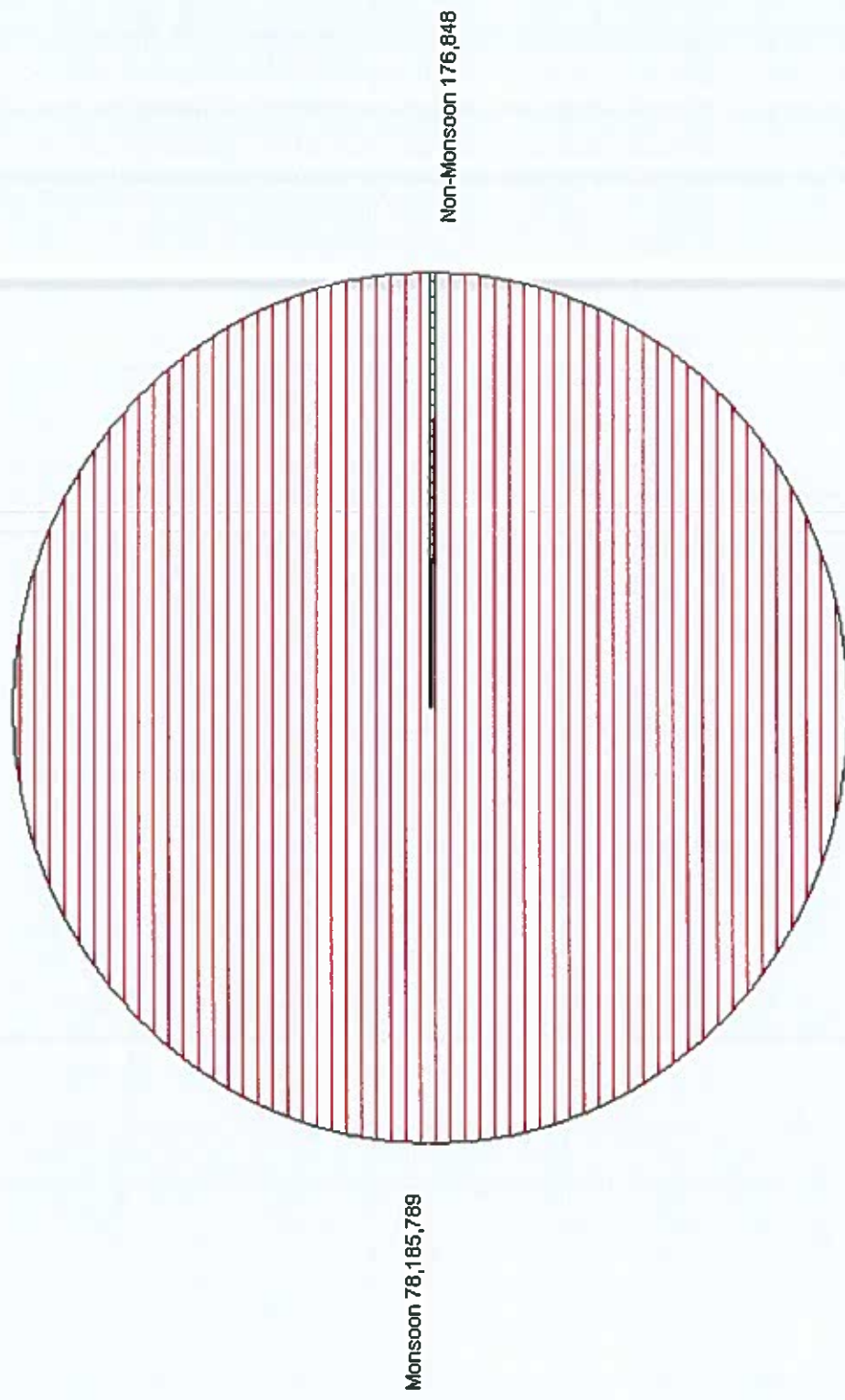
Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



Seasonal Sediment Load for the period : 1973-2016

Station Name : Bamnidhi (EMM0083)
Local River : Hasdeo

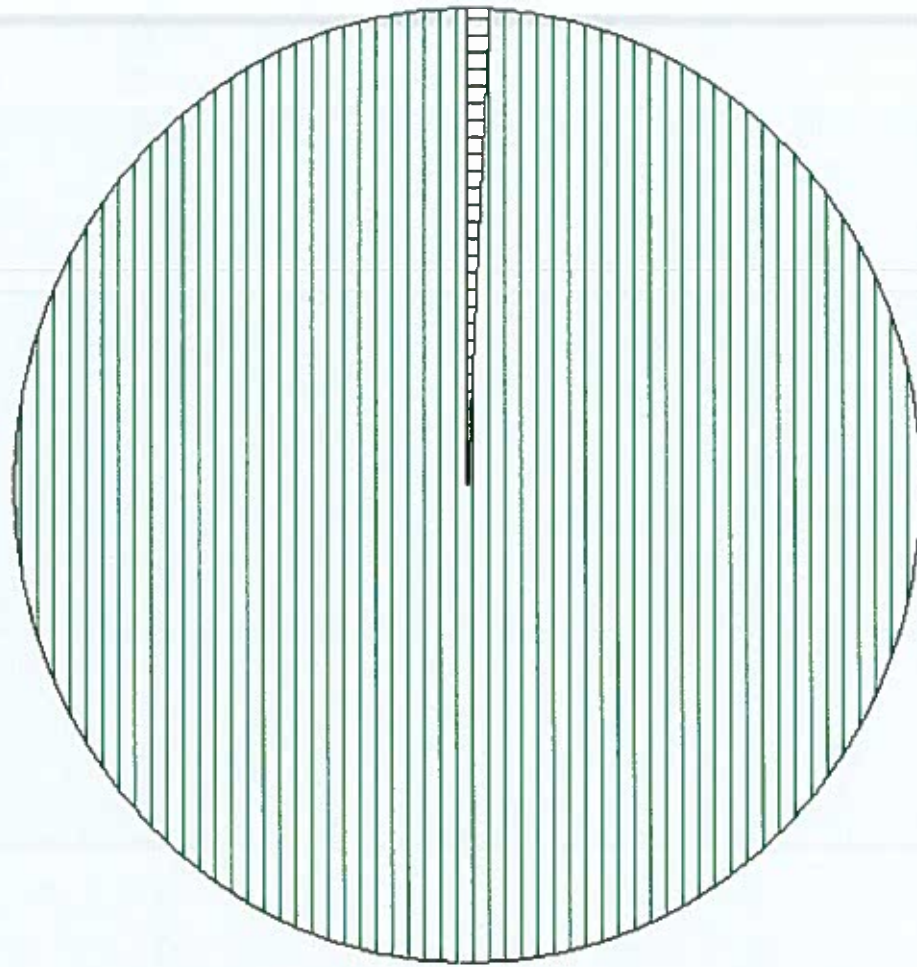
Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



Seasonal Sediment Load for the Year: 2016-2017

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : Bamnidhi (EMM0083)

Local River : Hasdeo

River Water Analysis

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

S.No	Parameters	01-06-2016 A	01-07-2016 A	01-08-2016 A	01-09-2016 A	01-10-2016 A	01-12-2016 A	02-01-2017 A	01-02-2017 A	01-03-2017 A	01-04-2017 A	01-05-2017 A
	PHYSICAL											
1	Q (cumec)	12.53	28.31	80.30	385.4	135.0	11.16	13.29	7.654	8.173	3.673	4.467
2	Colour_Cod (-)	Clear	Clear	Brown	Brown	Brown	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)		230			590	786	790		867	963	960
4	EC_GEN (µmho/cm)	258	211	194	105	119	203	217	365	211	368	319
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)		6.0	6.3		7.2	7.9	7.8	7.5	7.9	8.4	8.4
7	pH_GEN (pH units)	8.3	8.5	7.0	7.1	6.8	7.4	8.7	8.5	8.4	8.3	7.6
8	Temp (deg C)	28.0	30.0	27.0	30.0	29.0	17.5	19.0	18.0	22.0	29.0	30.0
	CHEMICAL											
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	176	164	188	164	164	164	164	164	164	152	188
3	Ca (mg/L)	34	50	30	21	30	48	40	38	37	40	45
4	Cl (mg/L)	28.0	18.0	18.0	14.0	13.0	25.0	23.0	47.0	44.0	40.0	35.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	107	100	115	100	100	100	100	100	100	93	115
7	K (mg/L)	7.0	8.8	5.8	7.5	6.7	6.9	7.0	7.8	11.3	12.3	11.3
8	Mg (mg/L)	14.6	7.8	11.7	17.5	22.4	1.0	5.8	6.8	7.8	7.8	2.9
9	Na (mg/L)	17.4	16.4	13.5	12.1	18.5	14.7	14.7	16.7	31.6	37.8	27.4
	BIOLOGICAL/BACTERIOLOGICAL											
1	BOD3-27 (mg/L)	0.4	0.8	0.6	1.1	0.7	0.5	0.5	7.5	2.3	1.5	0.8
2	DO (mg/L)	5.5	6.0	6.6	6.0	6.3	6.0	8.0	7.5	7.9	6.7	5.6
3	DO_SAT% (%)	70	79	83	79	82	62	86	79	90	87	74
	TRACE & TOXIC											
	CHEMICAL INDICES											
1	HAR_Ca (mgCaCO3/L)	84	125	75	52	76	120	100	96	92	100	112
2	HAR_Total (mgCaCO3/L)	145	157	124	125	169	124	124	125	125	133	124
3	Na% (%)	20	17	18	16	19	19	19	21	33	36	30
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.7	1.2	1.4	1.1
	PESTICIDES											

Water Quality Summary for the period : 2016-2017

Station Name : Bamnidhi (EMM00B3)

Division : MD,CWC,Burla

Local River : Hasdeo

Sub-Division : MMSD I,CWC,Raipur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
PHYSICAL					
1	Q (cumec)	365	1083	2.000	52.93
2	EC_FLD (µmho/cm)	7	963	230	741
3	EC_GEN (µmho/cm)	11	368	105	234
4	pH_FLD (pH units)	9	8.4	6.0	7.5
5	pH_GEN (pH units)	11	8.7	6.8	7.9
6	Temp (deg C)	11	30.0	17.5	25.4
CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	11	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	11	188	152	168
3	Ca (mg/L)	11	50	21	38
4	Cl (mg/L)	11	47.0	13.0	27.7
5	CO3 (mg/L)	11	0.0	0.0	0
6	HCO3 (mg/L)	11	115	93	103
7	K (mg/L)	11	12.3	5.8	8.4
8	Mg (mg/L)	11	22.4	1.0	9.6
9	Na (mg/L)	11	37.8	12.1	20.1
BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	11	7.5	0.4	1.5
2	DO (mg/L)	11	8.0	5.5	6.6
3	DO_SAT% (%)	11	90	62	79
TRACE & TOXIC					
CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	11	125	52	94
2	HAR_Total (mgCaCO3/L)	11	169	124	134
3	Na% (%)	11	36	16	23
4	RSC (-)	11	0.0	0.0	0
5	SAR (-)	11	1.4	0.5	0.8
PESTICIDES					

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Bamnidhi (EMM00B3)

Division : MD,CWC,Burla

Local River : Hasdeo

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	168.5	275.7	144.3	310.2	250.2	113.8	80.08	35.90	82.01	74.04	52.05	107.4	116.0	69.30	128.3
2	EC_FLD (µmho/cm)	139	119	210	138	143	141	136	167	257				306	252	410
3	EC_GEN (µmho/cm)	139	119	210	138	143	138	154	201	236	220	282	193	204	155	177
4	pH_FLD (pH units)	7.9	7.3	8.0	7.7	7.5	7.6	7.3	7.6	6.9				7.3	6.1	6.5
5	pH_GEN (pH units)	7.9	7.3	8.0	7.7	7.5	7.5	7.6	7.7	7.5	7.5	7.4	8.3	7.6	8.0	7.5
6	Temp (deg C)	25.6	27.3	30.8	30.2	28.4	27.8	27.9	28.5	27.2	27.8	27.6	27.8	27.0	25.6	28.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.4	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.6	0.0
2	ALK-TOT (mgCaCO3/L)	81	127	84	87		96	118	145	152	111	190	150	207	131	171
3	B (mg/L)				0.03	0.01	0.01	0.09	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	11	17	34	9		11	11	13	16	15	23	19	25	20	33
5	Cl (mg/L)	12.5	20.2	13.4	14.1		8.8	18.4	10.3	7.8	10.4	13.3	22.4	12.4	16.0	18.2
6	CO3 (mg/L)	0.0	0.0	1.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.9	0.0
7	F (mg/L)		0.63		0.29		0.06	0.10	0.13	0.14	0.16	0.18				
8	Fe (mg/L)	0.2			0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1				
9	HCO3 (mg/L)	49	77	37	53	42	58	72	89	92	68	116	91	126	78	104
10	K (mg/L)	2.4	2.1		2.3		1.8	1.8	2.3	3.8	4.4	2.8	7.6	5.4	6.5	7.1
11	Mg (mg/L)	4.4	2.2	11.0	5.6		6.0	6.7	9.0	10.1	9.0	13.8	6.8	6.8	6.4	14.8
12	Na (mg/L)	9.2	4.7		8.8		4.1	8.1	8.1	16.4	12.0	14.5	17.9	15.9	14.9	15.6
13	NO2+NO3 (mg N/L)	0.67			0.06	0.07	0.06	0.26								
14	NO2-N (mgN/L)				0.00	0.01	0.01	0.02	0.02	0.02	0.03	0.04				
15	NO3-N (mgN/L)				0.06	0.07	0.05	0.24								
16	o-PO4-P (mg P/L)							0.080								
17	P-Tot (mgP/L)	0.050	0.010		0.011		0.010	0.030	0.024	0.020	0.044	0.116				
18	SiO2 (mg/L)	7.8			8.8		14.4	16.4	17.8	15.4	20.5	22.9				
19	SO4 (mg/L)	8.2	15.5	10.5	11.4		9.6	14.2	14.6	15.6	21.0	22.0				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Bamnidhi (EMM0083)

Division : MD,CWC,Burla

Local River : Hasdeo

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	0.7	0.4	0.7	0.3	1.2	0.5	0.8	0.6	0.9	0.9	0.4	0.6	0.8	0.7
2	COD (mg/L)					23.0	15.4	13.6	20.0	23.2	19.2	26.4				
3	DO (mg/L)	6.8	6.1	5.8	5.5	5.5	7.2	6.2	6.6	5.2	6.1	6.3	6.6	5.0	6.4	6.1
4	DO_SAT% (%)	83	75	79	73	71	92	79	85	66	77	79	83	62	78	79
	TRACE & TOXIC															
1	Al (mg/L)	0.35														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	28	43	84	24		28	27	33	41	37	57	48	62	50	82
2	HAR_Total (mgCaCO3/L)	46	52	129	47		53	55	71	83	75	115	76	90	77	144
3	Na% (%)	29	12		29		14	22	19	28	23	22	25	28	27	18
4	RSC (-)	0.0	0.3	0.0	0.1		0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.4	0.0	0.0
5	SAR (-)	0.6	0.2		0.6		0.3	0.5	0.4	0.8	0.6	0.6	0.8	0.8	0.7	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Bannidhi (EMM00B3)

Division : MD,CWC,Burla

Local River : Hasdeo

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Winter																
		Nov - Feb																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	57.51	103.0	49.38	67.75	53.38	36.47	24.68	17.22	18.97	21.39	21.31	31.54	22.59	17.79	10.70		
2	EC_FLD (µmho/cm)	142	130	153	129	163	176	153	159				285	257	265	788		
3	EC_GEN (µmho/cm)	142	130	153	129	163	162	342	226	275	215	301	297	203	189	262		
4	pH_FLD (pH units)	7.6	7.8	7.8	7.1	8.1	7.1	7.3	7.4				7.4	6.4	6.1	7.7		
5	pH_GEN (pH units)	7.6	7.8	7.8	7.1	8.1	7.7	7.7	8.0	7.5	7.3	7.5	8.2	8.3	8.2	8.2		
6	Temp (deg C)	17.5	22.5	23.3	24.8	22.2	21.0	19.3	17.6	20.8	20.3	18.5	18.1	17.5	18.8	18.2		
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)	99	126	102	91		115	139	166	192	153	186	179	168	134	164		
3	B (mg/L)				0.09		0.01	0.00	0.00	0.00	0.00	0.00						
4	Ca (mg/L)	13	16	12	11		11	18	18	21	17	25	29	27	28	42		
5	Cl (mg/L)	11.2	12.7	4.5	13.6		17.9	17.3	8.6	18.2	13.9	15.7	21.5	17.5	13.3	31.7		
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
7	F (mg/L)		0.93	0.58	0.13		0.10	0.08	0.09	0.09	0.12	0.17						
8	Fe (mg/L)	0.2			0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1		0.1				
9	HCO3 (mg/L)	60	69	62	56	54	70	85	101	117	93	114	109	102	82	100		
10	K (mg/L)	2.5		1.5	1.9		2.8	2.7	2.7	5.0	3.9	2.2	10.8	6.1	5.3	7.2		
11	Mg (mg/L)	4.4	4.6	5.6	4.4		9.0	8.7	9.5	12.4	10.0	9.0	7.3	14.6	4.6	4.5		
12	Na (mg/L)	8.4		6.1	8.6		7.8	11.1	7.8	14.0	12.7	21.8	26.2	15.9	12.5	15.4		
13	NO2+NO3 (mg N/L)	0.81		0.11	0.06	0.05	0.10	0.51						0.18				
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02		0.02				
15	NO3-N (mgN/L)				0.06	0.05	0.09	0.49						0.16				
16	o-PO4-P (mg P/L)																	
17	P-Tot (mgP/L)	0.030	0.010	0.030	0.016		0.010	0.025	0.032	0.042	0.042	0.055		0.040				
18	SiO2 (mg/L)	8.0			12.3		20.3	18.6	14.2	14.0	9.4	11.8		12.6				
19	SO4 (mg/L)	5.7	14.3	11.4	13.9		17.8	17.8	17.3	23.4	19.9	17.0		25.0				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Bannidhi (EMM00B3)

Division : MD,CWC,Burla

Local River : Hasdeo

River Water

Sub-Division : MMSD I,CWC,Raipur

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7	0.5	0.6	0.5	0.3	0.5	0.6	0.8	0.5	1.4	1.6	1.4	2.0	0.3	2.8
2	COD (mg/L)					18.5	22.0	21.0	24.0	23.0	24.0	24.0				
3	DO (mg/L)	7.6	6.2	8.0	7.9	8.4	8.4	7.5	8.0	6.8	6.0	7.0	7.8	8.2	8.0	7.2
4	DO_SAT% (%)	79	84	91	95	96	93	81	83	76	66	75	82	85	85	76
	TRACE & TOXIC															
1	Al (mg/L)	0.30														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	32	39	29	28		27	45	45	52	43	63	73	67	70	106
2	HAR_Total (mgCaCO3/L)	50	58	52	46		65	81	84	103	84	100	104	128	89	124
3	Na% (%)	25		23	28		20	23	16	21	24	27	30	20	22	20
4	RSC (-)	0.0	0.1	0.1	0.0		0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
5	SAR (-)	0.5		0.4	0.6		0.4	0.5	0.4	0.6	0.6	1.0	1.2	0.6	0.6	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Division : MD, CWC, Burla
Sub-Division : MMSD I, CWC, Raipur

River Water

S.No	Parameters	Summer Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	25.58	52.16	50.24	61.11	71.89	23.60	14.59	6.882	6.855	9.035	12.18	15.85	18.70	9.736	5.438
2	EC_FLD (µmho/cm)	164	225	119	121	130	152	159	193				332	320	270	930
3	EC_GEN (µmho/cm)	164	225	119	121	130	141	196	288	395	302	280	262	320	243	299
4	pH_FLD (pH units)	7.5	7.8	8.4	7.3	7.5	7.5	7.6	7.5	7.1			7.3	6.2	6.5	8.2
5	pH_GEN (pH units)	7.5	7.8	8.4	7.3	7.5	8.1	8.1	7.7	7.1	7.4	8.0	8.1	8.2	8.3	8.1
6	Temp (deg C)	22.3		29.0	32.0	25.5	23.2	23.7	23.7	21.7	23.8	25.5	22.0	22.2	27.3	27.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	1.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	101	222	58	84		96	137	201	272	205	215	183	147	225	168
3	B (mg/L)				0.04		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	12	22	11	9		10	16	21	28	21	42	40	21	29	41
5	Cl (mg/L)	15.3	20.5	6.0	8.9		10.2	9.9	12.0	30.5	21.0	29.0	27.0	17.3	18.0	39.7
6	CO3 (mg/L)	0.0	0.0	1.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)			0.40	0.05		0.11	0.13	0.17	0.21	0.23	0.19				
8	Fe (mg/L)	0.3			0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1		0.1		
9	HCO3 (mg/L)	62	135	34	51	54	59	84	122	166	125	131	111	89	137	102
10	K (mg/L)	2.4		1.7	1.7		2.4	2.1	5.7	10.1	3.9	11.8	5.8	6.4	11.1	11.7
11	Mg (mg/L)	5.8	4.3	7.2	4.0		4.5	9.2	12.8	17.2	12.0	3.9	8.1	11.7	7.1	6.2
12	Na (mg/L)	10.8		5.7	6.6		8.7	11.7	22.8	24.3	17.2	44.0	19.6	15.1	24.5	32.2
13	NO2+NO3 (mg N/L)	2.21		0.08	0.10	0.08	0.40	2.42						0.57		
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.02	0.05	0.09	0.06		0.05		
15	NO3-N (mgN/L)				0.09	0.08	0.39	2.41						0.52		
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)			0.020	0.020		0.017	0.010	0.033	0.100	0.080	0.080		0.067		
18	SiO2 (mg/L)	7.9			18.5		15.6	17.1	18.1	25.7	16.6	16.3		16.6		
19	SO4 (mg/L)	9.5	5.0	4.9	11.1		12.0	17.6	21.3	46.6	26.7	24.0		25.0		

Station Name : Bamnidhi (EMM00B3)
Local River : Hasdeo

Water Quality Seasonal Average for the period: 2002-2017

Division : MD,CWC,Burla
Sub-Division : MMSD I,CWC,Raipur

River Water

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.2	0.4	0.9	0.5	0.6	0.9	0.5	1.5	4.8	1.5	0.4	3.1	1.1	0.5	1.5
2	COD (mg/L)					25.0	15.3	24.0	25.3	25.3	20.0	16.0				
3	DO (mg/L)	6.0	6.9	10.0	6.2	6.3	7.1	6.6	5.0	4.1	4.9	4.3	6.5	6.0	7.0	6.7
4	DO_SAT% (%)	68		128	84	76	82	78	59	49	58	52	74	69	89	84
	TRACE & TOXIC															
1	Al (mg/L)	0.33														
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	31	54	28	23		24	41	51	69	53	106	100	52	73	102
2	HAR_Total (mgCaCO3/L)	55	72	58	40		43	79	105	141	103	122	134	101	103	127
3	Na% (%)	29		19	26		29	24	31	25	26	42	23	23	31	33
4	RSC (-)	0.0	1.0	0.0	0.1		0.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0
5	SAR (-)	0.6		0.3	0.5		0.6	0.6	1.0	0.9	0.7	1.8	0.7	0.7	1.1	1.2
	PESTICIDES															

MAND SUB-BASIN

SITE KURUBHATA

HISTORY SHEET

Water Year : 2016-2017

Site : KURUBHATA

Code : EMK00E2

State : Chhattisgarh

District : Raigarh

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Mand

Sub Tributary :

Sub-Sub Tributary :

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Drainage Area : 4625 Sq. Km.

Bank :

Latitude : 21°59'15"

Longitude : 83°12'15"

Zero of Gauge (m) : 215 (m.s.l)

23-10-1977 - 23-10-2025

Opening Date

Closing Date

Gauge : 23-10-1977

Discharge : 01-04-1978

Sediment : 22-07-1980

Water Quality : 01-07-1980

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1978-1979	756.0	218.440	01-07-1978	0.500	215.910	08-06-1978
1979-1980	1149	219.035	09-08-1979	0.022	215.875	26-04-1980
1980-1981	1721	219.305	24-08-1980	0.400	215.950	07-06-1980
1981-1982	789.2	218.670	23-08-1981	0.400	215.800	02-06-1981
1982-1983	1780	219.575	15-08-1982	0.500	215.840	15-04-1983
1983-1984	870.6	218.885	03-08-1983	0.300	216.150	21-05-1984
1984-1985	847.9	218.900	09-08-1984	1.100	215.970	04-05-1985
1985-1986	2119	219.830	08-08-1985	1.100	216.100	25-04-1986
1986-1987	1660	219.560	27-07-1986	0.800	216.100	21-04-1987
1987-1988	1925	219.600	29-08-1987	0.941	216.090	02-06-1987
1988-1989	930.0	218.900	11-08-1988	0.149	215.880	02-05-1989
1989-1990	1809	219.300	28-07-1989	0.450	215.930	29-04-1990
1990-1991	1167	219.140	20-07-1990	1.499	216.035	23-05-1991
1991-1992	2005	219.860	24-07-1991	1.039	215.780	01-05-1992
1992-1993	1120	218.825	05-09-1992	0.261	215.600	24-04-1993
1993-1994	1334	218.750	27-09-1993	0.175	215.620	28-04-1994
1994-1995	1963	219.690	20-07-1994	1.148	215.720	03-05-1995
1995-1996	2200	220.280	18-07-1995	0.262	215.640	07-05-1996
1996-1997	1625	219.400	26-07-1996	0.132	215.460	26-04-1997
1997-1998	1033	218.760	09-09-1997	2.300	215.700	11-05-1998
1998-1999	1828	219.300	14-09-1998	0.486	215.760	31-03-1999
1999-2000	2160	219.680	08-08-1999	0.552	215.610	09-03-2000

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2000-2001	800.0	218.220	03-09-2000	0.752	215.860	27-02-2001
2001-2002	1978	219.950	24-07-2001	2.159	215.760	23-03-2002
2002-2003	1671	219.100	12-09-2002	0.243	215.660	08-04-2003
2003-2004	1919	219.880	02-09-2003	0.116	215.550	13-03-2004
2004-2005	1910	219.560	12-08-2004	0.968	215.630	24-03-2005
2005-2006	1980	219.960	05-08-2005	0.544	215.640	10-02-2006
2006-2007	1502	219.010	31-07-2006	0.396	215.570	13-03-2007
2007-2008	1094	218.810	07-07-2007	0.929	215.680	03-04-2008
2008-2009	1545	219.470	19-09-2008	0.319	215.550	19-05-2009
2009-2010	649.5	218.040	21-07-2009	0.123	215.420	06-04-2010
2010-2011	961.7	218.650	21-09-2010	0.163	215.210	27-06-2010
2011-2012	2005	220.075	10-09-2011	0.290	215.580	13-03-2012
2012-2013	1460	218.800	12-08-2012	0.289	215.550	18-04-2013
2013-2014	1144	219.020	30-08-2013	0.150	215.290	13-04-2014
2014-2015	1337	219.330	04-08-2014	0.177	215.280	05-06-2014
2015-2016	1400	218.990	12-07-2015	0.270	215.490	31-05-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : KURUBHATA (EMK00E2)

Division : MD,CWC,Burla

Local River : Mand

Sub-Division : MMSD II,CWC,Burla

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	215.490	0.284	215.820	10.21	216.625	157.3	217.540	405.7	216.735	101.4	216.010	19.56
2	215.490	0.289	215.800	9.503	216.760	225.3	216.945	259.6	216.700	95.00 *	216.080	23.44
3	215.500	0.299	215.790	9.000 *	216.715	215.4	216.950	253.4	216.490	75.08	216.040	21.34
4	215.500	0.311	216.250	49.54	217.095	230.9	217.460	410.0 *	216.530	78.98	216.060	22.12
5	215.500	0.310 *	217.540	487.2	217.840	570.6	217.590	429.9	216.320	52.70	216.050	20.59
6	215.500	0.296	217.090	214.1	217.580	411.2	217.540	359.0	216.420	60.81	216.050	20.50 *
7	215.500	0.291	217.100	215.1 *	217.630	415.1 *	216.950	259.4	216.520	70.17	216.040	21.00
8	215.540	0.344	216.610	138.0	219.020	1171	216.870	237.5	216.670	88.08	216.030	20.32
9	215.530	0.324	216.320	95.83	217.555	417.8	217.000	266.1	216.780	100.0 *	216.020	19.70 *
10	215.530	0.323	216.210	45.20 *	217.040	241.8	217.280	384.0	217.420	150.0 *	216.020	19.72
11	215.520	0.304	216.105	35.13	217.060	282.1	217.300	400.0 *	217.170	130.0 *	216.020	19.32
12	215.520	0.300 *	216.040	30.47	217.100	291.9	217.290	398.7	217.010	120.0 *	216.020	19.38
13	215.520	0.301	216.220	45.25	217.130	303.5	217.700	450.0 *	216.555	81.73	216.020	19.70 *
14	215.520	0.305	216.050	32.51	218.120	650.0 *	217.620	440.7	216.500	73.97	216.020	19.71 *
15	215.510	0.286	216.220	51.69	217.380	375.0 *	217.110	299.5	216.350	60.83	216.030	20.32
16	215.510	0.299	216.330	79.28	217.440	367.5	216.990	272.8	216.530	75.00 *	216.030	20.03
17	215.510	0.297	217.360	360.5 *	217.020	278.6	216.680	199.3	216.300	41.24	216.020	19.77
18	215.510	0.294	218.310	910.6	217.175	314.9	216.630	160.0 *	216.230	35.76	216.020	19.33
19	215.520	0.310 *	217.380	360.9	216.880	213.5	216.500	103.2	216.340	54.82	216.010	18.62
20	215.520	0.319	217.120	215.6	217.230	326.5	216.890	111.0	216.190	40.93	216.010	18.60 *
21	215.520	0.313	217.220	307.4	216.910	200.0 *	216.920	136.0	216.150	36.56	216.010	18.23
22	215.510	0.297	216.970	244.8	216.530	107.0	216.820	129.5	216.130	34.68	216.010	18.25
23	215.550	0.441	216.960	248.6	216.550	103.1	216.700	125.0	216.100	32.20 *	216.010	18.36
24	215.600	0.801	216.920	247.0 *	216.595	115.5	216.680	111.9	216.090	32.14	216.000	17.25
25	215.815	14.71	216.880	189.5	217.460	377.1	216.570	105.0 *	216.080	31.27	216.000	16.86
26	215.860	11.00 *	216.570	184.2	216.970	259.6	216.630	113.8	216.170	38.43	216.000	17.86
27	215.760	3.982	217.060	262.3	216.820	232.2	216.720	126.6	216.060	21.71	216.000	17.85 *
28	215.730	3.814	217.150	276.3	217.000	275.0 *	217.680	382.8	216.040	20.70	216.000	15.01
29	215.930	16.56	216.750	221.0	216.880	220.6	217.270	329.1	216.020	20.02	216.000	15.24
30	215.850	10.57	216.525	177.7	216.510	106.6	217.180	307.9	216.020	20.02 *	216.000	15.08
31			216.560	178.5 *	217.550	399.0			216.010	19.09		
Ten-Daily Mean												
I Ten-Daily	215.508	0.307	216.453	127.4	217.386	405.6	217.212	326.5	216.658	87.22	216.040	20.83
II Ten-Daily	215.516	0.302	216.714	212.2	217.254	340.4	217.071	283.5	216.518	71.43	216.020	19.48
III Ten-Daily	215.713	6.249	216.870	230.7	216.889	217.8	216.917	186.8	216.079	27.89	216.003	17.00
Monthly												
Min.	215.490	0.284	215.790	9.000	216.510	103.1	216.500	103.2	216.010	19.09	216.000	15.01
Max.	215.930	16.56	218.310	910.6	219.020	1171	217.700	450.0	217.420	150.0	216.080	23.44
Mean	215.579	2.286	216.685	191.4	217.167	317.9	217.067	265.6	216.407	61.07	216.021	19.1

Annual Runoff in MCM = 2327 Annual Runoff in mm = 503

Peak Observed Discharge = 1171 cumecs on 08/08/2016 Corres. Water Level :219.02 m

Lowest Observed Discharge = 0.000 cumecs on 15/05/2017 Corres. Water Level :215.57 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : KURUBHATA (EMK00E2)

Division : MD,CWC,Burla

Local River : Mand

Sub-Division : MMSD II,CWC,Burla

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	215.990	13.76	215.890	6.750 *	215.820	2.912	215.760	0.936	215.740	0.645	215.640	0.155
2	215.990	14.05	215.890	6.980	215.820	2.921	215.760	0.928	215.740	0.635 *	215.640	0.152
3	215.990	13.84	215.890	7.416	215.820	2.813	215.760	0.959	215.740	0.645	215.640	0.150
4	215.990	13.80 *	216.040	18.83	215.820	2.772	215.760	0.773	215.730	0.618	215.640	0.188
5	215.990	13.25	216.000	15.01	215.820	2.780 *	215.760	0.770 *	215.730	0.612	215.640	0.185
6	215.990	13.29	216.000	14.73	215.810	2.657	215.760	0.772	215.730	0.602	215.640	0.184
7	215.980	12.86	216.000	14.88	215.810	2.708	215.760	0.790	215.680	0.290 *	215.640	0.191 *
8	215.980	12.79	215.980	13.30 *	215.810	2.671	215.750	0.743	215.620	0.110 *	215.640	0.183
9	215.980	12.63	215.920	8.330	215.800	2.486	215.750	0.743	215.600	0.075 *	215.630	0.170
10	215.980	12.84	215.920	8.150	215.800	2.410	215.750	0.734	215.640	0.112	215.630	0.178 *
11	215.980	12.80 *	215.910	8.042	215.800	2.325	215.750	0.720	215.630	0.106	215.630	0.171
12	215.980	12.80 *	215.910	7.868	215.800	2.330 *	215.750	0.710 *	215.720	0.590	215.630	0.171
13	215.970	12.29	215.910	8.050	215.780	1.803	215.750	0.715 *	215.640	0.113	215.620	0.160
14	215.960	10.61	215.900	7.726	215.780	1.791	215.750	0.700	215.640	0.110 *	215.620	0.165 *
15	215.960	10.21	215.900	7.740 *	215.780	1.815	215.750	0.692	215.580	0.070 *	215.570	0.000
16	215.960	10.14	215.890	7.110	215.780	1.773	215.750	0.711	215.570	0.050 *	215.570	0.000
17	215.960	10.02	215.860	5.478	215.780	1.812	215.750	0.706	215.560	0.040 *	215.560	0.000 *
18	215.950	9.950 *	215.850	5.281	215.780	1.808	215.750	0.705	215.740	0.654	215.560	0.000 *
19	215.920	7.698	215.850	5.282	215.780	1.810 *	215.750	0.700 *	215.740	0.639	215.550	0.000 *
20	215.920	7.214	215.850	5.252	215.780	1.810	215.750	0.700	215.730	0.604	215.550	0.000 *
21	215.910	7.355	215.850	5.196	215.780	1.815	215.740	0.685	215.730	0.590	215.550	0.000 *
22	215.910	7.426	215.850	5.100 *	215.770	1.536	215.740	0.673	215.730	0.586	215.550	0.000 *
23	215.910	7.279	215.850	4.640	215.770	1.522	215.740	0.673	215.720	0.550 *	215.550	0.000 *
24	215.910	7.368	215.850	4.540	215.770	1.540 *	215.740	0.686	215.700	0.469	215.540	0.000 *
25	215.900	7.200 *	215.850	4.503	215.760	0.924	215.740	0.676	215.700	0.457	215.530	0.000 *
26	215.900	7.218	215.850	4.500 *	215.760	0.930 *	215.740	0.670 *	215.700	0.456	215.520	0.000 *
27	215.900	6.917	215.850	4.532	215.760	0.927	215.740	0.657	215.700	0.450	215.530	0.000 *
28	215.900	7.111	215.850	4.357	215.760	0.946	215.740	0.651	215.700	0.451	215.580	0.000 *
29	215.900	6.970	215.850	4.350 *			215.740	0.652	215.690	0.421	215.660	0.437
30	215.890	6.895	215.840	4.238			215.740	0.647	215.670	0.140 *	215.660	0.430
31	215.890	6.893	215.840	4.250			215.740	0.647			215.660	0.424
Ten-Daily Mean												
I Ten-Daily	215.986	13.31	215.953	11.44	215.813	2.713	215.757	0.815	215.695	0.434	215.638	0.174
II Ten-Daily	215.956	10.37	215.883	6.783	215.784	1.908	215.750	0.706	215.655	0.298	215.586	0.067
III Ten-Daily	215.902	7.148	215.848	4.564	215.766	1.267	215.740	0.665	215.704	0.457	215.575	0.117
Monthly												
Min.	215.890	6.893	215.840	4.238	215.760	0.924	215.740	0.647	215.560	0.040	215.520	0.000
Max.	215.990	14.05	216.040	18.83	215.820	2.921	215.760	0.959	215.740	0.654	215.660	0.437
Mean	215.946	10.18	215.893	7.497	215.789	2.012	215.749	0.727	215.685	0.396	215.599	0.119

Peak Computed Discharge = 650.0 cumecs on 14/08/2016

Corres. Water Level :218.12 m

Lowest Computed Discharge = 0.000 cumecs on 17/05/2017

Corres. Water Level :215.56 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) * :Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

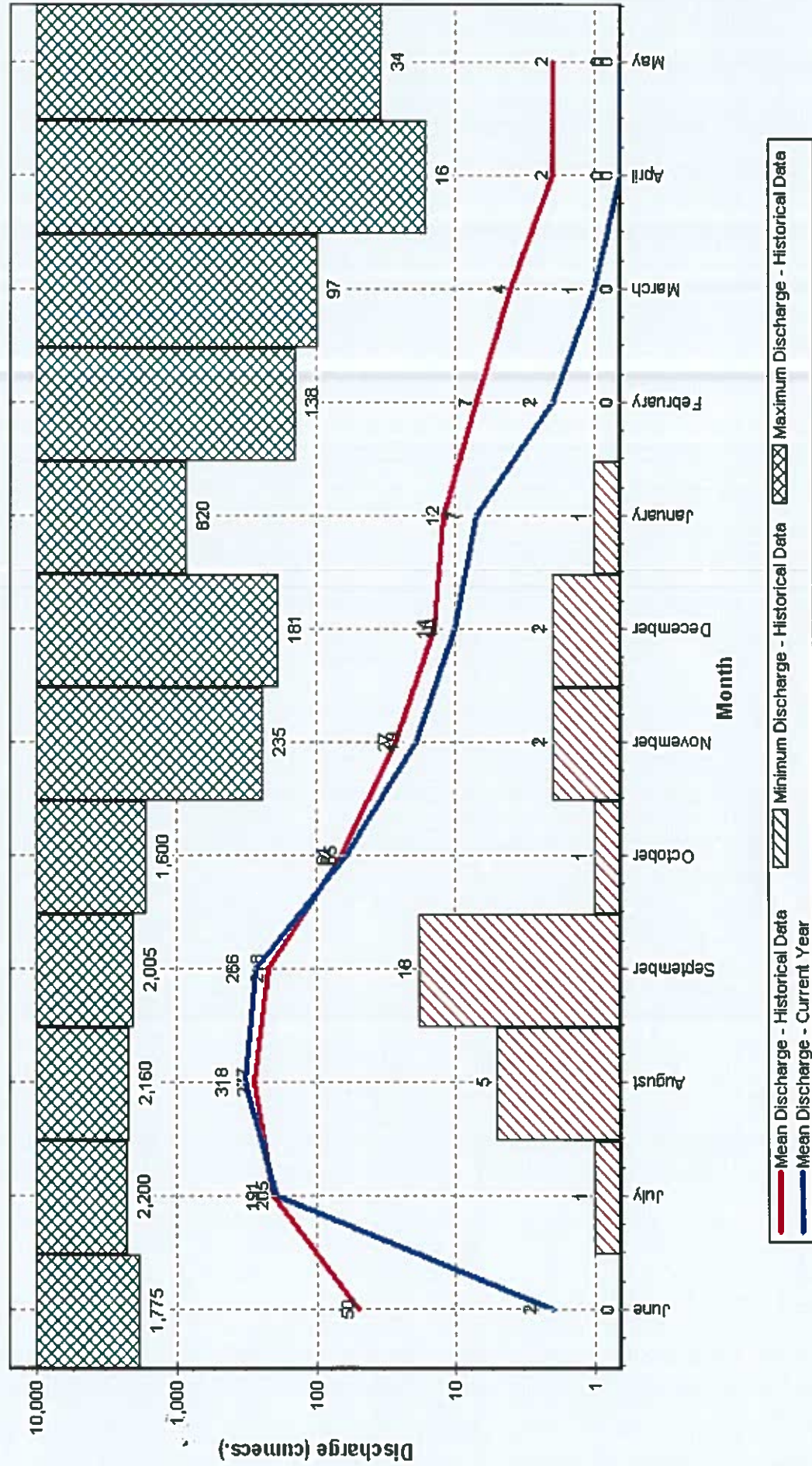
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Data considered : 1978-2017

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

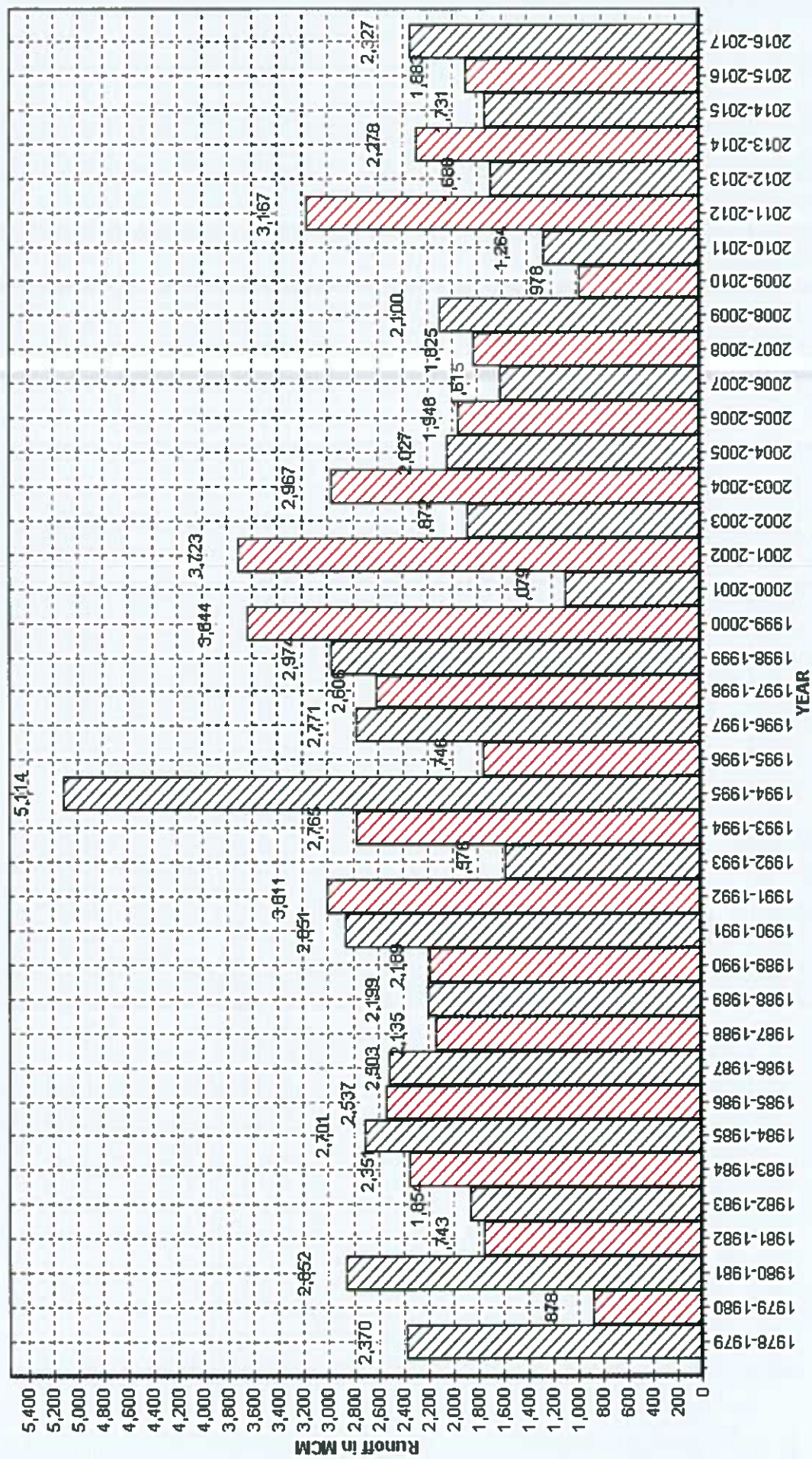


Annual Runoff Values for the period: 1978 - 2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla

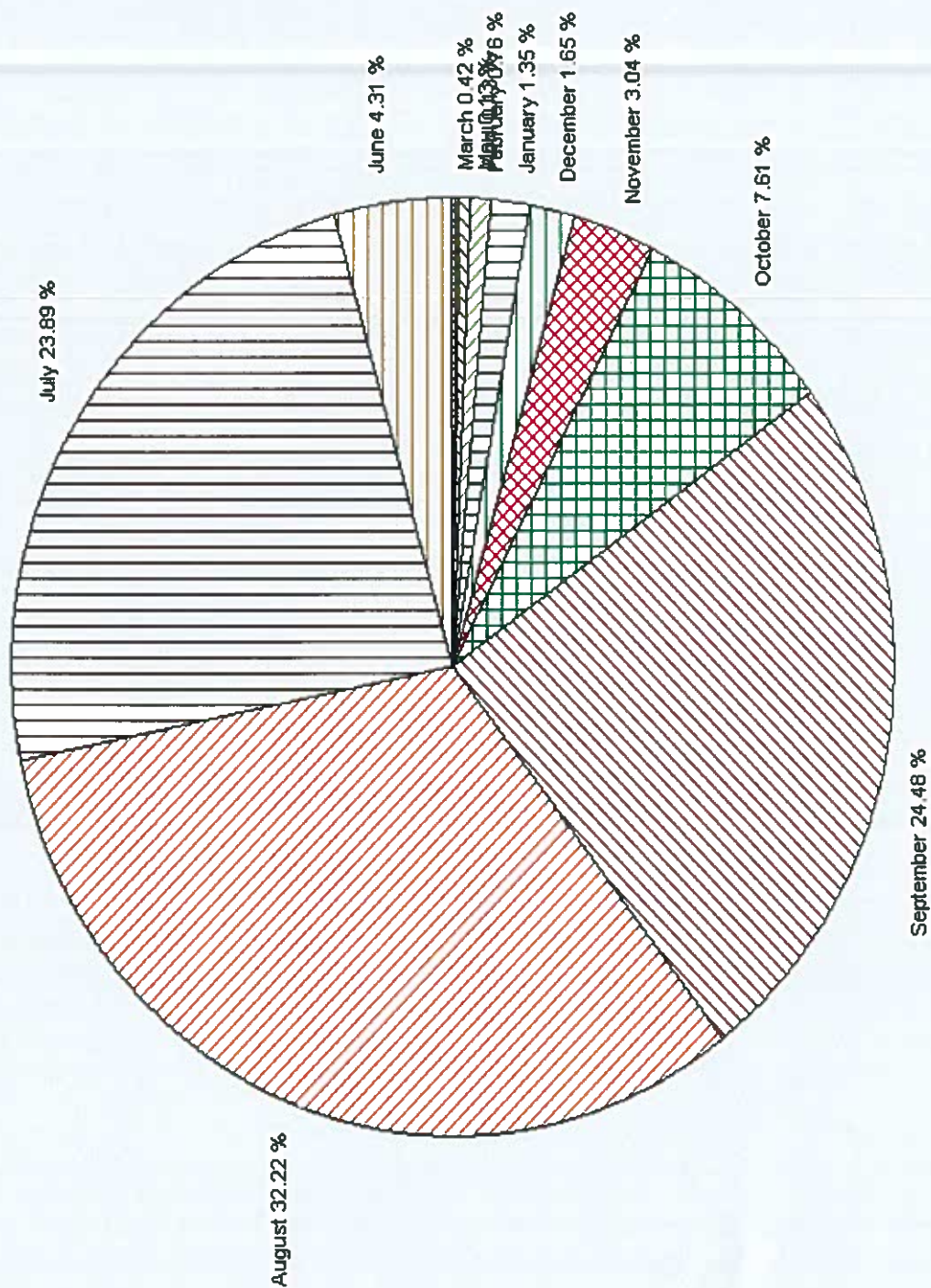


Monthly Average Runoff based on period : 1978-2016

Station Name : KURUBHATA (EMK00E2)
Local River : Mand

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

June	4.31 %
July	23.89 %
August	32.22 %
September	24.48 %
October	7.61 %
November	3.04 %
December	1.65 %
January	1.35 %
February	0.76 %
March	0.42 %
April	0.13 %
May	0.13 %



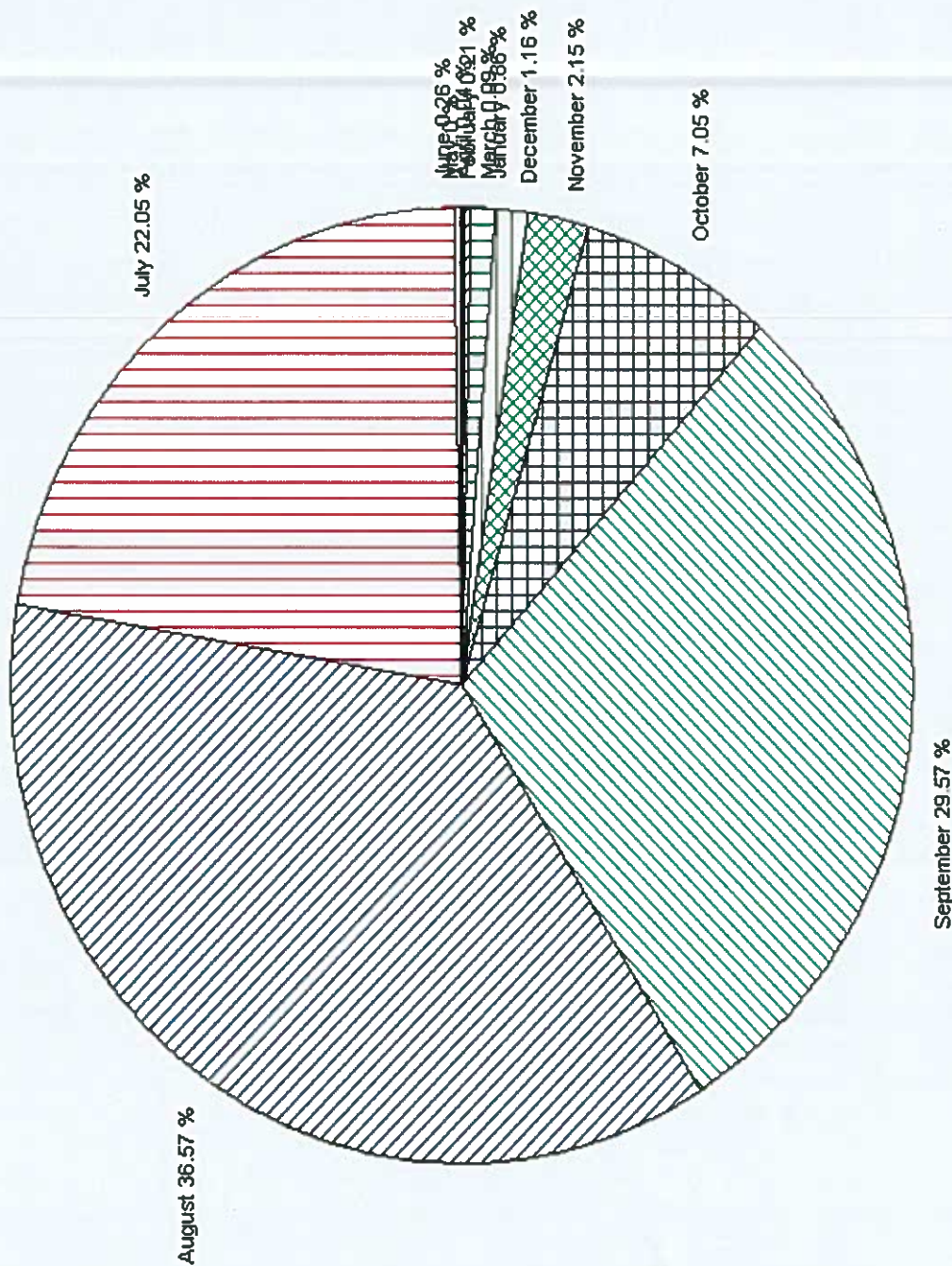
Monthly Runoff for the Year : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla

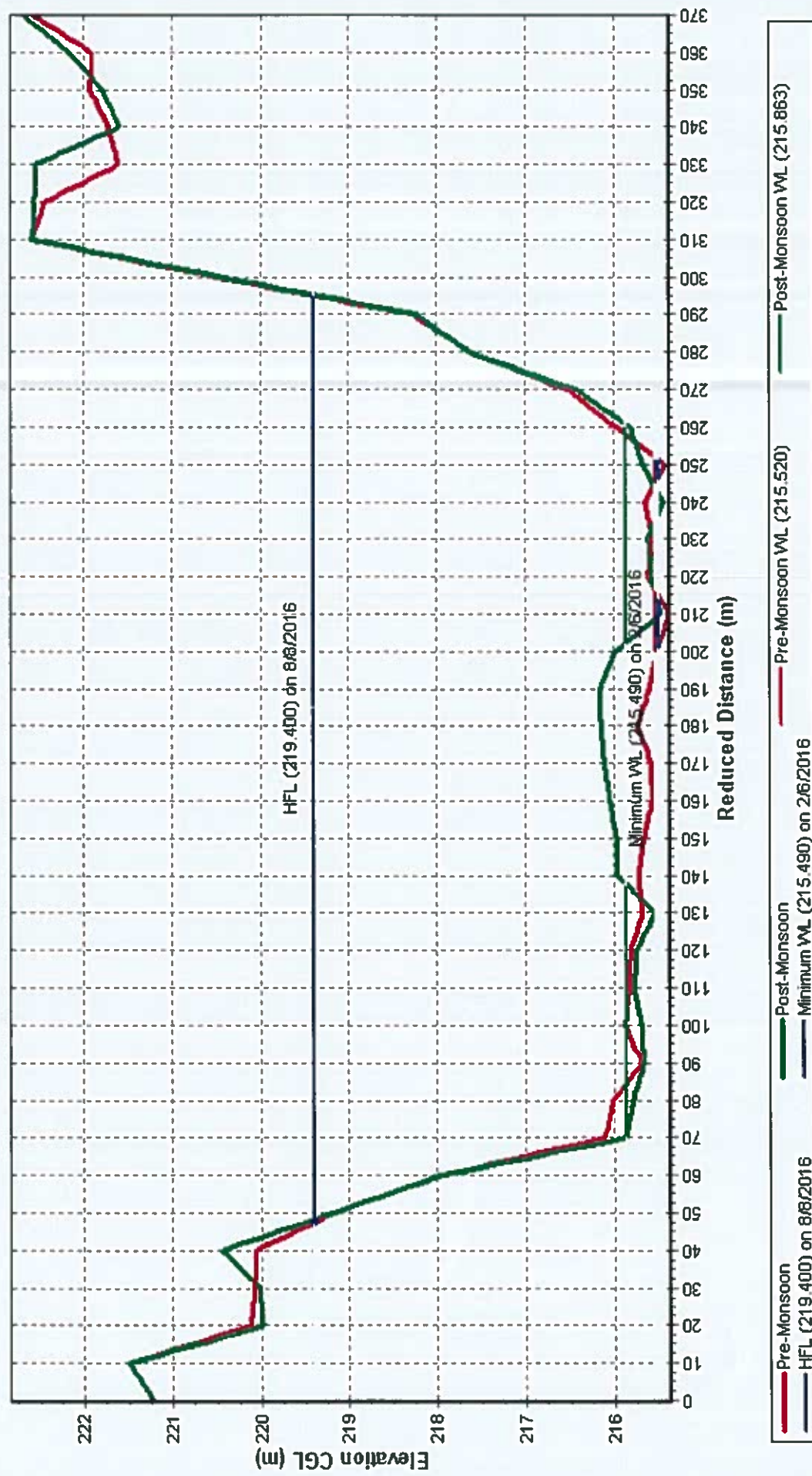
June	0.26 %
July	22.05 %
August	36.57 %
September	29.57 %
October	7.05 %
November	2.15 %
December	1.16 %
January	0.86 %
February	0.21 %
March	0.09 %
April	0.04 %
May	0 %



Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : KURUBHATA (EMK00E2)
Local River : Mand

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla



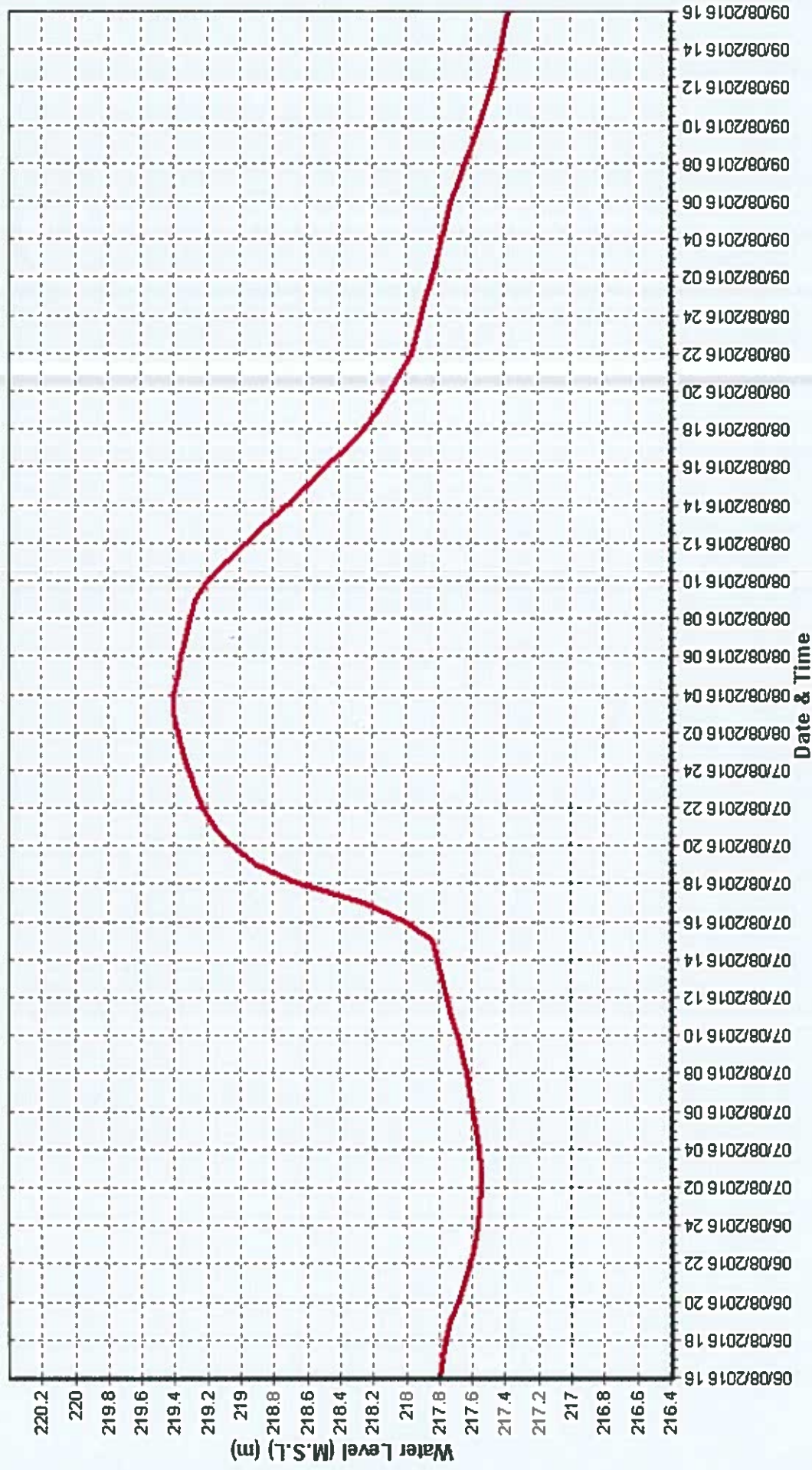
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



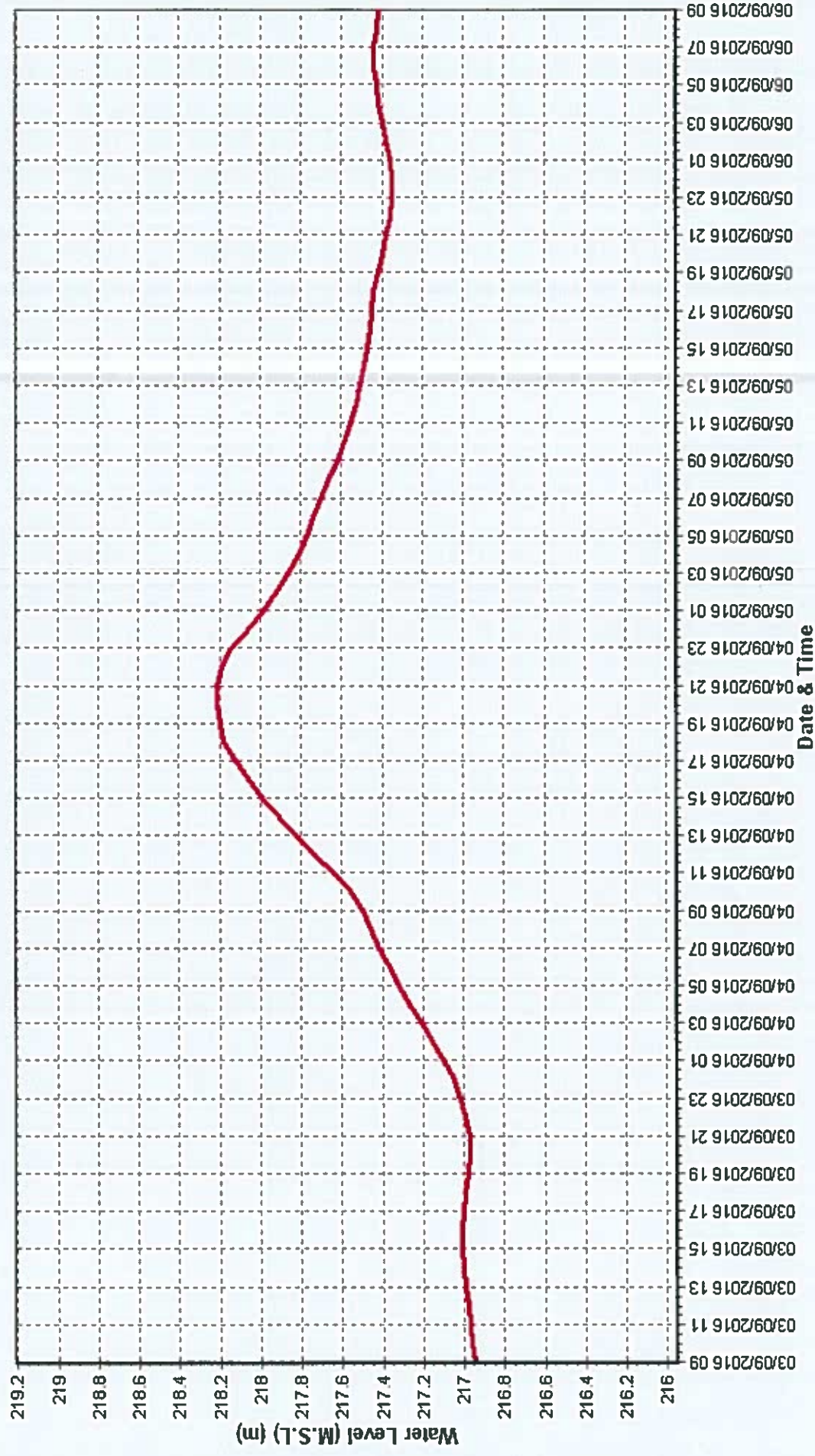
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

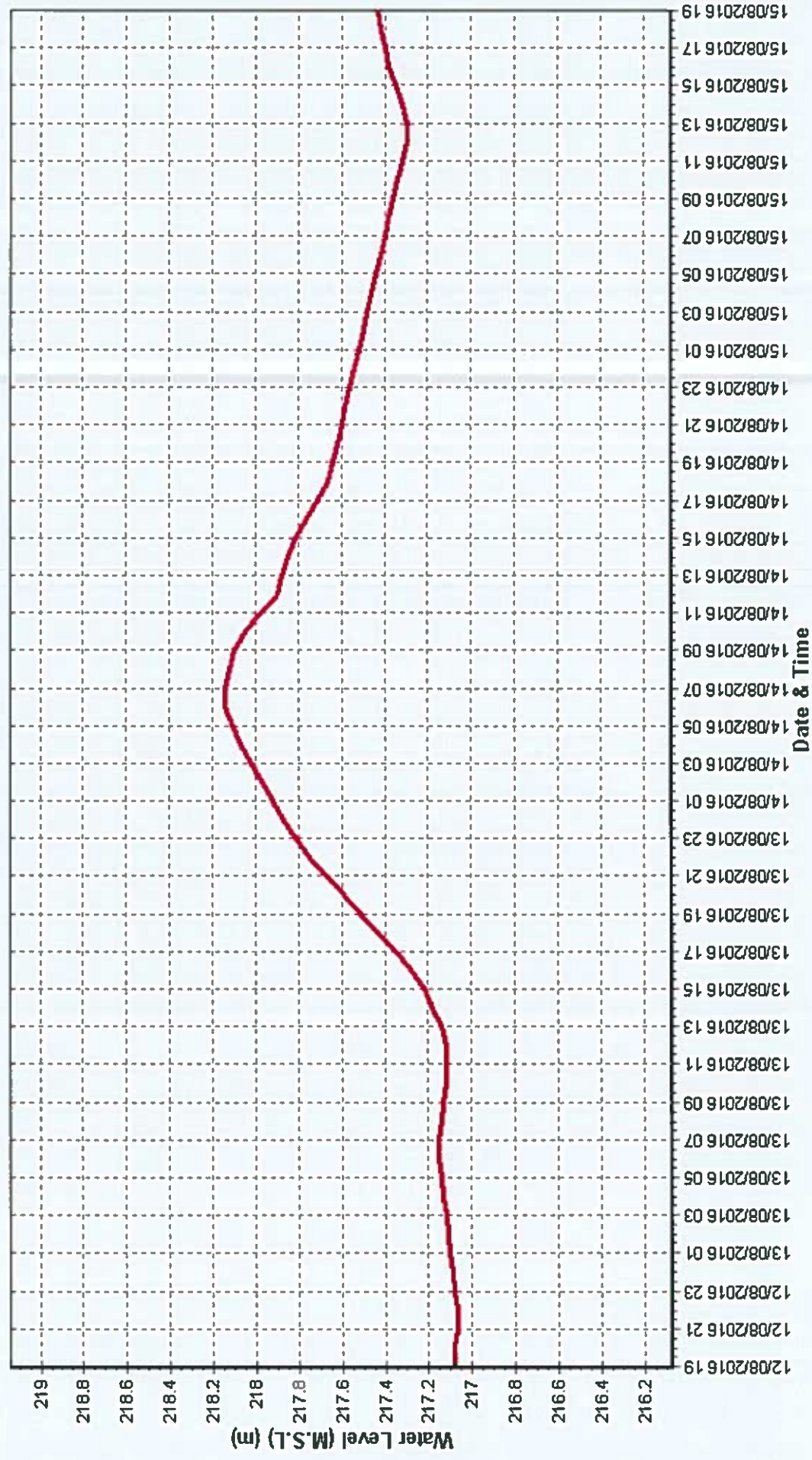
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

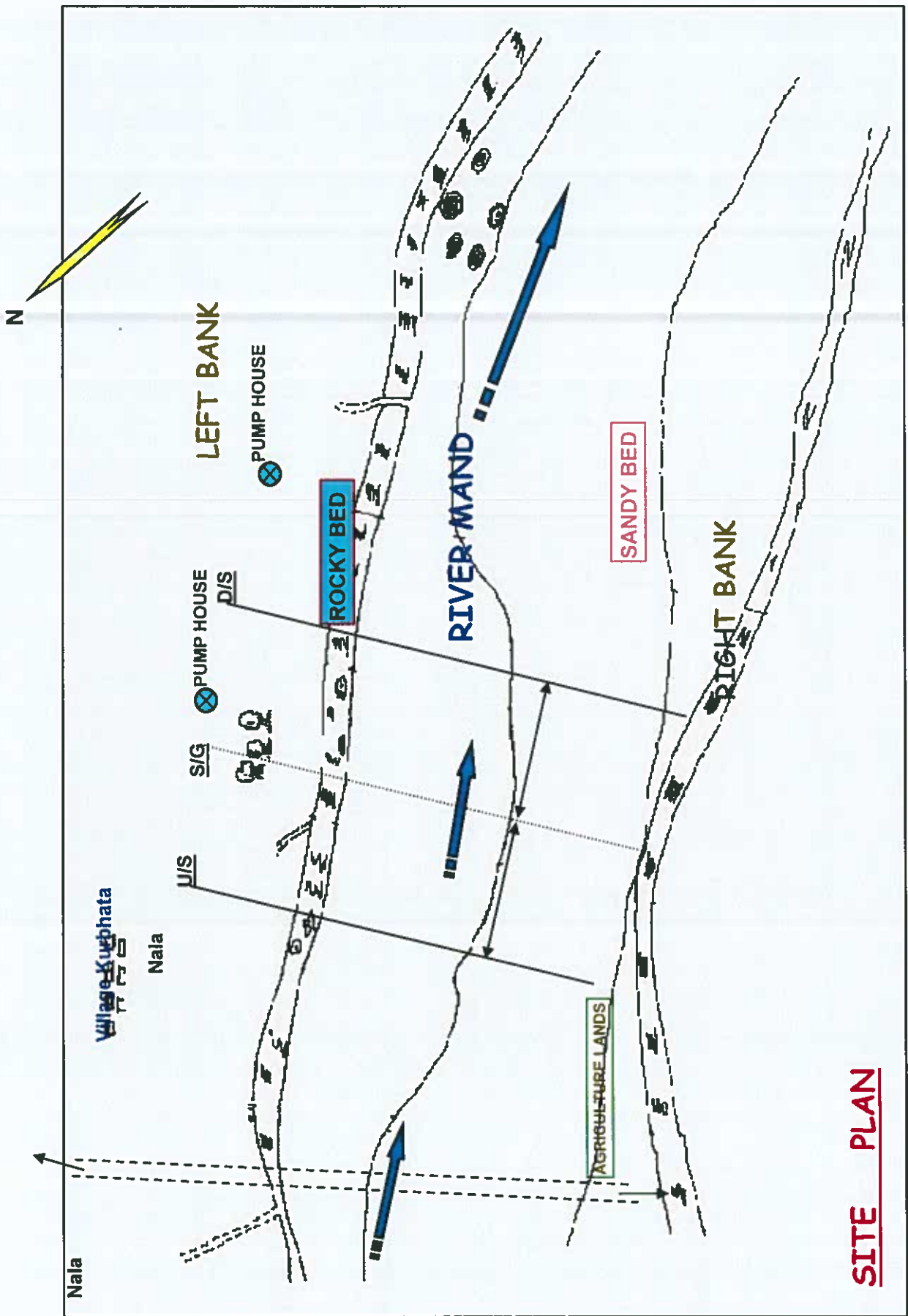
Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD, CWC, Burla

Sub-Division : MMSD II, CWC, Burla





SITE PLAN

SECTION – II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day		Jun					Jul					Aug							
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1		0.284	0.000	0.000	0.000	0.000	0	10.21	0.000	0.000	0.000	0.000	0	157.3	0.000	0.000	0.208	0.208	2828
2		0.289	0.000	0.000	0.000	0.000	0	9.503	0.000	0.000	0.000	0.000	0	225.3	0.000	0.000	0.339	0.339	6599
3		0.299	0.000	0.000	0.000	0.000	0	9.000	0.000	0.000	0.000	0.000	0	215.4	0.000	0.000	0.291	0.291	5411
4		0.311	0.000	0.000	0.000	0.000	0	49.54	0.000	0.000	0.000	0.000	0	230.9	0.000	0.000	0.441	0.441	8789
5		0.310	0.000	0.000	0.000	0.000	0	487.2	0.000	0.000	0.000	0.000	0	570.6	0.000	0.000	1.017	1.017	50147
6		0.296	0.000	0.000	0.000	0.000	0	214.1	0.000	0.000	0.000	0.000	0	411.2	0.000	0.000	0.504	0.504	17891
7		0.291	0.000	0.000	0.000	0.000	0	215.1	0.000	0.000	0.000	0.000	0	415.1	0.000	0.000	0.000	0.000	0
8		0.344	0.000	0.000	0.000	0.000	0	138.0	0.000	0.000	0.000	0.000	0	117.1	0.000	0.000	1.020	1.020	103163
9		0.324	0.000	0.000	0.000	0.000	0	95.83	0.000	0.000	0.000	0.000	0	417.8	0.000	0.000	0.598	0.598	21601
10		0.323	0.000	0.000	0.000	0.000	0	45.20	0.000	0.000	0.000	0.000	0	241.8	0.000	0.000	0.372	0.372	7779
11		0.304	0.000	0.000	0.000	0.000	0	35.13	0.000	0.000	0.324	0.324	983	282.1	0.000	0.000	0.214	0.214	5214
12		0.300	0.000	0.000	0.000	0.000	0	30.47	0.000	0.000	0.318	0.318	837	291.9	0.000	0.000	0.296	0.296	7468
13		0.301	0.000	0.000	0.000	0.000	0	45.25	0.000	0.000	0.347	0.347	1357	303.5	0.000	0.000	0.299	0.299	7842
14		0.305	0.000	0.000	0.000	0.000	0	32.51	0.000	0.000	0.328	0.328	921	650.0	0.000	0.000	0.000	0.000	0
15		0.286	0.000	0.000	0.000	0.000	0	51.69	0.000	0.000	0.349	0.349	1559	375.0	0.000	0.000	0.000	0.000	0
16		0.299	0.000	0.000	0.000	0.000	0	79.28	0.000	0.000	0.352	0.352	2411	367.5	0.000	0.000	0.317	0.317	10063
17		0.297	0.000	0.000	0.000	0.000	0	360.5	0.000	0.000	0.000	0.000	0	278.6	0.000	0.000	0.223	0.223	5358
18		0.294	0.000	0.000	0.000	0.000	0	910.6	0.711	0.726	0.779	2.216	174352	314.9	0.000	0.000	0.232	0.232	6307
19		0.310	0.000	0.000	0.000	0.000	0	360.9	0.000	0.000	0.424	0.424	13220	213.5	0.000	0.000	0.203	0.203	3743
20		0.319	0.000	0.000	0.000	0.000	0	215.6	0.000	0.000	0.419	0.419	7805	326.5	0.000	0.000	0.612	0.612	17254
21		0.313	0.000	0.000	0.000	0.000	0	307.4	0.000	0.000	0.421	0.421	11180	200.0	0.000	0.000	0.000	0.000	0
22		0.297	0.000	0.000	0.000	0.000	0	244.8	0.000	0.000	0.406	0.406	8587	107.0	0.000	0.000	0.136	0.136	1258
23		0.441	0.000	0.000	0.000	0.000	0	248.6	0.000	0.000	0.391	0.391	8399	103.1	0.000	0.000	0.130	0.130	1157
24		0.801	0.000	0.000	0.000	0.000	0	247.0	0.000	0.000	0.000	0.000	0	115.5	0.000	0.000	0.153	0.153	1522
25		14.71	0.000	0.000	0.295	0.295	375	189.5	0.000	0.000	0.206	0.206	3374	377.1	0.000	0.000	0.338	0.338	11007
26		11.00	0.000	0.000	0.000	0.000	0	184.2	0.000	0.000	0.162	0.162	2578	259.6	0.000	0.000	0.173	0.173	3872
27		3.982	0.000	0.000	0.000	0.000	0	262.3	0.000	0.000	0.237	0.237	5376	232.2	0.000	0.000	0.150	0.150	3007
28		3.814	0.000	0.000	0.000	0.000	0	276.3	0.000	0.000	0.246	0.246	5869	275.0	0.000	0.000	0.000	0.000	0
29		16.56	0.000	0.000	0.308	0.308	441	221.0	0.000	0.000	0.248	0.248	4733	220.6	0.000	0.000	0.194	0.194	3701
30		10.57	0.000	0.000	0.299	0.299	273	177.7	0.000	0.000	0.206	0.206	3158	106.6	0.000	0.000	0.320	0.320	2941
31								178.5	0.000	0.000	0.000	0.000	0	399.0	0.000	0.000	0.694	0.694	23905
Ten Daily Mean																			
Ten Daily I		0.307	0.000	0.000	0.000	0.000	0	127.4	0.000	0.000	0.000	0.000	0	405.6	0.000	0.000	0.479	0.479	22421
Ten Daily II		0.302	0.000	0.000	0.000	0.000	0	212.2	0.071	0.073	0.364	0.508	20344	340.4	0.000	0.000	0.239	0.239	6325
Ten Daily III		6.249	0.000	0.000	0.090	0.090	109	230.7	0.000	0.000	0.229	0.229	4841	217.8	0.000	0.000	0.208	0.208	4761
Monthly																			
Total							1089						256699						339828

Annual Sediment Load (Metric Tonnes) : 750453

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	405.7	0.000	0.000	0.607	0.607	21267	101.4	0.000	0.000	0.094	0.094	825
2	259.6	0.000	0.000	0.191	0.191	4289	95.00	0.000	0.000	0.000	0.000	0
3	253.4	0.000	0.000	0.181	0.181	3971	75.08	0.000	0.000	0.052	0.052	338
4	410.0	0.000	0.000	0.000	0.000	0	78.98	0.000	0.000	0.070	0.070	479
5	429.9	0.000	0.000	0.260	0.260	9650	52.70	0.000	0.000	0.049	0.049	223
6	359.0	0.000	0.000	0.221	0.221	6843	60.81	0.000	0.000	0.020	0.020	102
7	259.4	0.000	0.000	0.184	0.184	4130	70.17	0.000	0.000	0.113	0.113	682
8	237.5	0.000	0.000	0.119	0.119	2446	88.08	0.000	0.000	0.148	0.148	1126
9	266.1	0.000	0.000	0.102	0.102	2350	100.0	0.000	0.000	0.000	0.000	0
10	384.0	0.000	0.000	0.297	0.297	9849	150.0	0.000	0.000	0.000	0.000	0
11	400.0	0.000	0.000	0.000	0.000	0	130.0	0.000	0.000	0.000	0.000	0
12	398.7	0.000	0.000	0.249	0.249	8584	120.0	0.000	0.000	0.000	0.000	0
13	450.0	0.000	0.000	0.000	0.000	0	81.73	0.000	0.000	0.067	0.067	474
14	440.7	0.000	0.000	0.480	0.480	18269	73.97	0.000	0.000	0.057	0.057	366
15	299.5	0.000	0.000	0.253	0.253	6533	60.83	0.000	0.000	0.059	0.059	312
16	272.8	0.000	0.000	0.122	0.122	2885	75.00	0.000	0.000	0.000	0.000	0
17	199.3	0.000	0.000	0.103	0.103	1772	41.24	0.000	0.000	0.044	0.044	158
18	160.0	0.000	0.000	0.000	0.000	0	35.76	0.000	0.000	0.040	0.040	122
19	103.2	0.000	0.000	0.058	0.058	519	54.82	0.000	0.000	0.053	0.053	252
20	111.0	0.000	0.000	0.203	0.203	1950	40.93	0.000	0.000	0.036	0.036	127
21	136.0	0.000	0.000	0.194	0.194	2282	36.56	0.000	0.000	0.035	0.035	109
22	129.5	0.000	0.000	0.179	0.179	2007	34.68	0.000	0.000	0.025	0.025	75
23	125.0	0.000	0.000	0.086	0.086	929	32.20	0.000	0.000	0.000	0.000	0
24	111.9	0.000	0.000	0.084	0.084	811	32.14	0.000	0.000	0.013	0.013	35
25	105.0	0.000	0.000	0.000	0.000	0	31.27	0.000	0.000	0.012	0.012	33
26	113.8	0.000	0.000	0.115	0.115	1131	38.43	0.000	0.000	0.035	0.035	116
27	126.6	0.000	0.000	0.144	0.144	1576	21.71	0.000	0.000	0.012	0.012	23
28	382.8	0.000	0.000	0.669	0.669	22138	20.70	0.000	0.000	0.012	0.012	21
29	329.1	0.000	0.000	0.219	0.219	6228	20.02	0.000	0.000	0.011	0.011	19
30	307.9	0.000	0.000	0.161	0.161	4292	20.02	0.000	0.000	0.000	0.000	0
31							19.09	0.000	0.000	0.010	0.010	17
Ten Daily Mean												
Ten Daily I	326.5	0.000	0.000	0.216	0.216	6480	87.22	0.000	0.000	0.055	0.055	378
Ten Daily II	283.5	0.000	0.000	0.147	0.147	4051	71.43	0.000	0.000	0.036	0.036	181
Ten Daily III	186.8	0.000	0.000	0.185	0.185	4139	27.89	0.000	0.000	0.015	0.015	41
Monthly												
Total						146701						6033
												48

Annual Sediment Load (Metric Tonnes) : 750453

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day	Dec					Jan					Feb							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	13.76	0.000	0.000	0.000	0.000	0	6.750	0.000	0.000	0.000	0.000	0	2.912	0.000	0.000	0.000	0.000	0
2	14.05	0.000	0.000	0.000	0.000	0	6.980	0.000	0.000	0.010	0.010	6	2.921	0.000	0.000	0.000	0.000	0
3	13.84	0.000	0.000	0.000	0.000	0	7.416	0.000	0.000	0.000	0.000	0	2.813	0.000	0.000	0.000	0.000	0
4	13.80	0.000	0.000	0.000	0.000	0	18.83	0.000	0.000	0.000	0.000	0	2.772	0.000	0.000	0.000	0.000	0
5	13.25	0.000	0.000	0.010	0.010	12	15.01	0.000	0.000	0.000	0.000	0	2.780	0.000	0.000	0.000	0.000	0
6	13.29	0.000	0.000	0.000	0.000	0	14.73	0.000	0.000	0.000	0.000	0	2.657	0.000	0.000	0.010	0.010	2
7	12.86	0.000	0.000	0.000	0.000	0	14.88	0.000	0.000	0.000	0.000	0	2.708	0.000	0.000	0.000	0.000	0
8	12.79	0.000	0.000	0.000	0.000	0	13.30	0.000	0.000	0.000	0.000	0	2.671	0.000	0.000	0.000	0.000	0
9	12.63	0.000	0.000	0.000	0.000	0	8.330	0.000	0.000	0.010	0.010	7	2.486	0.000	0.000	0.000	0.000	0
10	12.84	0.000	0.000	0.000	0.000	0	8.150	0.000	0.000	0.000	0.000	0	2.410	0.000	0.000	0.000	0.000	0
11	12.80	0.000	0.000	0.000	0.000	0	8.042	0.000	0.000	0.000	0.000	0	2.325	0.000	0.000	0.000	0.000	0
12	12.80	0.000	0.000	0.000	0.000	0	7.868	0.000	0.000	0.000	0.000	0	2.330	0.000	0.000	0.000	0.000	0
13	12.29	0.000	0.000	0.000	0.000	0	8.050	0.000	0.000	0.000	0.000	0	1.803	0.000	0.000	0.010	0.010	2
14	10.61	0.000	0.000	0.000	0.000	0	7.726	0.000	0.000	0.000	0.000	0	1.791	0.000	0.000	0.000	0.000	0
15	10.21	0.000	0.000	0.000	0.000	0	7.740	0.000	0.000	0.000	0.000	0	1.815	0.000	0.000	0.000	0.000	0
16	10.14	0.000	0.000	0.000	0.000	0	7.110	0.000	0.000	0.010	0.010	6	1.773	0.000	0.000	0.000	0.000	0
17	10.02	0.000	0.000	0.000	0.000	0	5.478	0.000	0.000	0.000	0.000	0	1.812	0.000	0.000	0.000	0.000	0
18	9.950	0.000	0.000	0.000	0.000	0	5.281	0.000	0.000	0.000	0.000	0	1.808	0.000	0.000	0.000	0.000	0
19	7.698	0.000	0.000	0.010	0.010	7	5.282	0.000	0.000	0.000	0.000	0	1.810	0.000	0.000	0.000	0.000	0
20	7.214	0.000	0.000	0.000	0.000	0	5.252	0.000	0.000	0.000	0.000	0	1.810	0.000	0.000	0.000	0.000	0
21	7.355	0.000	0.000	0.000	0.000	0	5.196	0.000	0.000	0.000	0.000	0	1.815	0.000	0.000	0.000	0.000	0
22	7.426	0.000	0.000	0.000	0.000	0	5.100	0.000	0.000	0.000	0.000	0	1.536	0.000	0.000	0.000	0.000	0
23	7.279	0.000	0.000	0.000	0.000	0	4.640	0.000	0.000	0.010	0.010	4	1.522	0.000	0.000	0.000	0.000	0
24	7.368	0.000	0.000	0.000	0.000	0	4.540	0.000	0.000	0.000	0.000	0	1.540	0.000	0.000	0.000	0.000	0
25	7.200	0.000	0.000	0.000	0.000	0	4.503	0.000	0.000	0.000	0.000	0	0.924	0.000	0.000	0.000	0.000	0
26	7.218	0.000	0.000	0.010	0.010	6	4.500	0.000	0.000	0.000	0.000	0	0.930	0.000	0.000	0.000	0.000	0
27	6.917	0.000	0.000	0.000	0.000	0	4.532	0.000	0.000	0.000	0.000	0	0.927	0.000	0.000	0.000	0.000	0
28	7.111	0.000	0.000	0.000	0.000	0	4.357	0.000	0.000	0.000	0.000	0	0.946	0.000	0.000	0.000	0.000	0
29	6.970	0.000	0.000	0.000	0.000	0	4.350	0.000	0.000	0.000	0.000	0						
30	6.895	0.000	0.000	0.000	0.000	0	4.238	0.000	0.000	0.000	0.000	0						
31	6.893	0.000	0.000	0.000	0.000	0	4.250	0.000	0.000	0.010	0.010	4						
Ten Daily Mean																		
Ten Daily I	13.31	0.000	0.000	0.001	0.001	1	11.44	0.000	0.000	0.002	0.002	1	2.713	0.000	0.000	0.001	0.001	0
Ten Daily II	10.37	0.000	0.000	0.001	0.001	1	6.783	0.000	0.000	0.001	0.001	1	1.908	0.000	0.000	0.001	0.001	0
Ten Daily III	7.148	0.000	0.000	0.001	0.001	1	4.564	0.000	0.000	0.002	0.002	1	1.267	0.000	0.000	0.000	0.000	0
Monthly																		
Total						25						27						4

Annual Sediment Load (Metric Tonnes) : 750453

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Mar				Apr				May			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.936	0.000	0.000	0.000	0.000	0	0.645	0.000	0.000	0.000	0.000	0
2	0.928	0.000	0.000	0.000	0.000	0	0.635	0.000	0.000	0.000	0.000	0
3	0.959	0.000	0.000	0.000	0.000	0	0.645	0.000	0.000	0.000	0.000	0
4	0.773	0.000	0.000	0.000	0.000	0	0.618	0.000	0.000	0.000	0.000	0
5	0.770	0.000	0.000	0.000	0.000	0	0.612	0.000	0.000	0.000	0.000	0
6	0.772	0.000	0.000	0.000	0.000	0	0.602	0.000	0.000	0.000	0.000	0
7	0.790	0.000	0.000	0.000	0.000	0	0.290	0.000	0.000	0.000	0.000	0
8	0.743	0.000	0.000	0.000	0.000	0	0.110	0.000	0.000	0.000	0.000	0
9	0.743	0.000	0.000	0.000	0.000	0	0.075	0.000	0.000	0.000	0.000	0
10	0.734	0.000	0.000	0.000	0.000	0	0.112	0.000	0.000	0.000	0.000	0
11	0.720	0.000	0.000	0.000	0.000	0	0.106	0.000	0.000	0.000	0.000	0
12	0.710	0.000	0.000	0.000	0.000	0	0.590	0.000	0.000	0.000	0.000	0
13	0.715	0.000	0.000	0.000	0.000	0	0.113	0.000	0.000	0.000	0.000	0
14	0.700	0.000	0.000	0.000	0.000	0	0.110	0.000	0.000	0.000	0.000	0
15	0.692	0.000	0.000	0.000	0.000	0	0.070	0.000	0.000	0.000	0.000	0
16	0.711	0.000	0.000	0.000	0.000	0	0.050	0.000	0.000	0.000	0.000	0
17	0.706	0.000	0.000	0.000	0.000	0	0.040	0.000	0.000	0.000	0.000	0
18	0.705	0.000	0.000	0.000	0.000	0	0.654	0.000	0.000	0.000	0.000	0
19	0.700	0.000	0.000	0.000	0.000	0	0.639	0.000	0.000	0.000	0.000	0
20	0.700	0.000	0.000	0.000	0.000	0	0.604	0.000	0.000	0.000	0.000	0
21	0.685	0.000	0.000	0.000	0.000	0	0.590	0.000	0.000	0.000	0.000	0
22	0.673	0.000	0.000	0.000	0.000	0	0.586	0.000	0.000	0.000	0.000	0
23	0.673	0.000	0.000	0.000	0.000	0	0.550	0.000	0.000	0.000	0.000	0
24	0.686	0.000	0.000	0.000	0.000	0	0.469	0.000	0.000	0.000	0.000	0
25	0.676	0.000	0.000	0.000	0.000	0	0.457	0.000	0.000	0.000	0.000	0
26	0.670	0.000	0.000	0.000	0.000	0	0.456	0.000	0.000	0.000	0.000	0
27	0.657	0.000	0.000	0.000	0.000	0	0.450	0.000	0.000	0.000	0.000	0
28	0.651	0.000	0.000	0.000	0.000	0	0.451	0.000	0.000	0.000	0.000	0
29	0.652	0.000	0.000	0.000	0.000	0	0.421	0.000	0.000	0.000	0.000	0
30	0.647	0.000	0.000	0.000	0.000	0	0.140	0.000	0.000	0.000	0.000	0
31	0.647	0.000	0.000	0.000	0.000	0						0
Ten Daily Mean												
Ten Daily I	0.815	0.000	0.000	0.000	0.000	0	0.434	0.000	0.000	0.000	0.000	0
Ten Daily II	0.706	0.000	0.000	0.000	0.000	0	0.298	0.000	0.000	0.000	0.000	0
Ten Daily III	0.665	0.000	0.000	0.000	0.000	0	0.457	0.000	0.000	0.000	0.000	0
Monthly												
Total						0						0

Annual Sediment Load for period : 1978-2017

Station Name : KURUBHATA (EMK00E2)

Division : MD,CWC,Burla

Local River : Mand

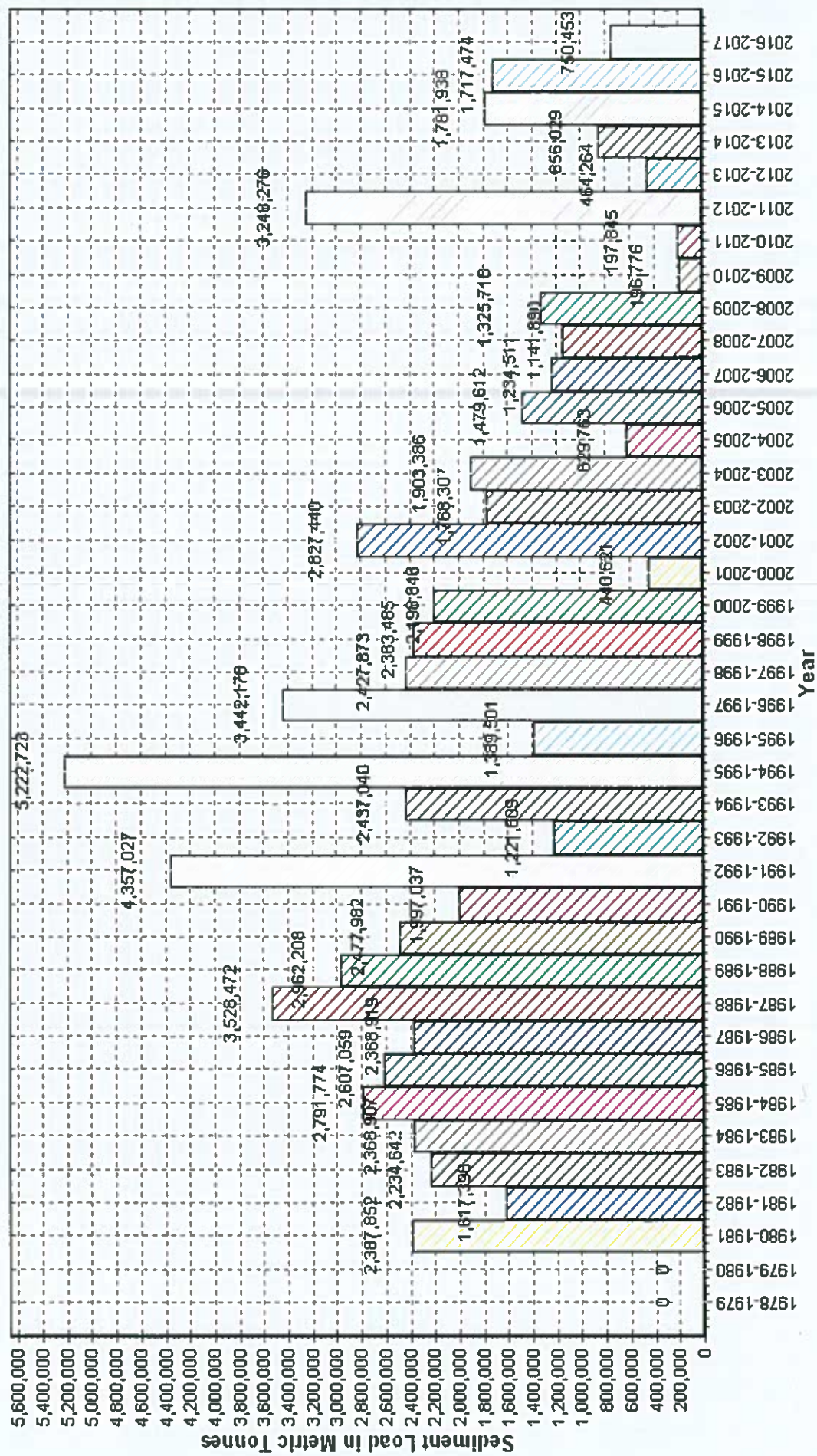
Sub-Division : MMSD II,CWC,Burla

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1978-1979	0	0	0	2370
1979-1980	0	0	0	878
1980-1981	2387494	359	2387852	2852
1981-1982	1613961	3434	1617396	1743
1982-1983	2227490	7152	2234642	1854
1983-1984	2364467	4440	2368907	2351
1984-1985	2782091	9684	2791774	2701
1985-1986	2602368	4691	2607059	2537
1986-1987	2364143	4776	2368919	2503
1987-1988	3517501	10970	3528472	2135
1988-1989	2962040	168	2962208	2199
1989-1990	2477458	524	2477982	2189
1990-1991	1996120	917	1997037	2851
1991-1992	4354575	2451	4357027	3011
1992-1993	1221530	79	1221609	1576
1993-1994	2436824	216	2437040	2765
1994-1995	5220590	2133	5222723	5114
1995-1996	1389085	415	1389501	1746
1996-1997	3441848	330	3442178	2771
1997-1998	2402131	25741	2427873	2606
1998-1999	2360419	3066	2363485	2974
1999-2000	2196790	2056	2198846	3644
2000-2001	440600	22	440621	1079
2001-2002	2826376	1064	2827440	3723
2002-2003	1767900	407	1768307	1872
2003-2004	1902520	866	1903386	2967
2004-2005	627685	2078	629763	2027
2005-2006	1479334	278	1479612	1946
2006-2007	1234428	83	1234511	1615
2007-2008	1141781	109	1141890	1825
2008-2009	1325650	68	1325718	2100
2009-2010	196647	129	196776	978
2010-2011	197845	0	197845	1264
2011-2012	3248276	0	3248276	3167
2012-2013	464127	137	464264	1686
2013-2014	854229	1800	856029	2278
2014-2015	1781541	397	1781938	1731
2015-2016	1717284	190	1717474	1883
2016-2017	750397	56	750453	2327

Annual Sediment Load for the period: 1978-2017

Station Name : KURUBHATA (EMK00E2)
Local River : Mand

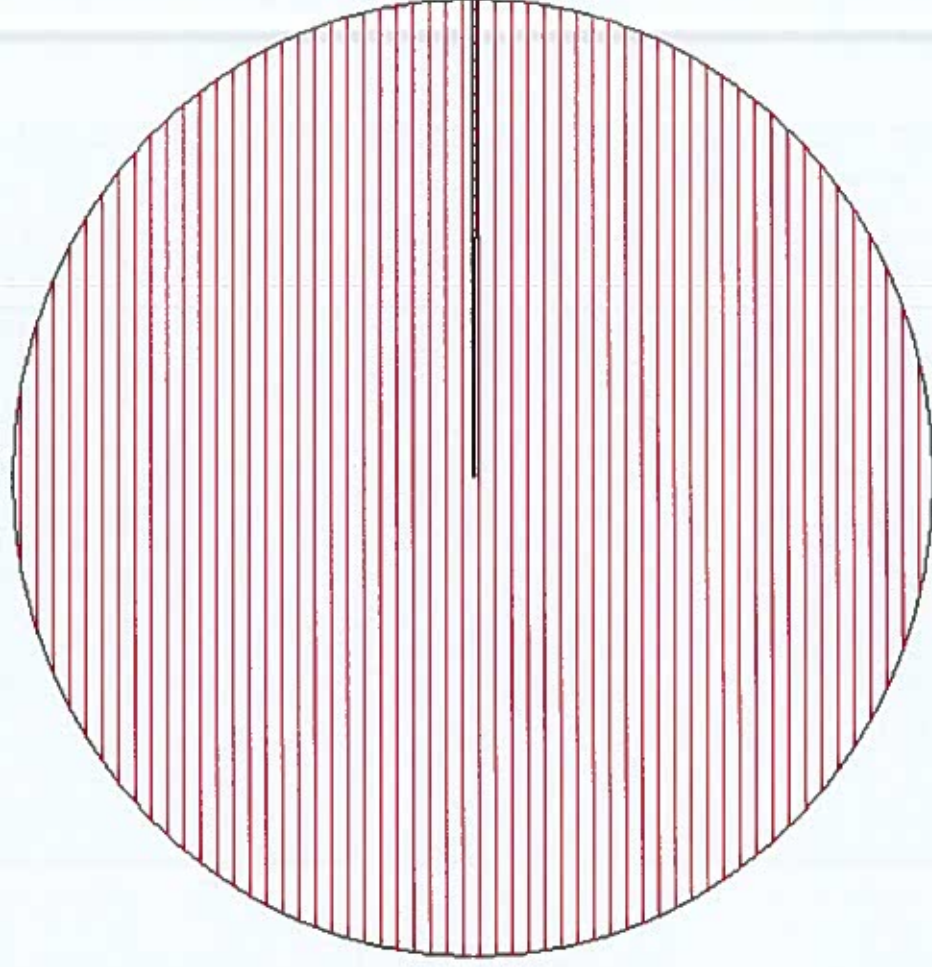
Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla



Seasonal Sediment Load for the period : 1978-2016

Station Name : KURUBHATA (EMK00E2)
Local River : Mand

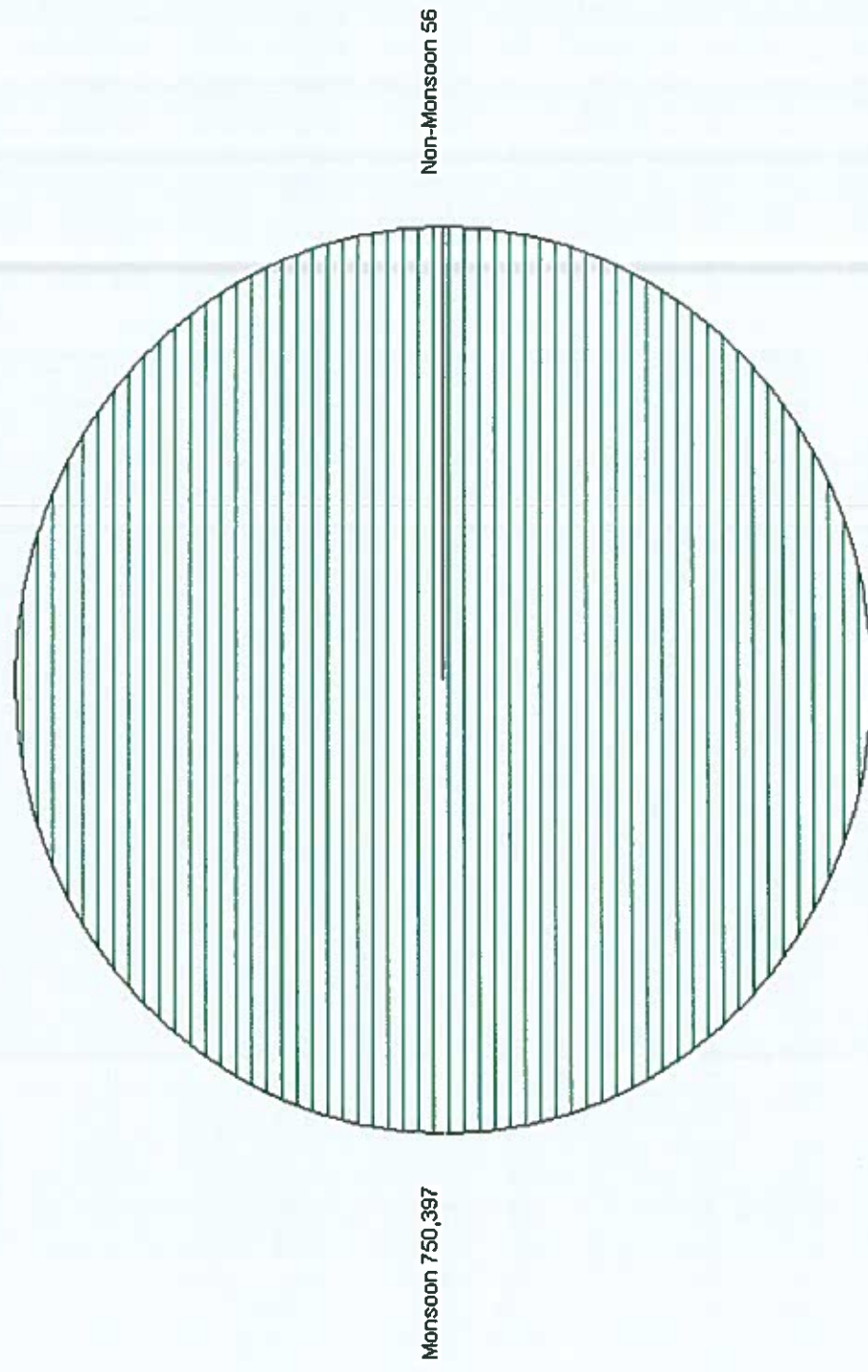
Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the Year: 2016-2017

Station Name : KURUBHATA (EMK00E2)
Local River : Mand

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

River Water Analysis

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.284	10.21	157.3	405.7	101.4	19.56	13.76	6.980	2.912	0.936	0.645	0.155
2	Colour_Cod (-)	Clear	Light Brown	Dark Brown	Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	31.5Clear
3	EC_FLD (µmho/cm)	218	128	140	130	76	102	93	89	97	118	160	109
4	EC_GEN (µmho/cm)	178	114	164	63	293	100	118	143	186	157	168	340
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.2	6.5	7.0	7.0	6.9	6.9	7.2	7.4	7.1	8.0	7.4	8.6
7	pH_GEN (pH units)	8.9	7.8	7.1	7.2	7.3	8.2	7.7	8.1	8.0	8.6	8.3	8.0
8	Temp (deg C)	33.4	31.4	29.0	29.2	31.0	28.4	22.4	18.0	22.6	24.0	30.0	
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	240	96	56	96	164	128	116	160	104	184	128	208
3	Ca (mg/L)	22	22	19	32	35	42	32	52	37	37	32	42
4	Cl (mg/L)	17.0	10.0	9.0	12.0	22.0	23.0	21.0	26.0	36.0	52.0	46.0	24.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	146	59	34	59	100	78	71	98	63	112	78	127
7	K (mg/L)	16.5	14.8	10.5	19.1	16.7	10.6	5.3	6.4	7.8	5.1	6.9	6.6
8	Mg (mg/L)	16.5	5.8	2.9	1.0	15.6	9.7	14.6	1.9	29.2	29.2	4.9	15.6
9	Na (mg/L)	17.4	13.3	23.5	26.4	49.6	21.5	17.4	16.8	18.4	12.6	14.4	14.3
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	1.2	0.4	0.5	1.0	0.4	1.8	1.2	0.8	0.7	1.5	1.4	1.1
2	DO (mg/L)	6.0	6.6	6.7	6.5	6.6	7.2	6.2	7.4	7.2	7.9	7.0	6.2
3	DO_SAT% (%)	84	89	87	85	89	92	71	78	82	94	93	
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	56	56	48	80	88	104	80	130	92	92	80	104
2	HAR_Total (mgCaCO3/L)	125	80	60	84	153	145	141	138	214	214	100	169
3	Na% (%)	21	23	41	35	38	23	20	20	15	11	22	15
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.7	0.6	1.3	1.3	1.8	0.8	0.6	0.6	0.6	0.4	0.6	0.5
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : KURUBHATA (EMK00E2)

Division : MD,CWC,Burla

Local River : Mand

Sub-Division : MMSD II,CWC,Burla

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
PHYSICAL					
1	Q (cumec)	365	1171	0.000	73.79
2	EC_FLD (µmho/cm)	12	218	76	122
3	EC_GEN (µmho/cm)	12	340	63	169
4	pH_FLD (pH units)	12	8.6	6.5	7.3
5	pH_GEN (pH units)	12	8.9	7.1	7.9
6	Temp (deg C)	11	33.4	18.0	27.2
CHEMICAL					
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	240	56	140
3	Ca (mg/L)	12	52	19	34
4	Cl (mg/L)	12	52.0	9.0	24.8
5	CO3 (mg/L)	12	0.0	0.0	0
6	HCO3 (mg/L)	12	146	34	85
7	K (mg/L)	12	19.1	5.1	10.5
8	Mg (mg/L)	12	29.2	1.0	12.2
9	Na (mg/L)	12	49.6	12.6	20.5
BIOLOGICAL/BACTERIOLOGICAL					
1	BOD3-27 (mg/L)	12	1.8	0.4	1
2	DO (mg/L)	12	7.9	6.0	6.8
3	DO_SAT% (%)	11	94	71	86
TRACE & TOXIC					
CHEMICAL INDICES					
1	HAR_Ca (mgCaCO3/L)	12	130	48	84
2	HAR_Total (mgCaCO3/L)	12	214	60	135
3	Na% (%)	12	41	11	24
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	1.8	0.4	0.8
PESTICIDES					

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Flood Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	123.8	557.1	91.17	265.1	252.8	105.2	340.3	46.96	50.21	76.02	118.8	130.5	41.21	93.14	135.0
2	EC_FLD (µmho/cm)	200	122	94	103	79	75								130	138
3	EC_GEN (µmho/cm)	200	122	94	103	79	80	196	114	113	99	116	95	114	103	162
4	pH_FLD (pH units)	8.0	6.6	8.1	7.5	7.4	7.5	7.7	7.8	7.9	7.7	6.4	6.5	6.7	7.4	6.9
5	pH_GEN (pH units)	8.0	6.6	8.1	7.5	7.5	7.7	7.8	7.9	7.5	7.7	8.0	8.3	7.9	7.8	7.6
6	Temp (deg C)	27.3	26.0	30.0	30.0	26.9	28.0	28.5	30.3	28.0	28.1	27.2	28.3	29.6	29.1	30.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
2	ALK-TOT (mgCaCO3/L)	91	123	114	68		56	143	80	78	96	102	113	121	109	130
3	B (mg/L)				0.04		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)		12	16	7		7	12	8	9	7	11	14	16	16	26
5	Cl (mg/L)		18.8	10.5	12.3		5.8	4.8	5.3	3.6	4.8	9.0	12.8	11.4	14.4	14.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
7	F (mg/L)		0.99		0.29		0.07	0.09	0.07	0.07	0.17	0.12				
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	55	75	92	41		34	87	49	47	58	62	69	74	65	80
10	K (mg/L)				1.3		0.8	1.2	1.6	2.3	1.9	1.3	5.1	4.1	5.5	15.5
11	Mg (mg/L)		3.0	4.0	3.1		3.3	8.3	4.4	6.0	5.4	6.1	3.5	6.8	8.8	8.4
12	Na (mg/L)				6.9		12.2	5.2	5.1	5.3	2.9	7.1	11.4	15.4	11.0	26.0
13	NO2+NO3 (mg N/L)				0.05	0.06	0.08	0.77								
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.03				
15	NO3-N (mgN/L)				0.05	0.05	0.07	0.76								
16	P-Tot (mgP/L)				0.030		0.010	0.017	0.015	0.017	0.027	0.047				
17	SH2 (mg/L)				5.1		6.8	15.7	8.9	5.9	12.9	12.1				
18	SO4 (mg/L)		22.0	57.0	7.7		7.3	6.3	9.8	8.9	11.5	13.6				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KURUBHATA (EMK00E2)

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Local River : Mand

River Water

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.5	1.9	0.7	0.7	0.5	1.6	0.9	0.9	0.8	0.5	0.8	0.4	0.6	0.6	0.7
2	COD (mg/L)						12.0	14.0	16.0	13.0	16.0	19.0				
3	DO (mg/L)	8.0	6.2	4.8	6.3	6.4	8.8	6.6	7.0	6.4	6.7	7.2	7.0	7.1	6.4	6.5
4	DO SAT% (%)	101	77	63	83	80	112	84	93	81	85	90	89	92	84	87
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)		29	40	18		17	31	20	22	19	27	36	41	39	66
2	HAR_Total (mgCaCO3/L)		42	57	31		31	66	38	47	41	52	51	69	76	101
3	Na% (%)				34		46	24	22	19	13	22	21	32	21	31
4	RSC (-)		0.4	0.0	0.1		0.1	0.1	0.1	0.0	0.1	0.1	0.3	0.0	0.0	0.0
5	SAR (-)				0.6		1.0	0.4	0.4	0.3	0.2	0.4	0.6	0.8	0.5	1.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KURUBHATA (EMK00E2)
Local River : Mand

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

River Water

S.No	Parameters	Winter																
		Nov - Feb																
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017		
	PHYSICAL																	
1	Q (cumec)	8.977	41.76	28.52	25.59	5.278	9.164	13.19	8.365	7.620	18.26	7.739	33.20	11.28	23.98	10.80		
2	EC_FLD (µmho/cm)	218	98	116	112	126								130	113	95		
3	EC_GEN (µmho/cm)	218	98	116	112	126	211	124	142	137	120	158	192	107	111	137		
4	pH_FLD (pH units)	7.6	7.7	7.7	7.7	8.1		8.3	7.8	8.2	7.5	6.7	6.3	6.8	7.3	7.1		
5	pH_GEN (pH units)	7.6	7.7	7.7	7.7	8.1	8.0	8.2	8.0	7.7	8.0	7.8	8.2	8.1	8.1	8.0		
6	Temp (deg C)	22.3	22.5	23.7	24.7	23.0	18.6	21.9	20.0	21.8	21.4	19.3	20.3	22.1	22.7	22.8		
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0		0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)	152	91	87	79		154	85	100	66	90	132	138	134	119	127		
3	B (mg/L)				0.06		0.01	0.00	0.01	0.00	0.00	0.00						
4	Ca (mg/L)	23	11	8	9		11	8	10	12	10	16	22	20	17	41		
5	Cl (mg/L)		11.0	4.0	10.0		26.9	10.2	4.5	14.2	12.9	14.3	13.8	13.8	12.0	26.5		
6	CO3 (mg/L)	0.0	0.0	0.0	0.0		0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
7	F (mg/L)	1.47	0.77	19.00	0.05		0.10	0.06	0.09	0.06	0.17	0.21						
8	Fe (mg/L)				0.0		0.1	0.1	0.0	0.0	0.1	0.0		0.1				
9	HCO3 (mg/L)	93	51	53	48		94	50	61	40	55	81	84	82	73	77		
10	K (mg/L)			1.6	1.9		2.5	2.2	1.4	1.6	2.1	1.2	10.9	3.8	5.9	7.5		
11	Mg (mg/L)		5.7	3.7	3.7		8.6	4.4	5.2	6.8	5.8	8.4	6.5	10.9	9.0	13.9		
12	Na (mg/L)			4.7	6.1		14.6	6.9	6.9	14.5	7.7	25.3	18.8	15.7	15.4	18.5		
13	NO2+NO3 (mg N/L)			0.77	0.04	0.03	0.09	0.30						0.11				
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.02		0.01				
15	NO3-N (mgN/L)				0.04	0.03	0.08	0.30						0.10				
16	P-Tot (mgP/L)			0.020	0.017		0.030	0.010	0.015	0.030	0.032	0.042		0.040				
17	SiO2 (mg/L)				18.0		17.3	5.6	7.6	11.8	11.5	11.0		9.0				
18	SO4 (mg/L)		8.7	3.4	5.0		11.0	11.2	11.0	14.7	14.9	14.2		13.8				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KURUBHATA (EMK00E2)

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Local River : Mand

River Water

S.No	Parameters	Winter														
		Now - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9	0.5	0.5	0.4	0.5	0.7	0.5	0.6	0.8	0.4	0.8	0.7	0.6	0.5	1.1
2	COD (mg/L)						19.0	17.0	21.0	16.0	14.0	19.0				
3	DO (mg/L)	7.3	6.3	7.7	7.8	7.5	8.8	8.2	7.9	8.0	8.1	8.5	8.4	8.4	7.7	7.0
4	DO_SAT% (%)	84	85	91	94	87	93	93	85	91	91	91	92	95	88	81
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	57	29	20	22		27	20	25	29	25	40	54	50	42	102
2	HAR_Total (mgCaCO3/L)		52	35	38		63	38	47	57	49	74	81	96	80	159
3	Na% (%)			25	25		39	27	23	34	24	36	25	25	28	20
4	RSC (-)		0.0	0.2	0.1		0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
5	SAR (-)			0.4	0.4		1.0	0.5	0.5	0.8	0.5	1.3	0.9	0.7	0.8	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Summer																
		Mar - May																
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
	PHYSICAL																	
1	Q (cumec)	4.457	4.000	16.21		1.417	1.442	0.455	0.208		2.121	1.340	9.190	0.470	1.252	0.579		
2	EC_FLD (µmho/cm)	198	119	121											139	129		
3	EC_GEN (µmho/cm)	198	119	121			188	139	135	271	157	145	167	118	173	222		
4	pH_FLD (pH units)	7.7	7.8	7.7			8.8	8.0	7.4	7.1	7.5	6.8	6.8	7.2	8.1	8.0		
5	pH_GEN (pH units)	7.7	7.8	7.7			7.8	7.9	8.0	6.8	7.7	8.7	8.2	8.4	8.4	8.3		
6	Temp (deg C)	27.8		28.0			27.2	26.5	24.1	29.0	22.6	27.5	26.9	25.5	29.3	27.0		
	CHEMICAL																	
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0		
2	ALK-TOT (mgCaCO3/L)	96	110	128			93	99	98	173	113	171	161	140	159	173		
3	B (mg/L)						0.01	0.00	0.01	0.00	0.00	0.00						
4	Ca (mg/L)	10	14	16			9	10	9	21	14	15	19	18	19	37		
5	Cl (mg/L)		9.0	6.0			12.3	6.4	5.7	8.6	15.2	20.7	14.7	14.7	15.3	40.7		
6	CO3 (mg/L)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0		
7	F (mg/L)			0.38			0.12	0.08	0.63	0.12	0.17	0.19						
8	Fe (mg/L)						0.1	0.1	0.0	0.0	0.1	0.1		0.1				
9	HCO3 (mg/L)	59	67	78			56	60	60	105	69	104	98	81	97	106		
10	K (mg/L)			1.8			2.3	2.6	4.1	2.2	1.8	6.1	3.7	5.9	16.5	6.2		
11	Mg (mg/L)	1.7	5.1	4.4			4.9	5.3	5.3	10.7	8.3	3.6	13.6	11.0	4.8	16.5		
12	Na (mg/L)			30.4			15.2	4.1	11.0	6.4	5.8	23.6	7.7	17.1	29.4	13.8		
13	NO2+NO3 (mg N/L)						0.81	1.66						0.37				
14	NO2-N (mgN/L)						0.34	0.01	0.01	0.03	0.07	0.07		0.03				
15	NO3-N (mgN/L)						0.47	1.65						0.34				
16	P-Tot (mgP/L)			0.020			0.020	0.023	0.035	0.040	0.130	0.100		0.080				
17	SiO2 (mg/L)						16.7	13.9	17.6	26.9	12.1	13.2		13.3				
18	SO4 (mg/L)		1.6	15.2			8.0	10.5	10.5	23.0	15.8	16.0		15.5				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KURUBHATA (EMK00E2)

Local River : Mand

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	1.4	0.8			0.9	0.4	0.8	0.7	1.1	0.8	0.3	0.9	0.6	1.3
2	COD (mg/L)						16.0	20.0	20.0	32.0	28.0	21.3				
3	DO (mg/L)	8.1	7.7	7.5			7.4	6.7	6.5	6.0	7.5	6.8	6.7	7.2	6.8	7.0
4	DO_SAT% (%)	102		96			92	83	77	78	86	85	83	87	87	93
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	26	35	40			23	25	23	52	36	39	48	44	47	92
2	HAR_Total (mgCaCO3/L)	33	56	58			43	47	45	96	70	54	105	90	67	161
3	Na% (%)			52			42	15	32	12	15	37	14	27	41	16
4	RSC (-)	0.3	0.0	0.1			0.1	0.1	0.1	0.0	0.0	0.6	0.0	0.0	0.5	0.0
5	SAR (-)			1.7			1.0	0.3	0.7	0.3	0.3	1.4	0.3	0.8	1.8	0.5
	PESTICIDES															

IB SUB-BASIN

SITE SUNDARGARH

HISTORY SHEET

Water Year : 2016-2017

Site : SUNDERGARH

Code : EMI00H3

State : Orissa

District : Sundergarh

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Ib

Sub Tributary :

Sub-Sub Tributary :

Local River : Ib

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Drainage Area : 5870 Sq. Km.

Bank :

Latitude : 22°06'55"

Longitude : 84°00'40"

Zero of Gauge (m) : 214 (m.s.l)

07-08-1977 - 07-08-2025

Opening Date

Closing Date

Gauge : 07-08-1977

Discharge : 30-12-1977

Sediment : 21-07-1980

Water Quality : 02-06-1980

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1978-1979	2067	220.813	03-09-1978	0.100	216.660	31-05-1979
1979-1980	1180	219.753	09-08-1979	0.050	216.610	13-06-1979
1980-1981	1600	220.000	24-08-1980	0.300	216.510	18-04-1981
1981-1982	2400	220.870	15-08-1981	0.100	216.640	15-05-1982
1982-1983	1187	219.750	08-08-1982	0.100	216.925	15-04-1983
1983-1984	1403	220.190	19-09-1983	0.100	216.880	21-05-1984
1984-1985	1709	220.400	19-06-1984	0.100	216.945	02-06-1984
1985-1986	2820	220.960	08-08-1985	0.400	216.885	13-04-1986
1986-1987	1385	219.940	27-07-1986	0.090	217.200	17-04-1987
1987-1988	4000	221.140	29-08-1987	0.100	216.610	06-06-1987
1988-1989	2842	220.950	04-08-1988	1.680	216.680	23-05-1989
1989-1990	914.4	219.060	13-07-1989	0.326	216.860	28-04-1990
1990-1991	1350	219.990	15-07-1990	0.446	217.060	11-05-1991
1991-1992	4591	222.140	24-07-1991	0.683	216.690	29-04-1992
1992-1993	1639	220.430	22-07-1992	0.030	216.820	07-05-1993
1993-1994	962.0	220.120	26-06-1993	0.090	216.750	10-05-1994
1994-1995	5780	221.850	18-09-1994	0.356	216.760	05-06-1994
1995-1996	800.3	219.720	18-07-1995	0.078	216.670	06-05-1996
1996-1997	6341	222.600	23-06-1996	0.155	216.590	27-05-1997
1997-1998	1306	219.980	10-09-1997	0.021	216.550	04-06-1997
1998-1999	10404	222.300	11-09-1998	0.520	216.420	24-04-1999
1999-2000	2030	220.640	14-09-1999	0.850	216.790	21-04-2000

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2000-2001	2000	219.480	19-07-2000	0.050	216.620	17-05-2001
2001-2002	3200	221.480	22-07-2001	0.130	216.235	23-05-2002
2002-2003	1664	220.220	12-09-2002	0.073	216.240	30-04-2003
2003-2004	1150	221.250	25-10-2003	0.445	216.725	28-05-2004
2004-2005	1112	219.760	09-08-2004	0.090	217.130	10-12-2004
2005-2006	878.5	219.370	05-08-2005	0.165	216.975	29-04-2006
2006-2007	1356	219.985	31-07-2006	0.005	216.905	14-04-2007
2007-2008	1418	219.765	07-07-2007	0.100	216.815	21-05-2008
2008-2009	1346	219.900	16-08-2008	0.081	216.770	15-04-2009
2009-2010	1675	220.090	03-10-2009	0.035	216.700	27-04-2010
2010-2011	1196	219.560	21-09-2010	0.103	216.750	04-04-2011
2011-2012	3099	221.160	10-09-2011	0.300	216.530	31-05-2012
2012-2013	1420	219.710	10-09-2012	0.170	216.495	14-06-2012
2013-2014	1070	219.520	14-10-2013	0.507	216.790	25-04-2014
2014-2015	1828	219.635	05-08-2014	0.157	216.590	24-03-2015
2015-2016	5652	222.530	11-07-2015	0.000	216.195	21-05-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

Sub-Division : MMSD II,CWC,Burla

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	216.205	0.000 *	216.735	9.197	217.965	283.9	218.220	380.6	217.590	123.4	216.970	27.85
2	216.210	0.000 *	216.665	9.237	218.230	324.3	217.925	285.9	217.510	120.0 *	216.965	25.57
3	216.210	0.000 *	216.750	11.50 *	218.275	377.2	218.070	352.7	217.405	103.6	216.960	24.84
4	216.205	0.000 *	216.830	20.43	218.460	485.5	218.190	320.0 *	217.330	81.88	216.955	19.88
5	216.205	0.000 *	218.220	453.7	218.200	322.1	218.075	339.5	217.405	85.00	216.950	21.23
6	216.195	0.000 *	218.140	350.0 *	217.960	270.6	217.970	304.7	217.800	178.8	216.945	24.48 *
7	216.195	0.000 *	217.920	266.5	218.330	450.0 *	217.793	192.7	217.590	137.3	216.945	24.49
8	216.200	0.000 *	217.490	143.9	218.515	563.3	217.660	179.1	217.620	144.5	216.940	23.39
9	216.240	0.000 *	217.273	81.48	218.000	306.2	217.635	163.5	218.170	315.0 *	216.935	24.01
10	216.230	0.000 *	217.170	55.00 *	217.853	235.6	217.695	173.0	217.990	290.0 *	216.940	24.66
11	216.230	0.000 *	217.113	46.71	217.960	297.3	218.310	460.0 *	217.780	205.0 *	216.935	24.47
12	216.225	0.000 *	217.113	51.99	217.800	222.9	218.380	479.0 *	217.580	135.0 *	216.935	24.55
13	216.225	0.000 *	217.058	42.93	218.825	731.8	218.605	480.7	217.435	87.60	216.930	24.20 *
14	216.220	0.000 *	217.020	40.58	218.600	510.0 *	218.443	380.8	217.345	85.85	216.925	24.00 *
15	216.528	4.259	217.130	59.44	217.980	230.0 *	218.025	264.2	217.290	68.44	216.860	21.99
16	216.520	4.187	217.320	97.99	218.275	403.4	217.890	208.1	217.270	66.00 *	216.905	21.96
17	216.525	4.060	218.560	475.0 *	218.555	544.7	217.685	183.6	217.210	48.12	216.900	21.97
18	216.470	2.849	219.350	993.1	218.725	663.5	217.530	143.0 *	217.180	46.90	216.895	20.23
19	216.465	2.760 *	218.440	525.2	218.915	787.4	217.765	221.9	217.150	38.25	216.890	19.98
20	216.468	2.744	218.455	542.9	218.375	478.8	217.675	172.0	217.120	38.40	216.885	19.00 *
21	216.845	18.06	218.290	414.9	217.900	260.0 *	217.668	165.6	217.100	33.84	216.870	18.28
22	216.805	15.87	218.260	401.6	217.645	156.4	218.425	502.8	217.075	35.88	216.860	17.65
23	216.740	11.38	218.150	320.4	217.620	157.7	217.870	233.4	217.060	34.00 *	216.860	18.33
24	216.740	11.44	218.250	400.0 *	218.505	531.2	217.668	192.1	217.040	32.29	216.850	15.26
25	216.650	9.407	217.760	197.4	218.300	459.6	217.630	165.0 *	217.030	32.55	216.845	16.26
26	216.990	35.00 *	217.505	121.8	218.435	542.1	217.830	224.2	217.020	32.99	216.840	16.03
27	216.923	26.04	218.135	405.1	218.278	464.3	217.740	178.9	217.010	29.63	216.835	16.00 *
28	216.925	28.62	218.100	344.0	218.080	299.0 *	217.775	206.3	217.000	29.16	216.820	14.84
29	216.933	26.06	217.740	189.5	217.783	211.3	218.100	354.0	216.990	29.98	216.810	14.44
30	216.815	15.88	217.640	167.8	217.540	145.8	217.770	196.6	216.985	29.75 *	216.810	13.42
31			217.495	120.0 *	218.240	420.9			216.970	29.88		
Ten-Daily Mean												
I Ten-Daily	216.210	0.000	217.319	140.1	218.179	361.9	217.923	269.2	217.641	158.0	216.951	24.04
II Ten-Daily	216.387	2.086	217.756	287.6	218.401	487.0	218.031	299.3	217.336	81.96	216.906	22.23
III Ten-Daily	216.837	19.78	217.939	280.2	218.030	331.7	217.847	241.9	217.025	31.81	216.840	16.05
Monthly												
Min.	216.195	0.000	216.665	9.197	217.540	145.8	217.530	143.0	216.970	29.16	216.810	13.42
Max.	216.990	35.00	219.350	993.1	218.915	787.4	218.605	502.8	218.170	315.0	216.970	27.85
Mean	216.478	7.288	217.680	237.4	218.197	391.5	217.934	270.1	217.324	88.68	216.899	20.77

Annual Runoff in MCM = 2739 Annual Runoff in mm = 467

Peak Observed Discharge = 993.1 cumecs on 18/07/2016 Corres. Water Level :219.35 m

Lowest Observed Discharge = 0.042 cumecs on 24/04/2017 Corres. Water Level :216.36 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

Sub-Division : MMSD II,CWC,Burla

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	216.800	12.66	216.645	5.700 *	216.565	3.145	216.470	1.274	216.410	0.331	216.355	0.000 *
2	216.790	12.21	216.635	5.272	216.560	2.975	216.450	1.082	216.405	0.331 *	216.355	0.000 *
3	216.780	12.32	216.635	5.225	216.550	2.563	216.450	0.979	216.400	0.334	216.360	0.000 *
4	216.775	12.22 *	216.645	6.140	216.545	2.294	216.445	0.965	216.395	0.271	216.360	0.000 *
5	216.770	12.62	216.645	6.146	216.545	2.600 *	216.440	0.890 *	216.395	0.222	216.360	0.000 *
6	216.770	12.39	216.670	7.937	216.540	2.117	216.435	0.773	216.395	0.224	216.360	0.000 *
7	216.760	11.84	216.690	8.964	216.525	2.080	216.430	0.637	216.390	0.218	216.365	0.000 *
8	216.750	11.14	216.670	7.900 *	216.525	2.384	216.430	0.641	216.390	0.207	216.365	0.000 *
9	216.735	9.974	216.650	5.590	216.520	2.126	216.425	0.603	216.385	0.204 *	216.365	0.000 *
10	216.735	10.37	216.640	5.411	216.515	2.153	216.440	0.897	216.385	0.209	216.360	0.000 *
11	216.725	10.00 *	216.630	5.034	216.515	2.365	216.445	0.938	216.385	0.158	216.360	0.000 *
12	216.720	9.554	216.640	5.524	216.515	2.420 *	216.460	1.180 *	216.380	0.140	216.365	0.000 *
13	216.720	9.550 *	216.645	5.914	216.510	2.320	216.465	1.200 *	216.380	0.156	216.365	0.000 *
14	216.710	8.848	216.650	6.216	216.505	2.034	216.450	0.986	216.380	0.156 *	216.365	0.000 *
15	216.705	7.551	216.645	5.940 *	216.505	1.574	216.440	0.943	216.375	0.131	216.365	0.000 *
16	216.700	7.151	216.645	5.942	216.505	1.850	216.430	0.826	216.375	0.131 *	216.365	0.000 *
17	216.690	6.263	216.640	5.527	216.505	1.963	216.430	0.697	216.375	0.132	216.360	0.000 *
18	216.680	6.000 *	216.630	4.702	216.525	2.695	216.435	0.827	216.370	0.112	216.360	0.000 *
19	216.675	6.552	216.620	4.750	216.525	2.770 *	216.425	0.680 *	216.370	0.107	216.360	0.000 *
20	216.670	6.230	216.610	4.134	216.510	2.137	216.430	0.694	216.395	0.197	216.360	0.000 *
21	216.670	6.649	216.615	4.370	216.505	2.500	216.430	0.686	216.375	0.119	216.360	0.000 *
22	216.665	6.564	216.610	4.280 *	216.500	2.130	216.430	0.676	216.370	0.103	216.360	0.000 *
23	216.660	6.429	216.600	3.976	216.495	1.680	216.425	0.668	216.370	0.102 *	216.360	0.000 *
24	216.655	6.059	216.595	3.848	216.490	1.800 *	216.420	0.607	216.360	0.042	216.355	0.000 *
25	216.655	6.080 *	216.585	3.836	216.485	1.485	216.415	0.520	216.360	0.040 *	216.355	0.000 *
26	216.660	6.141	216.575	3.840 *	216.480	1.700 *	216.415	0.580 *	216.360	0.040 *	216.355	0.000 *
27	216.660	6.060	216.570	3.718	216.475	1.422	216.410	0.387	216.360	0.040 *	216.355	0.000 *
28	216.655	5.804	216.570	3.277	216.460	1.165	216.410	0.351	216.360	0.040 *	216.355	0.000 *
29	216.670	6.888	216.565	3.130 *			216.410	0.367	216.360	0.040 *	216.355	0.000 *
30	216.665	6.254	216.570	3.020			216.410	0.377	216.360	0.040 *	216.350	0.000 *
31	216.660	5.967	216.560	2.738			216.405	0.290			216.345	0.000 *
Ten-Daily Mean												
I Ten-Daily	216.767	11.77	216.652	6.428	216.539	2.444	216.441	0.874	216.395	0.255	216.361	0.000
II Ten-Daily	216.699	7.770	216.636	5.368	216.512	2.213	216.441	0.897	216.378	0.142	216.363	0.000
III Ten-Daily	216.661	6.263	216.583	3.639	216.486	1.735	216.416	0.501	216.363	0.061	216.355	0.000
Monthly												
Min.	216.655	5.804	216.560	2.738	216.460	1.165	216.405	0.290	216.360	0.040	216.345	0.000
Max.	216.800	12.66	216.690	8.964	216.565	3.145	216.470	1.274	216.410	0.334	216.365	0.000
Mean	216.708	8.527	216.622	5.097	216.514	2.159	216.432	0.749	216.379	0.153	216.359	0

Peak Computed Discharge = 510.0 cumecs on 14/08/2016

Corres. Water Level :218.6 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :216.205 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

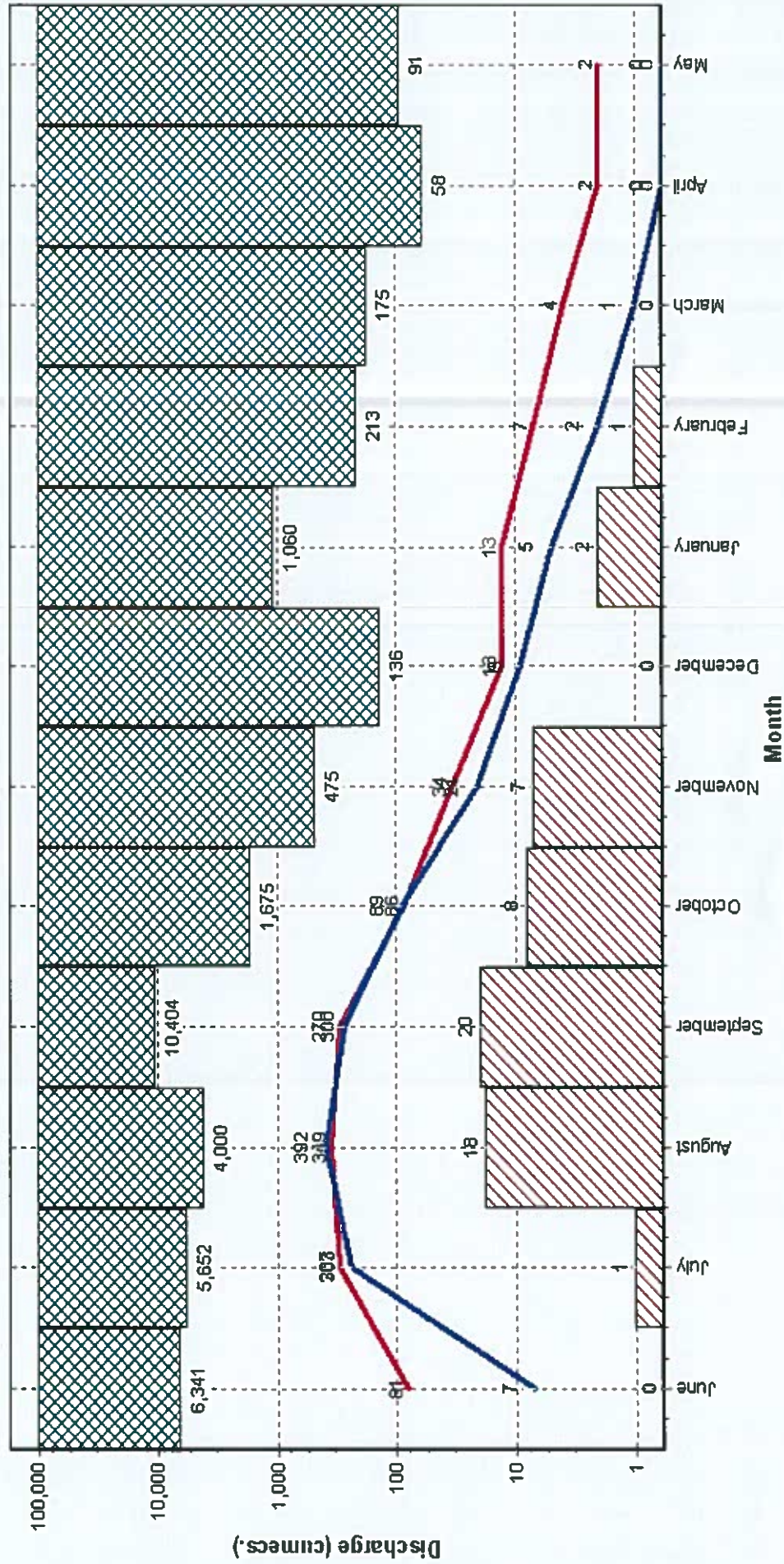
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Data considered : 1978-2017

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

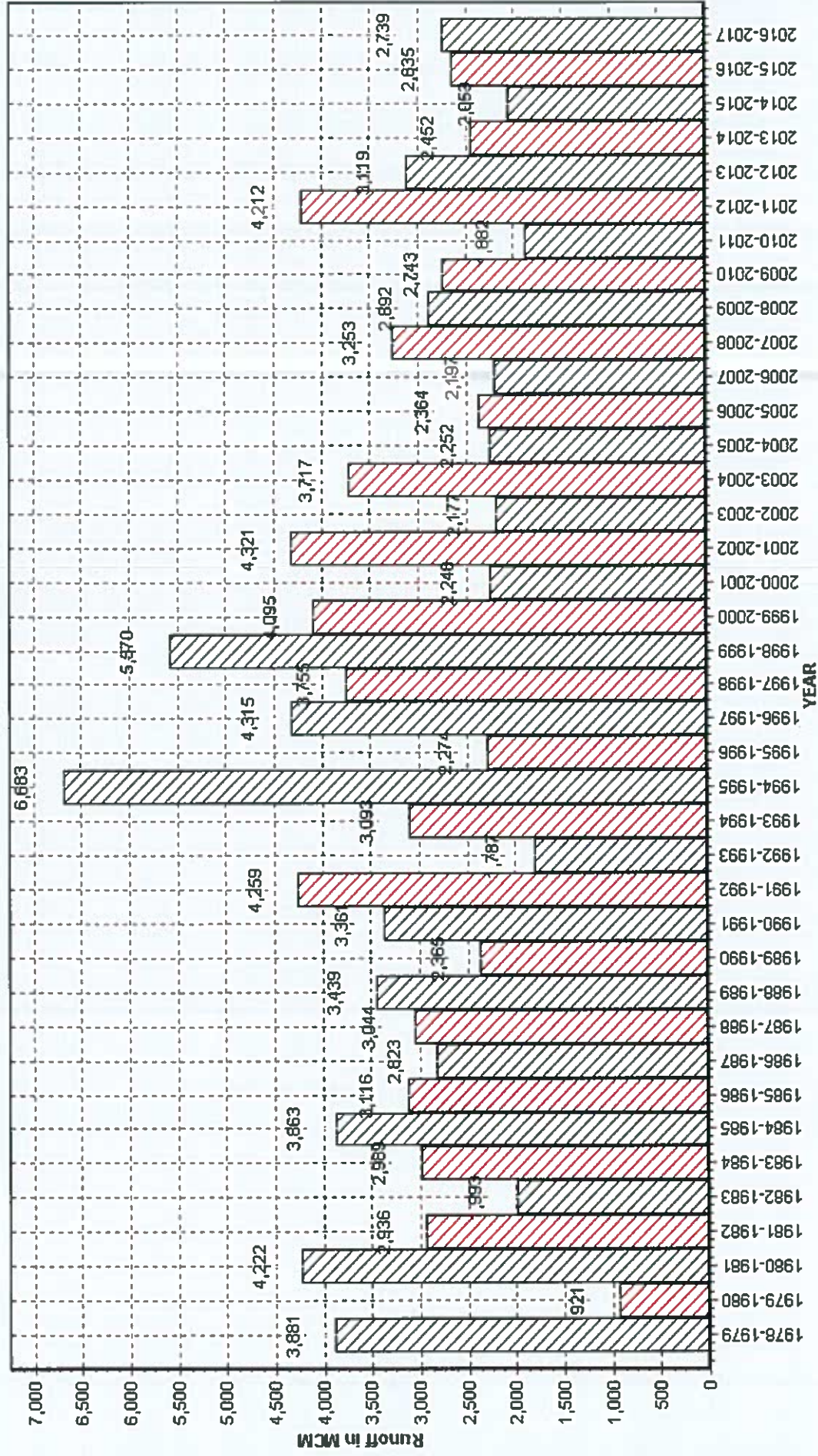


Annual Runoff Values for the period: 1978 - 2017

Station Name : SUNDERGARH (EMI000H3)

Local River : lb

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



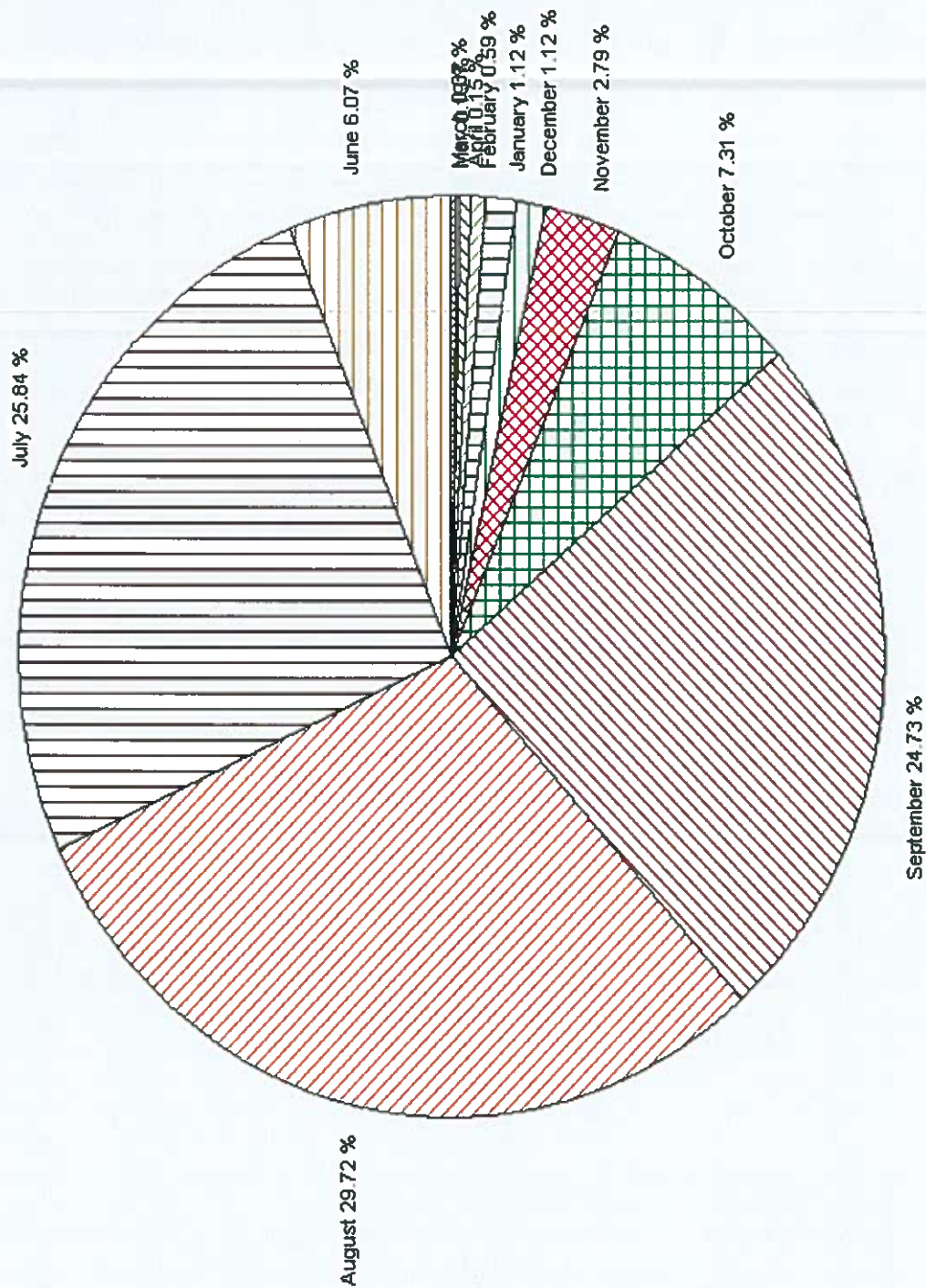
Note: Missing values have not been considered while arriving at Annual Runoff

Monthly Average Runoff based on period : 1978-2016

Station Name : SUNDERGARH (EMI00H3)
Local River : Ib

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

June	6.07 %
July	25.84 %
August	29.72 %
September	24.73 %
October	7.31 %
November	2.79 %
December	1.12 %
January	1.12 %
February	0.59 %
March	0.37 %
April	0.15 %
May	0.19 %



Monthly Runoff for the Year : 2016-2017

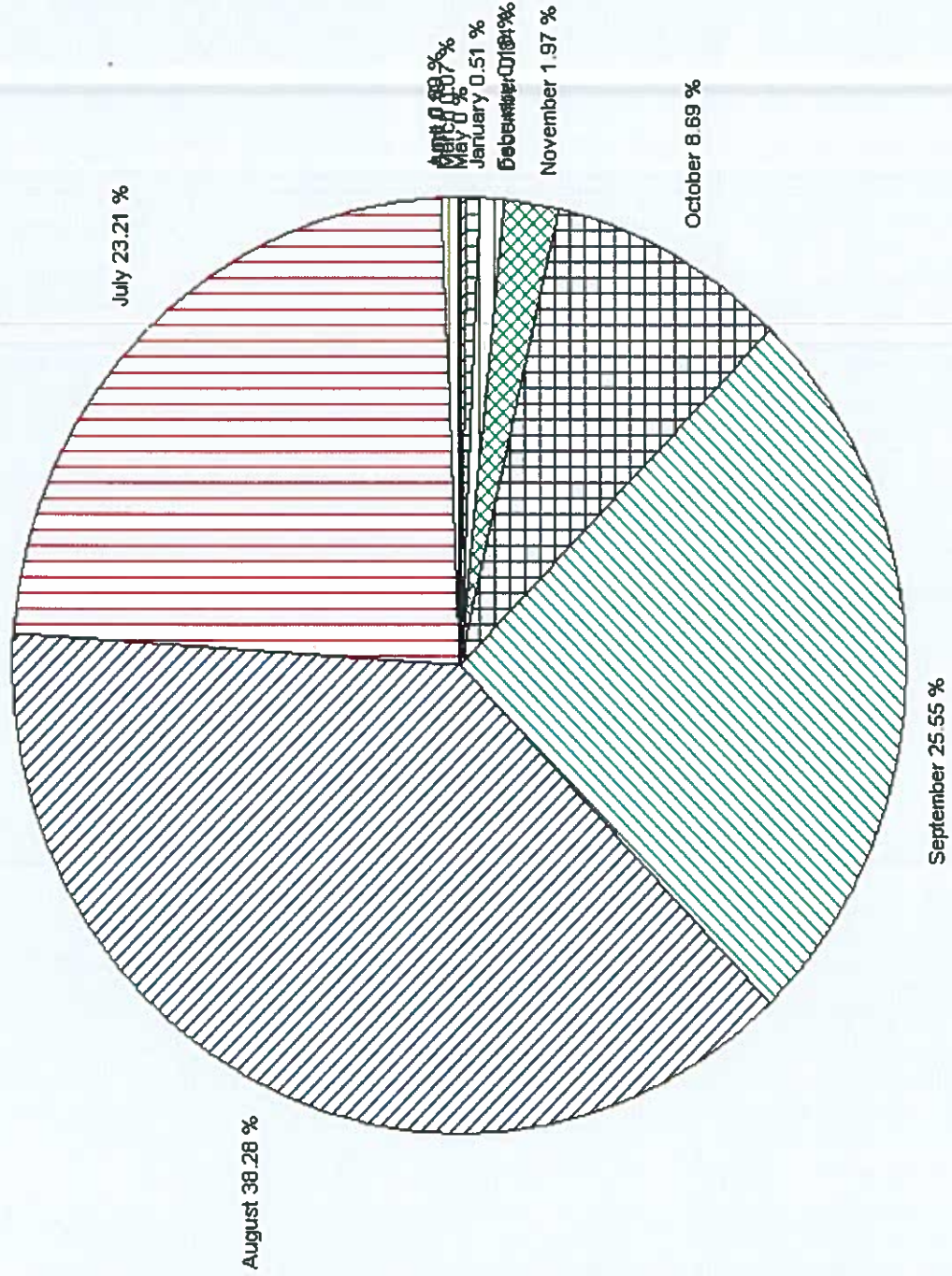
Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD, CWC, Burla

Sub-Division : MMSD II, CWC, Burla

June	0.69 %
July	23.21 %
August	38.28 %
September	25.55 %
October	8.69 %
November	1.97 %
December	0.84 %
January	0.51 %
February	0.18 %
March	0.07 %
April	0 %
May	0 %



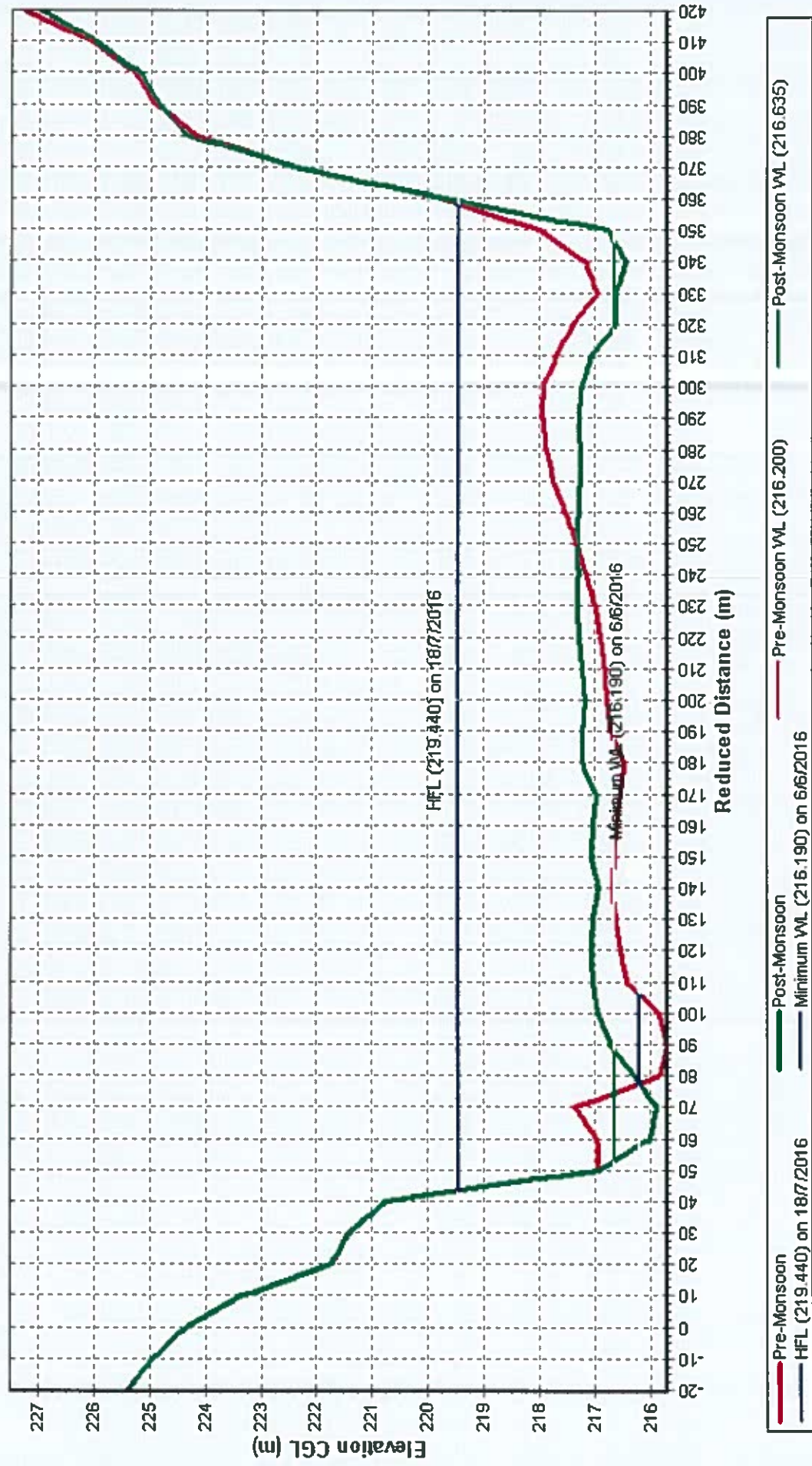
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



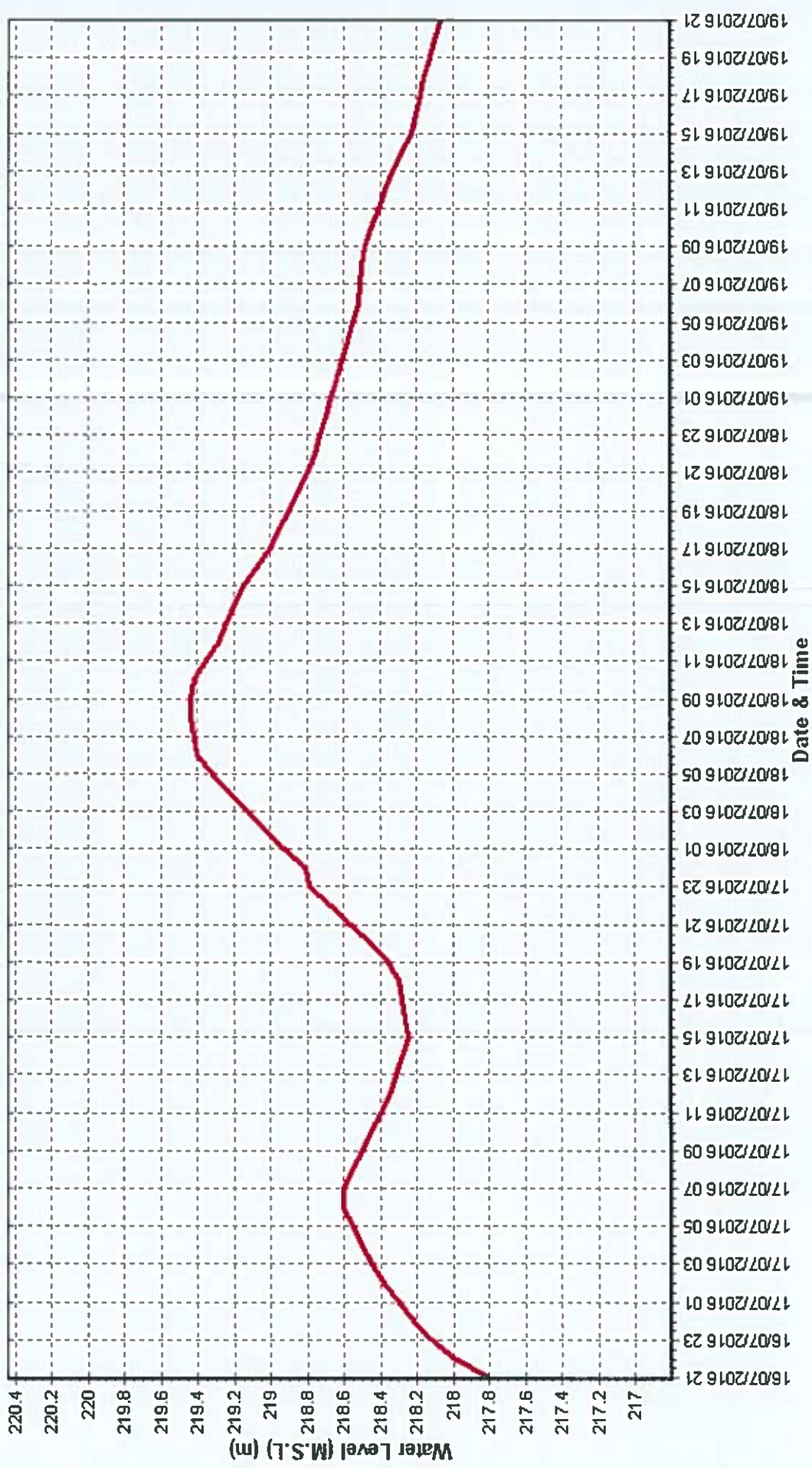
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



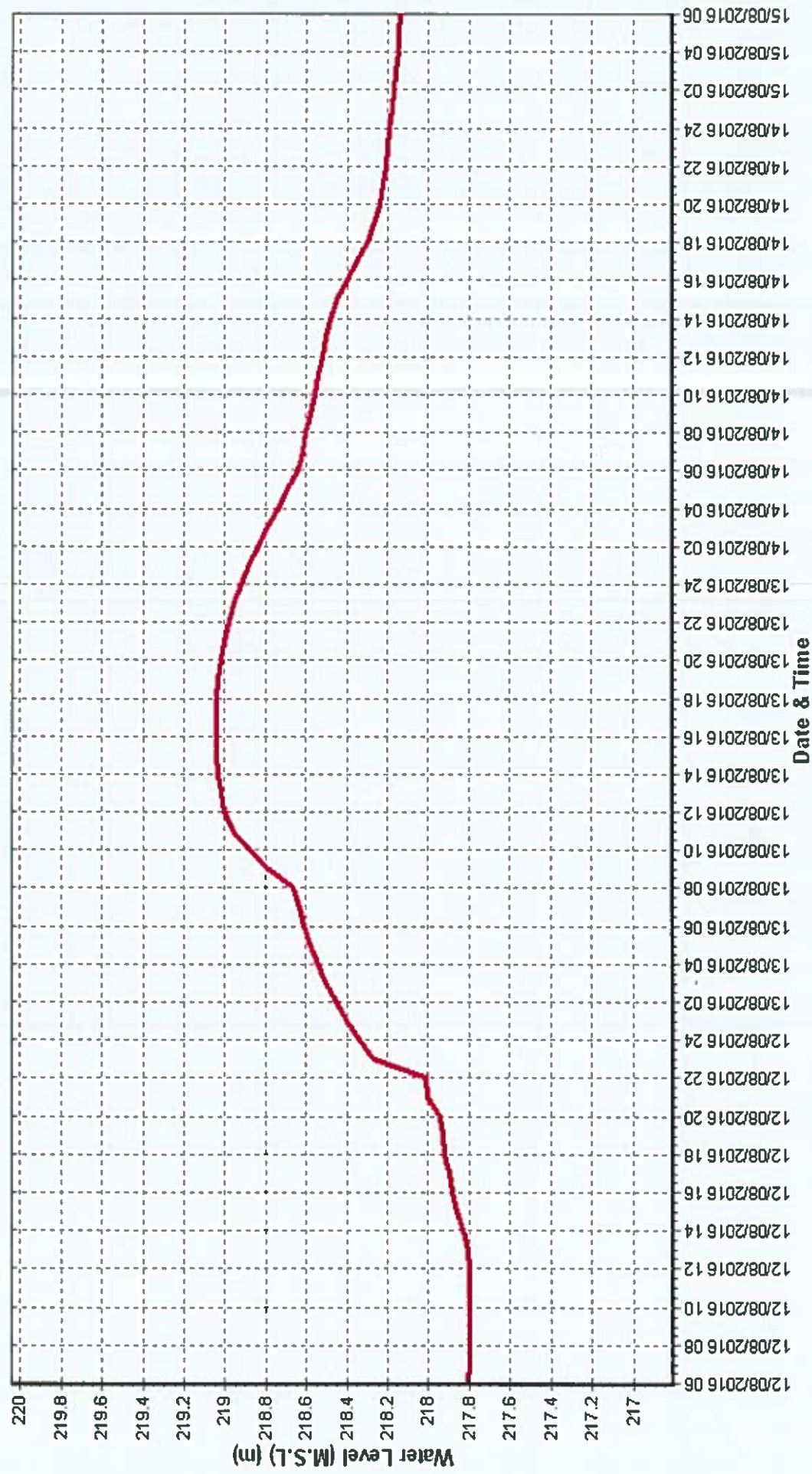
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



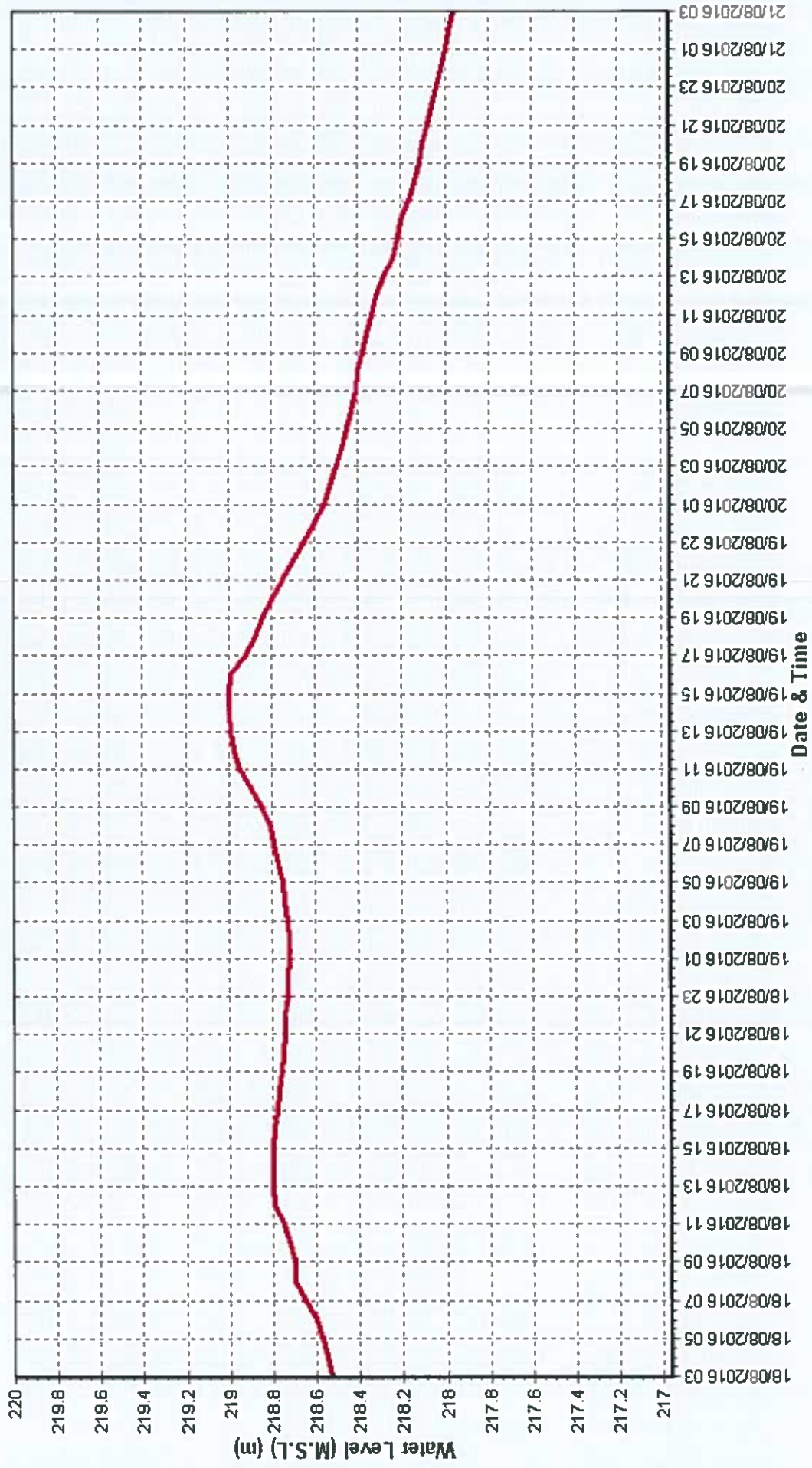
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

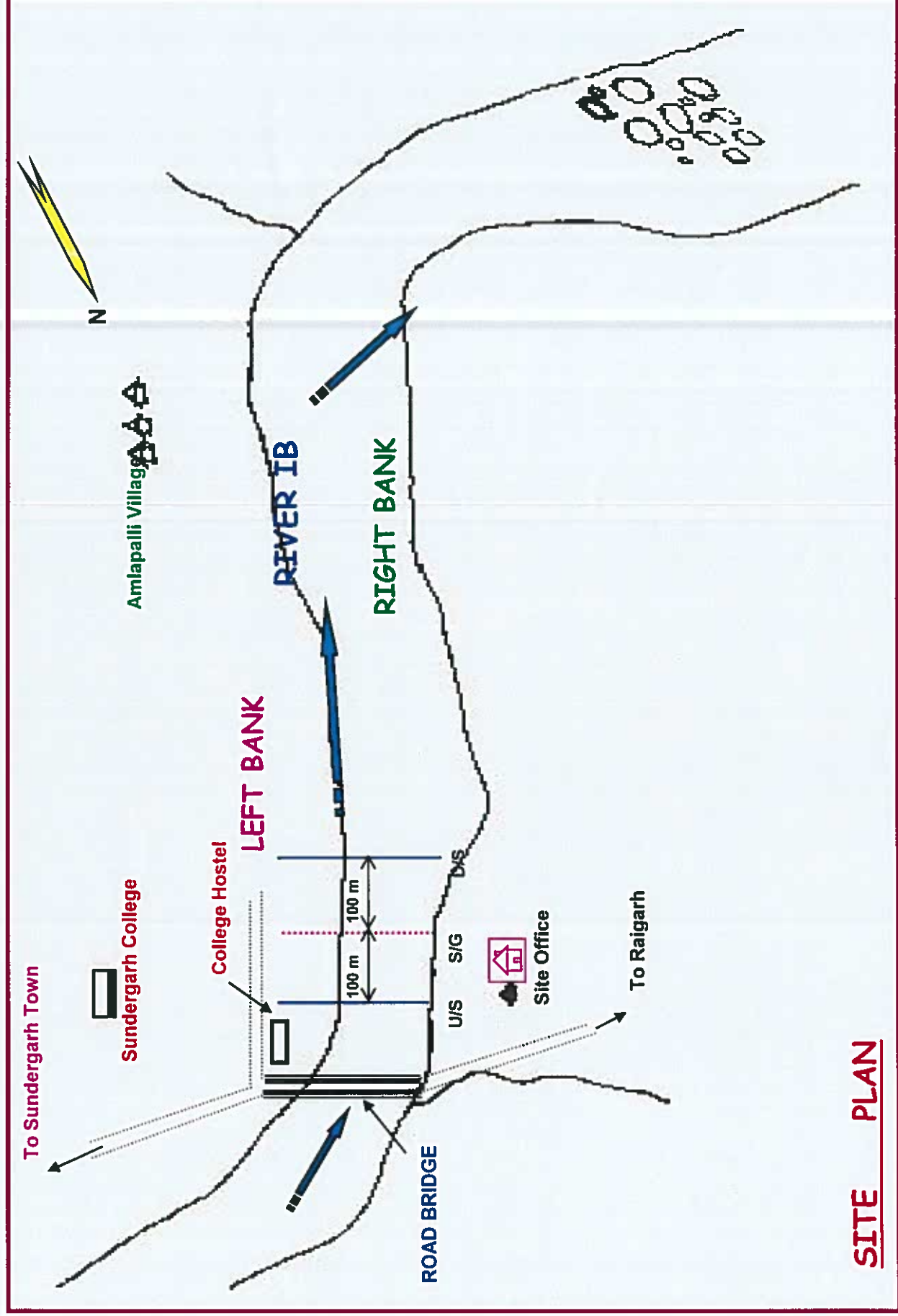
Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

Sub-Division : MMSD II,CWC,Burla





SITE PLAN

SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Jun				Jul				Aug			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	9.197	0.000	0.000	0.036	0.036	29
2	0.000	0.000	0.000	0.000	0.000	0	9.237	0.000	0.000	0.057	0.057	46
3	0.000	0.000	0.000	0.000	0.000	0	11.50	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	20.43	0.000	0.000	0.093	0.093	164
5	0.000	0.000	0.000	0.000	0.000	0	453.7	0.000	0.000	0.709	0.709	27806
6	0.000	0.000	0.000	0.000	0.000	0	350.0	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	266.5	0.000	0.000	0.436	0.436	10037
8	0.000	0.000	0.000	0.000	0.000	0	143.9	0.000	0.000	0.212	0.212	2633
9	0.000	0.000	0.000	0.000	0.000	0	81.48	0.000	0.000	0.058	0.058	409
10	0.000	0.000	0.000	0.000	0.000	0	55.00	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	46.71	0.000	0.000	0.163	0.163	657
12	0.000	0.000	0.000	0.000	0.000	0	51.99	0.000	0.000	0.018	0.018	80
13	0.000	0.000	0.000	0.000	0.000	0	42.93	0.000	0.000	0.028	0.028	103
14	0.000	0.000	0.000	0.000	0.000	0	40.58	0.000	0.000	0.016	0.016	57
15	4.259	0.000	0.000	0.014	0.014	5	59.44	0.000	0.000	0.063	0.063	321
16	4.187	0.000	0.000	0.017	0.017	6	97.99	0.000	0.000	0.203	0.203	1721
17	4.060	0.000	0.000	0.152	0.152	53	475.0	0.000	0.000	0.000	0.000	0
18	2.849	0.000	0.000	0.016	0.016	4	993.1	0.130	0.121	1.098	1.348	115704
19	2.760	0.000	0.000	0.000	0.000	0	525.2	0.000	0.086	0.104	0.191	8645
20	2.744	0.000	0.000	0.019	0.019	5	542.9	0.000	0.089	0.260	0.349	16369
21	18.06	0.000	0.000	0.086	0.086	134	414.9	0.000	0.000	0.276	0.276	9898
22	15.87	0.000	0.000	0.083	0.083	114	401.6	0.000	0.000	0.209	0.209	7262
23	11.38	0.000	0.000	0.026	0.026	25	320.4	0.000	0.000	0.294	0.294	8140
24	11.44	0.000	0.000	0.027	0.027	27	400.0	0.000	0.000	0.000	0.000	0
25	9.407	0.000	0.000	0.052	0.052	42	197.4	0.000	0.000	0.362	0.362	6167
26	35.00	0.000	0.000	0.000	0.000	0	121.8	0.000	0.000	0.342	0.342	3597
27	26.04	0.000	0.000	0.124	0.124	278	405.1	0.000	0.000	0.547	0.547	19143
28	28.62	0.000	0.000	0.061	0.061	151	344.0	0.000	0.000	0.320	0.320	9513
29	26.06	0.000	0.000	0.028	0.028	63	189.5	0.000	0.000	0.172	0.172	2820
30	15.88	0.000	0.000	0.037	0.037	51	167.8	0.000	0.000	0.090	0.090	1304
31							120.0	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	140.1	0.000	0.000	0.160	0.160	4112
Ten Daily II	2.086	0.000	0.000	0.022	0.022	7	287.6	0.013	0.030	0.195	0.238	14366
Ten Daily III	19.78	0.000	0.000	0.052	0.052	89	280.2	0.000	0.000	0.237	0.237	6168
Monthly												
Total						959						252625
												420986

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day	Sep				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	380.6	0.015	0.016	0.290	0.322	10587	123.4	0.000	0.000	0.044	0.044	470
2	285.9	0.000	0.000	0.142	0.142	3495	120.0	0.000	0.000	0.000	0.000	0
3	352.7	0.000	0.000	0.273	0.273	8332	103.6	0.000	0.000	0.030	0.030	267
4	320.0	0.000	0.000	0.000	0.000	0	81.88	0.000	0.000	0.082	0.082	577
5	339.5	0.000	0.000	0.211	0.211	6181	85.00	0.000	0.000	0.061	0.061	445
6	304.7	0.000	0.000	0.072	0.072	1906	178.8	0.000	0.000	0.266	0.266	4109
7	192.7	0.000	0.000	0.191	0.191	3174	137.3	0.000	0.000	0.160	0.160	1896
8	179.1	0.000	0.000	0.090	0.090	1385	144.5	0.000	0.000	0.102	0.102	1270
9	163.5	0.000	0.000	0.081	0.081	1145	315.0	0.000	0.000	0.000	0.000	0
10	173.0	0.000	0.000	0.066	0.066	988	290.0	0.000	0.000	0.000	0.000	0
11	460.0	0.000	0.000	0.000	0.000	0	205.0	0.000	0.000	0.000	0.000	0
12	479.0	0.000	0.000	0.000	0.000	0	135.0	0.000	0.000	0.000	0.000	0
13	480.7	0.015	0.006	0.358	0.380	15770	87.60	0.000	0.000	0.050	0.050	375
14	380.8	0.039	0.009	0.184	0.232	7640	85.85	0.000	0.000	0.077	0.077	572
15	264.2	0.000	0.000	0.104	0.104	2378	68.44	0.000	0.000	0.008	0.008	50
16	208.1	0.000	0.000	0.062	0.062	1109	66.00	0.000	0.000	0.000	0.000	0
17	183.6	0.000	0.000	0.046	0.046	725	48.12	0.000	0.000	0.022	0.022	90
18	143.0	0.000	0.000	0.000	0.000	0	46.90	0.000	0.000	0.036	0.036	147
19	221.9	0.000	0.000	0.090	0.090	1725	38.25	0.000	0.000	0.016	0.016	52
20	172.0	0.000	0.000	0.184	0.184	2740	38.40	0.000	0.000	0.016	0.016	53
21	165.6	0.000	0.000	0.160	0.160	2284	33.84	0.000	0.000	0.040	0.040	117
22	502.8	0.039	0.017	1.130	1.186	51531	35.88	0.000	0.000	0.015	0.015	45
23	233.4	0.000	0.000	0.204	0.204	4116	34.00	0.000	0.000	0.000	0.000	0
24	192.1	0.000	0.000	0.092	0.092	1522	32.29	0.000	0.000	0.028	0.028	77
25	165.0	0.000	0.000	0.000	0.000	0	32.55	0.000	0.000	0.054	0.054	152
26	224.2	0.000	0.000	0.139	0.139	2692	32.99	0.000	0.000	0.027	0.027	78
27	178.9	0.000	0.000	0.064	0.064	981	29.63	0.000	0.000	0.014	0.014	36
28	206.3	0.000	0.000	0.038	0.038	668	29.16	0.000	0.000	0.009	0.009	21
29	354.0	0.000	0.000	0.269	0.269	8213	29.98	0.000	0.000	0.002	0.002	6
30	196.6	0.000	0.000	0.101	0.101	1717	29.75	0.000	0.000	0.000	0.000	0
31							29.88	0.000	0.000	0.018	0.018	48
Ten Daily Mean												
Ten Daily I	269.2	0.002	0.002	0.142	0.145	3719	158.0	0.000	0.000	0.074	0.074	903
Ten Daily II	299.3	0.005	0.001	0.103	0.110	3209	81.96	0.000	0.000	0.022	0.022	134
Ten Daily III	241.9	0.004	0.002	0.220	0.225	7373	31.81	0.000	0.000	0.019	0.019	53
Monthly												
Total						143008						10952

176

435

Annual Sediment Load (Metric Tonnes) : 828850

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day		Dec					Jan					Feb						
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	12.66	0.000	0.000	0.000	0.000	0	5.700	0.000	0.000	0.000	0.000	0	3.145	0.000	0.000	0.000	0.000	0
2	12.21	0.000	0.000	0.000	0.000	0	5.272	0.000	0.000	0.020	0.020	9	2.975	0.000	0.000	0.000	0.000	0
3	12.32	0.000	0.000	0.000	0.000	0	5.225	0.000	0.000	0.000	0.000	0	2.563	0.000	0.000	0.000	0.000	0
4	12.22	0.000	0.000	0.000	0.000	0	6.140	0.000	0.000	0.000	0.000	0	2.294	0.000	0.000	0.000	0.000	0
5	12.62	0.000	0.000	0.087	0.087	94	6.146	0.000	0.000	0.000	0.000	0	2.600	0.000	0.000	0.000	0.000	0
6	12.39	0.000	0.000	0.000	0.000	0	7.937	0.000	0.000	0.000	0.000	0	2.117	0.000	0.000	0.004	0.004	1
7	11.84	0.000	0.000	0.000	0.000	0	8.964	0.000	0.000	0.000	0.000	0	2.080	0.000	0.000	0.000	0.000	0
8	11.14	0.000	0.000	0.000	0.000	0	7.900	0.000	0.000	0.000	0.000	0	2.384	0.000	0.000	0.000	0.000	0
9	9.974	0.000	0.000	0.000	0.000	0	5.590	0.000	0.000	0.006	0.006	3	2.126	0.000	0.000	0.000	0.000	0
10	10.37	0.000	0.000	0.000	0.000	0	5.411	0.000	0.000	0.000	0.000	0	2.153	0.000	0.000	0.000	0.000	0
11	10.00	0.000	0.000	0.000	0.000	0	5.034	0.000	0.000	0.000	0.000	0	2.365	0.000	0.000	0.000	0.000	0
12	9.554	0.000	0.000	0.014	0.014	11	5.524	0.000	0.000	0.000	0.000	0	2.420	0.000	0.000	0.000	0.000	0
13	9.550	0.000	0.000	0.000	0.000	0	5.914	0.000	0.000	0.000	0.000	0	2.320	0.000	0.000	0.002	0.002	0
14	8.848	0.000	0.000	0.000	0.000	0	6.216	0.000	0.000	0.000	0.000	0	2.034	0.000	0.000	0.000	0.000	0
15	7.551	0.000	0.000	0.000	0.000	0	5.940	0.000	0.000	0.000	0.000	0	1.574	0.000	0.000	0.000	0.000	0
16	7.151	0.000	0.000	0.000	0.000	0	5.942	0.000	0.000	0.018	0.018	9	1.850	0.000	0.000	0.000	0.000	0
17	6.263	0.000	0.000	0.000	0.000	0	5.527	0.000	0.000	0.000	0.000	0	1.963	0.000	0.000	0.000	0.000	0
18	6.000	0.000	0.000	0.000	0.000	0	4.702	0.000	0.000	0.000	0.000	0	2.695	0.000	0.000	0.000	0.000	0
19	6.552	0.000	0.000	0.005	0.005	3	4.750	0.000	0.000	0.000	0.000	0	2.770	0.000	0.000	0.000	0.000	0
20	6.230	0.000	0.000	0.000	0.000	0	4.134	0.000	0.000	0.000	0.000	0	2.137	0.000	0.000	0.001	0.001	0
21	6.649	0.000	0.000	0.000	0.000	0	4.370	0.000	0.000	0.000	0.000	0	2.500	0.000	0.000	0.000	0.000	0
22	6.564	0.000	0.000	0.000	0.000	0	4.280	0.000	0.000	0.000	0.000	0	2.130	0.000	0.000	0.000	0.000	0
23	6.429	0.000	0.000	0.000	0.000	0	3.976	0.000	0.000	0.009	0.009	3	1.680	0.000	0.000	0.000	0.000	0
24	6.059	0.000	0.000	0.000	0.000	0	3.848	0.000	0.000	0.000	0.000	0	1.800	0.000	0.000	0.000	0.000	0
25	6.080	0.000	0.000	0.000	0.000	0	3.836	0.000	0.000	0.000	0.000	0	1.485	0.000	0.000	0.000	0.000	0
26	6.141	0.000	0.000	0.018	0.018	9	3.840	0.000	0.000	0.000	0.000	0	1.700	0.000	0.000	0.000	0.000	0
27	6.060	0.000	0.000	0.000	0.000	0	3.718	0.000	0.000	0.000	0.000	0	1.422	0.000	0.000	0.001	0.001	0
28	5.804	0.000	0.000	0.000	0.000	0	3.277	0.000	0.000	0.000	0.000	0	1.165	0.000	0.000	0.000	0.000	0
29	6.888	0.000	0.000	0.000	0.000	0	3.130	0.000	0.000	0.000	0.000	0						
30	6.254	0.000	0.000	0.000	0.000	0	3.020	0.000	0.000	0.002	0.002	1						
31	5.967	0.000	0.000	0.000	0.000	0	2.738	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I		11.77	0.000	0.000	0.009	9	6.428	0.000	0.000	0.003	0.003	1	2.444	0.000	0.000	0.000	0.000	0
Ten Daily II		7.770	0.000	0.000	0.002	1	5.368	0.000	0.000	0.002	0.002	1	2.213	0.000	0.000	0.000	0.000	0
Ten Daily III		6.263	0.000	0.000	0.002	1	3.639	0.000	0.000	0.001	0.001	0	1.735	0.000	0.000	0.000	0.000	0
Monthly																		
Total						118						25						1

Annual Sediment Load (Metric Tonnes) : 828850

Day		Mar					Apr					May						
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.274	0.000	0.000	0.000	0.000	0	0.331	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	1.082	0.000	0.000	0.000	0.000	0	0.331	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.979	0.000	0.000	0.000	0.000	0	0.334	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.965	0.000	0.000	0.000	0.000	0	0.271	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.890	0.000	0.000	0.000	0.000	0	0.222	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.773	0.000	0.000	0.000	0.000	0	0.224	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.637	0.000	0.000	0.000	0.000	0	0.218	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.641	0.000	0.000	0.000	0.000	0	0.207	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.603	0.000	0.000	0.000	0.000	0	0.204	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.897	0.000	0.000	0.000	0.000	0	0.209	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.938	0.000	0.000	0.000	0.000	0	0.158	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	1.180	0.000	0.000	0.000	0.000	0	0.140	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	1.200	0.000	0.000	0.000	0.000	0	0.156	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.986	0.000	0.000	0.000	0.000	0	0.156	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.943	0.000	0.000	0.000	0.000	0	0.131	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.826	0.000	0.000	0.000	0.000	0	0.131	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.697	0.000	0.000	0.000	0.000	0	0.132	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.827	0.000	0.000	0.000	0.000	0	0.112	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.680	0.000	0.000	0.000	0.000	0	0.107	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.694	0.000	0.000	0.000	0.000	0	0.197	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.686	0.000	0.000	0.000	0.000	0	0.119	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.676	0.000	0.000	0.000	0.000	0	0.103	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.668	0.000	0.000	0.000	0.000	0	0.102	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.607	0.000	0.000	0.000	0.000	0	0.042	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.520	0.000	0.000	0.000	0.000	0	0.040	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.580	0.000	0.000	0.000	0.000	0	0.040	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.387	0.000	0.000	0.000	0.000	0	0.040	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.351	0.000	0.000	0.000	0.000	0	0.040	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.367	0.000	0.000	0.000	0.000	0	0.040	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.377	0.000	0.000	0.000	0.000	0	0.040	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.290	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I		0.874	0.000	0.000	0.000	0	0.255	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II		0.897	0.000	0.000	0.000	0	0.142	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III		0.501	0.000	0.000	0.000	0	0.061	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load for period : 1978-2017

Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

Sub-Division : MMSD II,CWC,Burla

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1978-1979	0	0	0	3881
1979-1980	0	0	0	921
1980-1981	1973346	1488	1974833	4222
1981-1982	2537361	14524	2551885	2936
1982-1983	1709154	14581	1723735	1993
1983-1984	2164257	1154	2165411	2989
1984-1985	4909711	4742	4914453	3863
1985-1986	4183840	3800	4187640	3116
1986-1987	3358332	790	3359122	2823
1987-1988	5786196	313	5786509	3044
1988-1989	3536298	1040	3537338	3439
1989-1990	1893644	6884	1900528	2365
1990-1991	2544599	3140	2547739	3361
1991-1992	4315397	9648	4325046	4259
1992-1993	1450421	58	1450478	1787
1993-1994	2393421	41	2393462	3093
1994-1995	7112058	948	7113006	6683
1995-1996	1812143	422	1812566	2274
1996-1997	4144785	115	4144900	4315
1997-1998	2532072	359079	2891151	3755
1998-1999	4829481	506	4829987	5570
1999-2000	2086621	242	2086863	4095
2000-2001	1365571	15	1365586	2246
2001-2002	2951179	74	2951253	4321
2002-2003	649024	140	649164	2177
2003-2004	1806451	181	1806632	3717
2004-2005	945040	0	945040	2252
2005-2006	760078	0	760078	2364
2006-2007	1111560	31	1111590	2197
2007-2008	1860640	67	1860706	3253
2008-2009	2447643	0	2447643	2892
2009-2010	2983406	82	2983487	2743
2010-2011	1077524	156	1077680	1882
2011-2012	2762936	1468	2764404	4212
2012-2013	1369843	34	1369878	3119
2013-2014	892612	3186	895799	2452
2014-2015	1450049	213	1450262	2053
2015-2016	1695717	1014	1696731	2635
2016-2017	828706	144	828850	2739

Annual Sediment Load for the period: 1978-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : lb

Division : MD,CWC,Burla

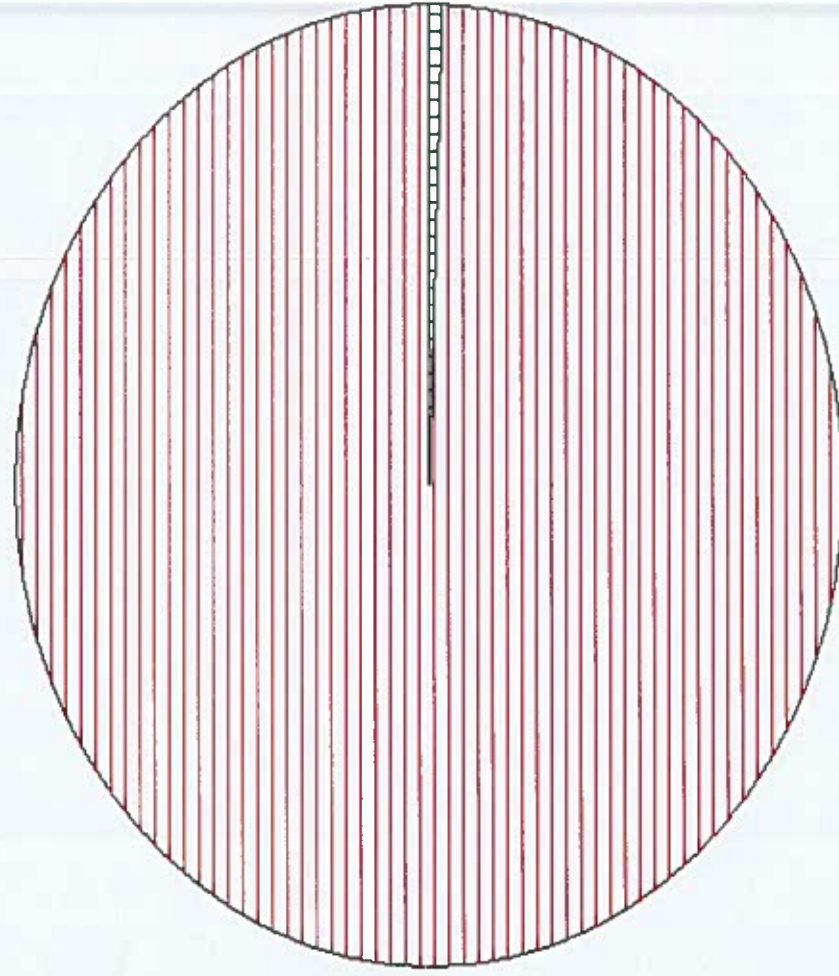
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the period : 1978-2016

Station Name : SUNDERGARH (EM100H3)
Local River : Ib

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla



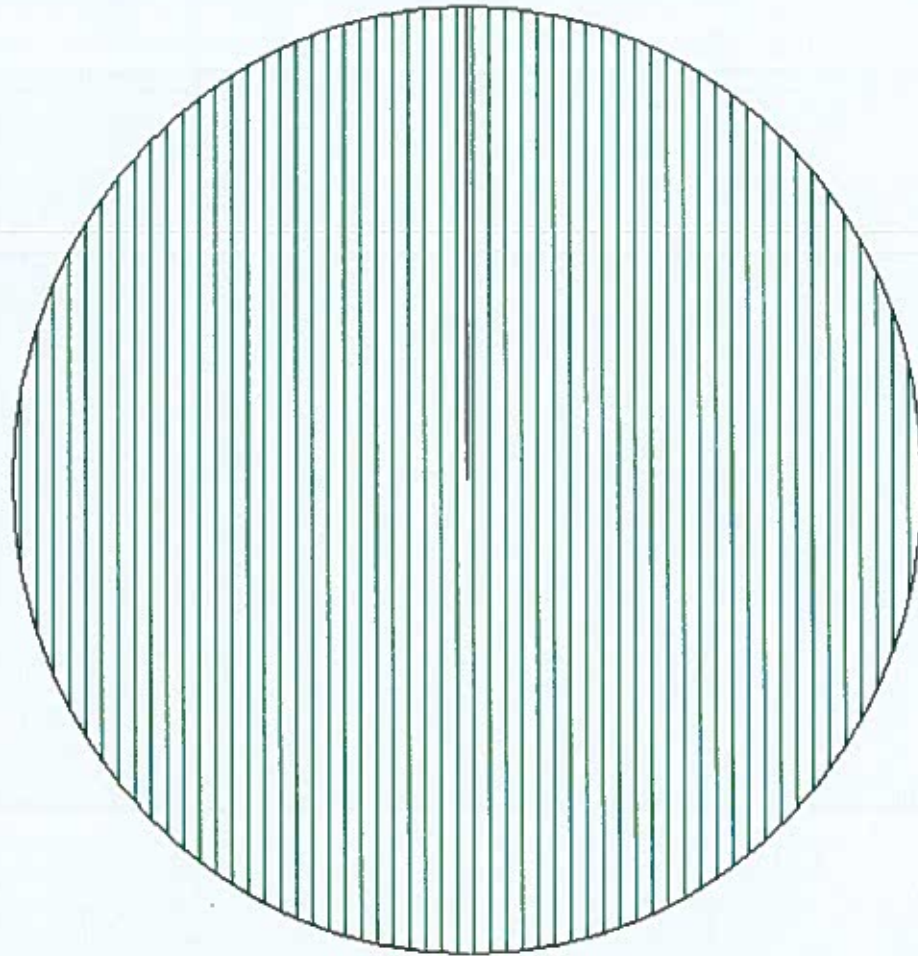
Monsoon 91,402,410

Non-Monsoon 430,176

Seasonal Sediment Load for the Year: 2016-2017

Station Name : SUNDERGARH (EMI00H3)
Local River : Ib

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Local River : Ib

River Water Analysis

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	9.197	283.9	380.6	123.4	27.85	12.66	5.272	3.145	1.274	0.331	0.000
2	Colour_Cod (-)		Brown	Light Brown	Brown	Brown	Clear	Clear	Clear	Clear	Clear	Clear	
3	EC_FLD (µmho/cm)		160	77	130	140	190	110	140	170	160	220	
4	EC_GEN (µmho/cm)		118	69	63	90	113	141	133	169	131	170	
5	Odour_Code (-)		odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	
6	pH_FLD (pH units)		7.1	7.1	7.0	7.0	7.4	7.0	7.0	7.0	7.0	7.0	
7	pH_GEN (pH units)		7.6	7.1	7.2	7.1	8.2	7.8	8.4	8.3	8.3	8.4	
8	Temp (deg C)		29.0	31.6	28.5	30.0	24.2	19.5	17.0	27.0	21.0	23.0	
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	ALK-TOT (mgCaCO3/L)		116	92	80	88	88	92	112	92	192	172	
3	Ca (mg/L)		18	21	18	35	38	42	38	35	18	32	
4	Cl (mg/L)		6.0	14.0	16.0	22.0	24.0	25.0	29.0	34.0	38.0	42.0	
5	CO3 (mg/L)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	HCO3 (mg/L)		71	56	49	54	54	56	68	56	117	105	
7	K (mg/L)		13.7	14.8	13.7	17.0	9.5	5.3	6.2	7.3	8.8	5.7	
8	Mg (mg/L)		4.9	2.9	10.7	8.8	15.6	5.8	6.8	2.9	16.5	5.8	
9	Na (mg/L)		17.8	25.0	18.9	48.7	20.0	17.4	14.8	17.5	11.2	13.5	
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)		0.5	1.0	0.8	1.1	0.5	1.3	0.8	0.4	1.4	0.8	
2	DO (mg/L)		6.1	7.1	7.3	7.1	6.2	7.3	7.8	7.5	8.0	6.2	
3	DO_SAT% (%)		79	96	93	94	74	79	81	94	90	72	
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)		44	52	44	88	96	104	96	88	44	80	
2	HAR_Total (mgCaCO3/L)		64	64	89	125	161	128	125	100	113	104	
3	Na% (%)		32	40	28	42	20	22	20	26	17	21	
4	RSC (-)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	SAR (-)		1.0	1.4	0.9	1.9	0.7	0.7	0.6	0.8	0.5	0.6	
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

Sub-Division : MMSD II,CWC,Burla

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	993.1	0.000	86.85
2	EC_FLD (µmho/cm)	10	220	77	150
3	EC_GEN (µmho/cm)	10	170	63	120
4	pH_FLD (pH units)	10	7.4	7.0	7.1
5	pH_GEN (pH units)	10	8.4	7.1	7.8
6	Temp (deg C)	10	31.6	17.0	25.1
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	10	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	10	192	80	112
3	Ca (mg/L)	10	42	18	29
4	Cl (mg/L)	10	42.0	6.0	25
5	CO3 (mg/L)	10	0.0	0.0	0
6	HCO3 (mg/L)	10	117	49	69
7	K (mg/L)	10	17.0	5.3	10.2
8	Mg (mg/L)	10	16.5	2.9	8.1
9	Na (mg/L)	10	48.7	11.2	20.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	10	1.4	0.4	0.9
2	DO (mg/L)	10	8.0	6.1	7.1
3	DO_SAT% (%)	10	96	72	85
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	10	104	44	74
2	HAR_Total (mgCaCO3/L)	10	161	64	107
3	Na% (%)	10	42	17	27
4	RSC (-)	10	0.0	0.0	0
5	SAR (-)	10	1.9	0.5	0.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SUNDERGARH (EM100H3)

Division : MD,CWC,Burla

Local River : Ib

River Water

Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	114.0	256.9	108.0	326.2	197.0	223.2	388.0	151.3	120.9	113.0	128.2	115.0	117.2	108.5	159.4
2	EC_FLD (µmho/cm)	192		83	106	90	168	247	113	162	88			116	159	127
3	EC_GEN (µmho/cm)	192		83	106	90	123	211	107	106	99	129	104	116	112	85
4	pH_FLD (pH units)	8.1			7.4	7.5	7.6	7.7	7.8	7.7	8.0			7.0	7.0	7.1
5	pH_GEN (pH units)	8.1			7.4	7.5	7.7	7.6	7.9	7.5	7.5	7.8	8.2	7.9	7.9	7.3
6	Temp (deg C)	27.9		30.0	29.4	27.1	27.5	26.9	28.8	27.5	30.0	27.6	26.8	28.1	29.2	29.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	1.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
2	ALK-TOT (mgCaCO3/L)	102		99	68		93	154	68	75	124	91	124	135	134	94
3	B (mg/L)				0.02		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	12		12	7		10	16	6	10	8	10	14	14	16	23
5	Cl (mg/L)	6.3		8.7	23.4		75.1	6.0	6.1	3.9	3.3	13.0	11.8	9.4	15.0	14.5
6	CO3 (mg/L)	1.3			0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0
7	F (mg/L)				0.15		0.06	0.10	0.05	0.09	0.18	0.21				
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	61			42		57	94	42	46	75	56	76	82	79	57
10	K (mg/L)	7.6			2.4		0.9	0.9	1.0	1.6	2.4	1.1	2.4	2.7	4.2	14.8
11	Mg (mg/L)	4.6		4.7	3.1		4.8	7.5	4.0	7.0	4.9	6.1	4.6	5.7	8.2	6.8
12	Na (mg/L)	1.5			14.0		14.9	6.1	4.3	6.8	5.9	10.3	6.5	14.9	15.9	27.6
13	NO2+NO3 (mg N/L)	0.57		0.05	0.06	0.04	0.07	0.33								
14	NO2-N (mgN/L)				0.01	0.00	0.01	0.03	0.01	0.01	0.01	0.08				
15	NO3-N (mgN/L)				0.05	0.04	0.06	0.30								
16	P-Tot (mgP/L)				0.003	0.020	0.010	0.022	0.030	0.010	0.030	0.040				
17	SiO2 (mg/L)				4.5		10.5	17.0	7.9	6.4	11.0	15.8				
18	SO4 (mg/L)	8.4		7.2	13.1		7.0	7.1	7.5	10.5	15.0	12.4				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SUNDERGARH (EMI00H3)

Division : MD,CWC,Burla

Local River : Ib

River Water

Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.7		0.9	0.8	0.4	1.3	0.9	0.9	0.9	1.4	0.8	0.5	0.3	0.7	0.9
2	COD (mg/L)					10.6	15.3	26.0	13.0	13.0	22.0	18.0				
3	DO (mg/L)	7.7		4.6	6.0	6.8	7.6	6.7	6.6	6.4	6.7	7.7	7.1	6.7	6.4	6.9
4	DO_SAT% (%)	100		60	79	85	96	83	86	81	87	98	88	86	83	91
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	29		30	18		24	40	16	25	21	25	35	35	39	57
2	HAR_Total (mgCaCO3/L)	58		49	30		44	72	32	54	41	50	54	59	73	85
3	Na% (%)	5			43		44	25	22	22	23	30	20	35	29	35
4	RSC (-)	0.2			0.1		0.1	0.1	0.0	0.0	0.4	0.0	0.2	0.2	0.1	0.0
5	SAR (-)	0.1			1.2		1.0	0.4	0.3	0.4	0.4	0.6	0.4	0.9	0.8	1.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SUNDERGARH (EM100H3)

Division : MD,CWC,Burla

Local River : Ib

River Water

Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Winter														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	PHYSICAL															
1	Q (cumec)	8.369	83.39	9.759	17.45	11.09	16.76	12.05	15.90	10.29	18.47	16.51	32.20	15.83	8.169	12.23
2	EC_FLD (µmho/cm)	134		150	127	154	134	136	136	157			183	130	140	153
3	EC_GEN (µmho/cm)	134		150	127	154	228	150	154	148	134	176	143	134	113	139
4	pH_FLD (pH units)	7.9		7.8	8.2	7.9	7.8	7.9	7.6	7.5			7.1	7.1	7.0	7.1
5	pH_GEN (pH units)	7.9		7.8	8.2	7.9	8.0	8.0	7.9	7.7	8.0	8.2	8.3	8.2	8.2	8.2
6	Temp (deg C)	29.0		21.0	27.0	17.5	20.7	20.4	18.9	18.5	19.9	18.9	18.6	19.3	20.8	21.9
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	121		98	98		83	111	115	107	101	176	161	164	140	96
3	B (mg/L)				0.10		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	10		12	10		13	11	12	13	12	24	20	21	18	38
5	Cl (mg/L)	4.0		5.0	17.2		60.3	14.9	5.9	13.2	14.0	14.2	14.8	15.5	12.3	28.0
6	CO3 (mg/L)	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)						0.11	0.08	0.07	0.08	0.10	0.15				
8	Fe (mg/L)				0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.1		
9	HCO3 (mg/L)	74		60	60		51	68	70	65	61	108	98	100	85	59
10	K (mg/L)			0.7	1.3		1.5	1.1	1.1	1.6	1.1	0.9	8.8	3.1	4.5	7.1
11	Mg (mg/L)	5.1		4.4	4.9		10.0	5.6	6.7	6.3	6.2	9.2	9.0	10.2	8.1	7.8
12	Na (mg/L)			11.7	10.7		14.9	11.5	6.9	14.9	12.0	23.7	23.7	19.4	15.3	17.4
13	NO2+NO3 (mg N/L)			0.05	0.08	0.02	0.09	0.30						0.13		
14	NO2-N (mgN/L)				0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02		0.02		
15	NO3-N (mgN/L)				0.08	0.01	0.08	0.29						0.11		
16	P-Tot (mgP/L)			0.030	0.026	0.075	0.095	0.012	0.015	0.027	0.032	0.032		0.030		
17	SiO2 (mg/L)				20.0		17.3	11.6	11.5	5.9	8.9	7.1		9.5		
18	SO4 (mg/L)			3.0	4.4		12.1	10.9	12.0	21.4	14.8	16.2		16.7		

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SUNDERGARH (EM100H3)

Division : MD, CWC, Burla

Local River : Ib

River Water

Sub-Division : MMSD II, CWC, Burla

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9		0.6	0.3	0.5	0.8	0.6	0.7	0.6	0.7	1.1	0.9	0.7	0.7	0.7
2	COD (mg/L)					31.3	20.0	16.0	25.0	20.0	14.0	16.0				
3	DO (mg/L)	8.1		8.2	7.6	8.9	8.6	7.7	7.3	8.2	8.2	8.7	7.9	8.3	8.0	7.2
4	DO_SAT% (%)	105		92	95	92	95	86	78	90	90	92	83	89	89	82
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	25		30	24		34	29	30	31	30	60	50	53	44	96
2	HAR_Total (mgCaCO3/L)	46		48	44		75	52	58	58	55	98	88	96	78	129
3	Na% (%)			34	34		33	32	20	34	30	31	31	29	29	22
4	RSC (-)	0.3		0.0	0.1		0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
5	SAR (-)			0.7	0.7		0.8	0.7	0.4	0.8	0.7	1.1	1.1	0.9	0.8	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SUNDERGARH (EM100H3)

Local River : Ib

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

River Water

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	2.105	3.019	1.406	1.109	1.280	3.187	0.793	1.812	2.541	1.830	3.720	5.221	4.464	5.516	0.535
2	EC_FLD (µmho/cm)			163	132	158	181	166	199	176			118	153	145	190
3	EC_GEN (µmho/cm)			163	132	158	140	170	201	331	161	171	171	145	145	151
4	pH_FLD (pH units)			8.0	7.8	8.3	8.2	7.8	7.5	7.2			7.0	7.1	7.0	7.0
5	pH_GEN (pH units)			8.0	7.8	8.3	8.2	8.0	7.8	7.1	7.6	8.5	8.1	8.4	8.1	8.3
6	Temp (deg C)			30.3	31.0	23.8	24.3	22.8	23.8	26.8	23.0	23.8	23.7	23.8	23.0	22.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)			0.0	0.0		2.5	0.0	0.0	0.0	0.0	8.0	0.0	10.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)			88	103		100	126	144	107	126	167	185	175	126	182
3	B (mg/L)				0.03		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)			12	15		11	12	22	28	16	16	22	17	20	25
5	Cl (mg/L)			12.5	12.6		15.7	10.1	9.2	21.1	16.6	25.7	15.7	15.7	16.5	40.0
6	CO3 (mg/L)			0.0	0.0		3.0	0.0	0.0	0.0	0.0	9.6	0.0	12.0	0.0	0.0
7	F (mg/L)			0.14			0.11	0.14	0.11	0.30	0.16	0.15				
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1		0.1		
9	HCO3 (mg/L)			54	63		58	77	88	66	77	92	113	94	77	111
10	K (mg/L)			6.6	1.1		1.3	2.0	1.9	1.7	1.1	2.6	2.4	4.2	10.6	7.3
11	Mg (mg/L)			5.3	4.4		4.9	6.8	8.3	17.2	8.9	4.2	13.6	10.7	4.4	11.2
12	Na (mg/L)			13.6	9.1		14.4	8.4	24.7	18.4	12.1	39.5	14.8	19.6	28.2	12.4
13	NO2+NO3 (mg N/L)			0.05	0.04	0.03	0.50	1.18						0.31		
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.01	0.32	0.07	0.06		0.06		
15	NO3-N (mgN/L)				0.04	48.68	0.49	1.17						0.25		
16	P-Tot (mgP/L)			0.020	0.009	0.025	0.023	0.030	0.025	0.070	0.067	0.050		0.043		
17	SiO2 (mg/L)				8.0		13.3	13.7	10.3	19.8	11.9	11.8		9.9		
18	SO4 (mg/L)			6.1	4.4		9.4	13.2	13.5	48.8	14.1	16.2		18.5		

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SUNDERGARH (EM100H3)

Division : MD,CWC,Burla

Local River : Ib

Sub-Division : MMSD II,CWC,Burla

River Water

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)			0.9	0.6	0.5	1.0	0.5	1.1	0.8	0.6	0.4	0.9	0.5	1.1	1.1
2	COD (mg/L)					10.4	17.3	24.0	18.0	26.0	17.3	13.3				
3	DO (mg/L)			7.2	7.8	7.9	9.1	7.2	5.8	6.2	7.1	6.6	7.2	7.1	6.6	7.1
4	DO SAT% (%)			92	105	94	107	82	64	77	83	77	85	84	77	81
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)			30	38		27	31	55	71	39	40	55	43	50	62
2	HAR_Total (mgCaCO3/L)			52	56		47	59	89	143	77	58	111	87	68	109
3	Na% (%)			33	26		39	23	39	24	26	57	23	30	43	19
4	RSC (-)			0.0	0.0		0.2	0.1	0.0	0.0	0.0	0.7	0.2	0.2	0.1	0.0
5	SAR (-)			0.8	0.5		0.9	0.5	1.3	0.7	0.6	2.3	0.6	0.9	1.5	0.5
	PESTICIDES															

ONG SUB-BASIN

SITE SALEBHATA

HISTORY SHEET

Water Year : 2016-2017

Site : SALEBHATA

Code : EMG00E5

State : Orissa

District : Balangir

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Ong

Sub Tributary :

Sub-Sub Tributary :

Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla

Drainage Area : 4650 Sq. Km.

Bank :

Latitude : 20°59'00"

Longitude : 83°32'22"

Zero of Gauge (m) : 130 (m.s.l)

23-07-1971 - 23-07-2025

Opening Date

Closing Date

Gauge : 23-07-1971

Discharge :

Sediment : 01-05-1973

Water Quality : 15-09-1972

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1973-1974	3571	135.900	08-07-1973	0.100	130.535	17-05-1974
1974-1975	3670	135.278	18-08-1974	0.001	130.585	17-05-1975
1975-1976	800.4	133.850	13-08-1975	0.100	130.605	30-05-1976
1976-1977	2123	134.930	14-08-1976	0.082	130.565	20-06-1976
1977-1978	1416	134.070	13-09-1977	0.055	130.585	31-05-1978
1978-1979	1737	134.375	29-08-1978	0.048	130.560	20-06-1978
1979-1980	1547	134.015	09-08-1979	0.010	130.605	11-06-1979
1980-1981	2850	135.090	02-07-1980	0.100	130.600	10-06-1980
1981-1982	1176	133.630	09-08-1981	0.020	130.580	17-05-1982
1982-1983	14545	139.570	30-08-1982	0.010	130.620	24-05-1983
1983-1984	3864	134.000	07-09-1983	0.100	130.270	25-05-1984
1984-1985	1701	134.570	08-08-1984	0.010	130.505	23-05-1985
1985-1986	2645	135.525	11-09-1985	0.100	130.570	26-04-1986
1986-1987	3771	137.000	21-08-1986	0.060	130.405	28-05-1987
1987-1988	838.6	134.580	23-07-1987	0.110	130.385	03-06-1987
1988-1989	411.0	132.350	12-07-1988	0.110	130.300	30-05-1989
1989-1990	489.7	132.950	29-07-1989	0.110	130.300	03-06-1989
1990-1991	1629	134.130	05-09-1990	0.154	130.530	17-05-1991
1991-1992	1260	134.190	14-08-1991	0.100	130.480	31-05-1992
1992-1993	3250	137.620	28-07-1992	0.015	130.635	08-05-1993
1993-1994	1341	134.700	20-08-1993	0.033	130.640	11-06-1993
1994-1995	3577	135.390	21-06-1994	0.569	130.720	25-04-1995

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1995-1996	2346	134.800	24-07-1995	0.100	130.390	24-05-1996
1996-1997	398.3	132.015	24-08-1996	0.016	130.510	16-12-1996
1997-1998	2428	134.950	21-08-1997	0.105	130.335	31-05-1998
1998-1999	560.0	132.755	12-07-1998	0.120	130.305	06-06-1998
1999-2000	1935	134.720	09-08-1999	0.209	130.405	09-06-1999
2000-2001	114.0	131.585	13-07-2000	0.024	130.310	16-01-2001
2001-2002	3225	135.308	17-07-2001	0.095	130.490	08-05-2002
2002-2003	1545	133.405	12-09-2002	0.660	130.600	28-04-2003
2003-2004	7916	139.580	29-08-2003	0.476	130.205	25-04-2004
2004-2005	1147	133.080	15-06-2004	0.022	130.260	20-05-2005
2005-2006	1924	135.005	31-07-2005	0.016	130.305	15-05-2006
2006-2007	4681	136.790	30-08-2006	0.061	130.290	28-04-2007
2007-2008	2419	134.350	30-06-2007	0.026	130.130	12-05-2008
2008-2009	3271	135.400	19-09-2008	0.134	130.460	21-04-2009
2009-2010	4331	135.975	22-07-2009	0.340	130.090	31-12-2009
2010-2011	787.8	132.560	26-07-2010	0.200	130.190	30-12-2010
2011-2012	4552	135.755	08-09-2011	0.067	130.150	20-05-2012
2012-2013	4880	135.850	04-08-2012	0.353	130.070	02-01-2013
2013-2014	895.3	133.000	09-10-2013	0.092	130.120	23-05-2014
2014-2015	7441	137.600	31-07-2014	0.035	130.130	31-05-2015
2015-2016	612.5	132.440	29-08-2015	0.000	130.000	20-04-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : SALEBHATA (EMG00E5)

Division : MD<CWC,Burla

Local River : Ong

Sub-Division : MMSD II,CWCBurla

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	130.000	0.000 *	130.000	0.000 *	130.695	27.03	130.200	3.965	131.320	190.1	130.390	7.975
2	130.000	0.000 *	130.000	0.000 *	130.985	70.06	130.950	69.80	131.190	151.3 *	130.390	7.885
3	130.000	0.000 *	130.000	0.000 *	131.090	79.51	130.775	37.29	131.095	122.9	130.380	7.777
4	130.000	0.000 *	130.000	0.000 *	131.145	130.9	131.330	221.2 *	130.990	81.93	130.410	8.222
5	130.000	0.000 *	130.000	0.000 *	131.555	231.1	132.355	560.8	131.285	173.4	130.400	7.946
6	130.000	0.000 *	130.000	0.000 *	131.320	166.7	131.765	290.3	131.150	144.3	130.380	7.746 *
7	130.000	0.000 *	130.270	3.134	131.280	158.0 *	131.470	208.3	131.045	112.9	130.380	7.750
8	130.000	0.000 *	130.300	3.236	131.175	135.2	131.250	163.4	131.140	151.2	130.350	7.219
9	130.000	0.000 *	130.355	4.221	130.990	75.87	131.150	134.8	131.220	185.9 *	130.320	6.502
10	130.000	0.000 *	130.360	4.530 *	130.855	66.94	131.120	142.2	131.605	352.7 *	130.310	6.420
11	130.000	0.000 *	130.510	13.80	130.995	77.85	131.590	309.9 *	131.430	276.9 *	130.315	6.478
12	130.000	0.000 *	130.480	9.770	131.230	154.9	131.550	295.7 *	131.190	172.9 *	130.310	6.379
13	130.000	0.000 *	130.650	22.85	131.020	97.64	131.950	434.8	131.050	112.2	130.290	5.740 *
14	130.000	0.000 *	130.505	11.43	131.688	285.0	131.688	285.0	130.955	57.84	130.270	5.101 *
15	130.000	0.000 *	130.470	9.763	130.710	39.52 *	131.400	209.9	130.850	46.44	130.250	4.465
16	130.000	0.000 *	130.490	10.75	130.605	19.85	131.320	184.0	130.810	43.53 *	130.200	3.513
17	130.000	0.000 *	130.460	10.15 *	130.620	22.65	131.095	83.81	130.670	33.37	130.180	2.918
18	130.000	0.000 *	130.440	10.06	130.690	27.85	131.020	70.45 *	130.660	22.90	130.130	1.961
19	130.000	0.000 *	130.405	6.971	130.750	31.73	130.950	57.98	130.580	17.80	130.190	2.970
20	130.000	0.000 *	130.410	7.126	130.635	23.33	130.870	45.41	130.580	16.01	130.210	3.236 *
21	130.000	0.000 *	130.430	7.845	130.470	14.02 *	130.850	44.90	130.560	14.26	130.140	2.308
22	130.000	0.000 *	130.420	7.039	130.385	9.215	130.880	49.55	130.530	13.54	130.130	2.227
23	130.000	0.000 *	130.390	6.965	130.350	8.074	130.915	50.76	130.490	12.31 *	130.240	4.467
24	130.000	0.000 *	131.020	44.18 *	130.380	9.035	130.890	49.35	130.490	12.31	130.220	4.207
25	130.000	0.000 *	130.760	28.76	130.300	6.603	130.880	48.06 *	130.490	12.85	130.180	2.922
26	130.000	0.000 *	130.575	16.36	130.250	5.650	130.800	37.86	130.460	11.22	130.160	2.476
27	130.000	0.000 *	130.590	16.96	130.250	4.665	131.205	161.0	130.400	9.476	130.140	2.180 *
28	130.000	0.000 *	130.550	14.68	130.250	5.600 *	131.200	149.8	130.465	10.57	130.120	1.882
29	130.000	0.000 *	130.915	51.61	130.200	3.819	131.560	257.8	130.440	9.918	130.120	1.902
30	130.000	0.000 *	130.760	29.60	130.200	3.905	131.510	244.3	130.420	8.789 *	130.090	1.712
31			130.590	23.05 *	130.200	4.095			130.410	8.224		
Ten-Daily Mean												
I Ten-Daily	130.000	0.000	130.129	1.512	131.109	114.1	131.236	183.2	131.204	166.7	130.371	7.544
II Ten-Daily	130.000	0.000	130.482	11.27	130.894	78.03	131.343	197.7	130.877	79.99	130.234	4.276
III Ten-Daily	130.000	0.000	130.636	22.46	130.294	6.789	131.069	109.3	130.469	11.22	130.154	2.628
Monthly												
Min.	130.000	0.000	130.000	0.000	130.200	3.819	130.200	3.965	130.400	8.224	130.090	1.712
Max.	130.000	0.000	131.020	51.61	131.688	285.0	132.355	560.8	131.605	352.7	130.410	8.222
Mean	130.000	0	130.423	12.09	130.751	64.4	131.216	163.4	130.838	83.55	130.253	4.816

Annual Runoff in MCM = 881 Annual Runoff in mm = 189

Peak Observed Discharge = 560.8 cumecs on 05/09/2016 Corres. Water Level :132.355 m

Lowest Observed Discharge = 0.321 cumecs on 27/12/2016 Corres. Water Level :130.03 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	130.070	1.442	130.070	0.695 *	130.160	1.751	130.130	1.430	130.060	0.000 *	130.000	0.000 *
2	130.090	1.743	130.110	0.986	130.170	1.857	130.130	1.401	130.050	0.000 *	130.000	0.000 *
3	130.080	1.565	130.110	1.080	130.180	1.997	130.120	1.291	130.030	0.000 *	130.000	0.000 *
4	130.080	1.565 *	130.110	1.056	130.190	2.085	130.120	1.230	130.030	0.000 *	130.000	0.000 *
5	130.070	1.477	130.120	1.151	130.190	2.080 *	130.130	1.396 *	130.040	0.000 *	130.000	0.000 *
6	130.100	1.790	130.120	1.192	130.200	2.178	130.140	1.513	130.040	0.000 *	130.000	0.000 *
7	130.110	0.972	130.130	1.447	130.190	2.079	130.150	1.667	130.030	0.000 *	130.000	0.000 *
8	130.100	0.852	130.130	1.508 *	130.200	2.200	130.150	1.716	130.040	0.000 *	130.000	0.000 *
9	130.105	0.902	130.130	1.503	130.190	2.083	130.150	1.715	130.050	0.000 *	130.000	0.000 *
10	130.110	0.987	130.130	1.481	130.220	2.438	130.280	2.993	130.060	0.000 *	130.000	0.000 *
11	130.110	1.000 *	130.130	1.441	130.220	2.432	130.280	2.993	130.030	0.000 *	130.000	0.000 *
12	130.105	0.990 *	130.130	1.439	130.200	2.190 *	130.250	2.760 *	130.030	0.000 *	130.000	0.000 *
13	130.105	0.920	130.200	2.196	130.190	2.083	130.210	2.332 *	130.030	0.000 *	130.000	0.000 *
14	130.110	0.974	130.200	2.202	130.200	2.184	130.180	1.977	130.030	0.000 *	130.000	0.000 *
15	130.105	0.958	130.200	2.256 *	130.200	2.197	130.160	1.693	130.020	0.000 *	130.000	0.000 *
16	130.105	0.938	130.200	2.219	130.200	2.190	130.150	1.610	130.020	0.000 *	130.000	0.000 *
17	130.110	1.022	130.200	2.217	130.220	2.431	130.150	1.592	130.020	0.000 *	130.000	0.000 *
18	130.110	1.000 *	130.210	2.351	130.200	2.191	130.150	1.578	130.015	0.000 *	130.000	0.000 *
19	130.105	0.950	130.170	1.847	130.200	2.190 *	130.140	1.512 *	130.015	0.000 *	130.000	0.000 *
20	130.105	0.911	130.190	2.096	130.190	2.087	130.130	1.377	130.010	0.000 *	130.000	0.000 *
21	130.080	0.770	130.190	2.132	130.190	2.085	130.120	1.243	130.000	0.000 *	130.000	0.000 *
22	130.060	0.707	130.180	2.015 *	130.180	1.986	130.110	1.087	130.000	0.000 *	130.000	0.000 *
23	130.040	0.516	130.170	1.901	130.180	1.990	130.095	0.943	130.000	0.000 *	130.000	0.000 *
24	130.050	0.582	130.160	1.731	130.170	1.850 *	130.080	0.868	130.000	0.000 *	130.000	0.000 *
25	130.050	0.650 *	130.160	1.744	130.140	1.542	130.080	0.858	130.000	0.000 *	130.000	0.000 *
26	130.040	0.494	130.170	1.862 *	130.140	1.540 *	130.080	0.827 *	130.000	0.000 *	130.000	0.000 *
27	130.030	0.321	130.190	2.082	130.140	1.537	130.080	0.859	130.000	0.000 *	130.000	0.000 *
28	130.040	0.462	130.190	2.144	130.150	1.629	130.070	0.741	130.000	0.000 *	130.000	0.000 *
29	130.040	0.465	130.180	2.007 *			130.090	0.895	130.000	0.000 *	130.000	0.000 *
30	130.040	0.445	130.170	1.812			130.080	0.819	130.000	0.000 *	130.000	0.000 *
31	130.035	0.414	130.170	1.786			130.070	0.755			130.000	0.000 *
Ten-Daily Mean												
I Ten-Daily	130.091	1.330	130.116	1.210	130.189	2.075	130.150	1.635	130.043	0.000	130.000	0.000
II Ten-Daily	130.107	0.966	130.183	2.027	130.202	2.218	130.180	1.942	130.022	0.000	130.000	0.000
III Ten-Daily	130.046	0.530	130.175	1.929	130.161	1.770	130.087	0.899	130.000	0.000	130.000	0.000
Monthly												
Min.	130.030	0.321	130.070	0.695	130.140	1.537	130.070	0.741	130.000	0.000	130.000	0.000
Max.	130.110	1.790	130.210	2.351	130.220	2.438	130.280	2.993	130.060	0.000	130.000	0.000
Mean	130.080	0.929	130.159	1.728	130.186	2.039	130.137	1.473	130.022	0	130.000	0

Peak Computed Discharge = 352.7 cumecs on 10/10/2016

Corres. Water Level :131.605 m

Lowest Computed Discharge = 0.000 cumecs on 01/06/2016

Corres. Water Level :130 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

828

453

HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

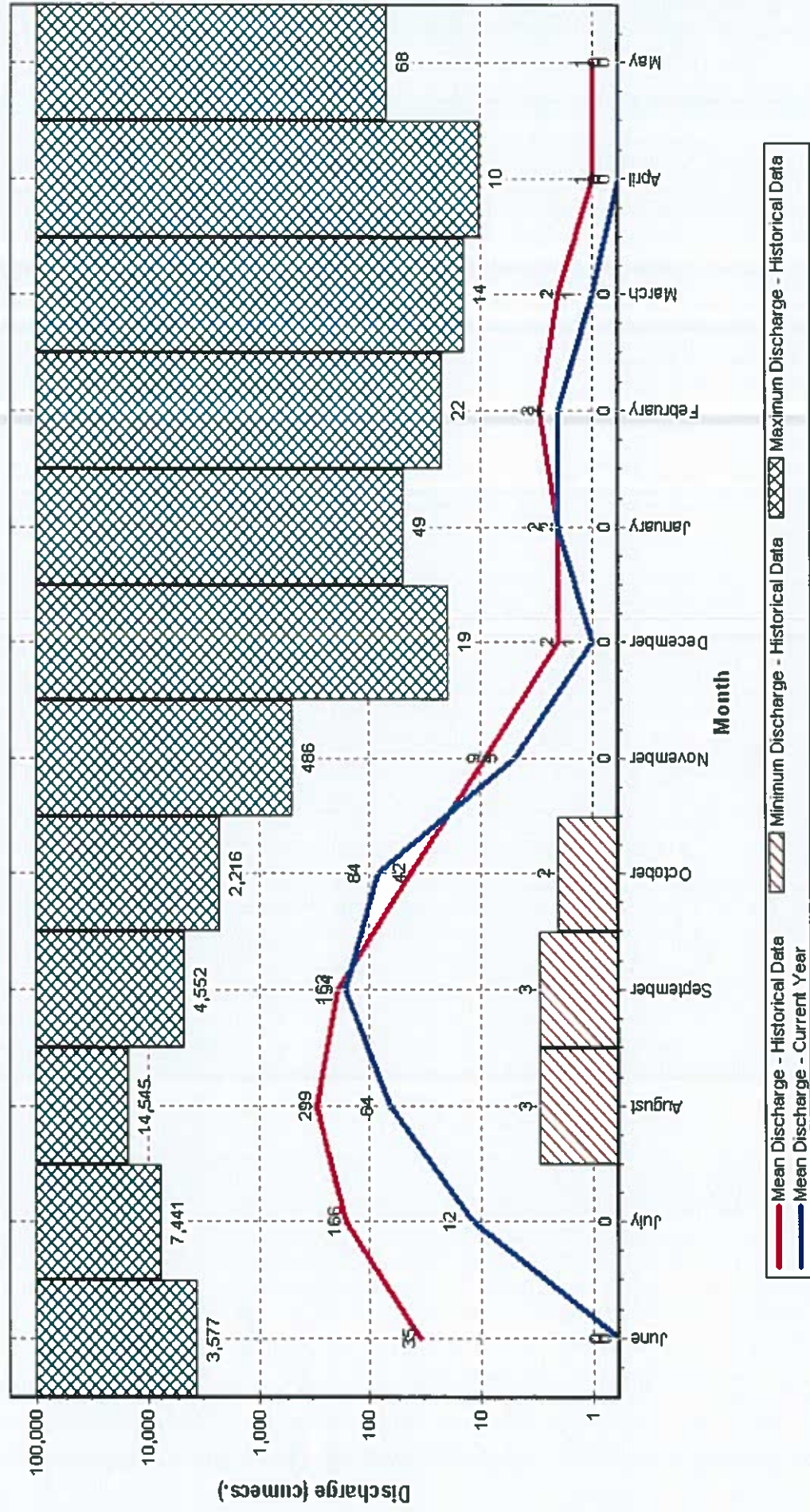
Station Name : SALEBHATA (EMG00E5)

Data considered : 1973-2017

Division : MD<CWC,Burla

Local River : Ong

Sub-Division : MMSD II,CWCBurla

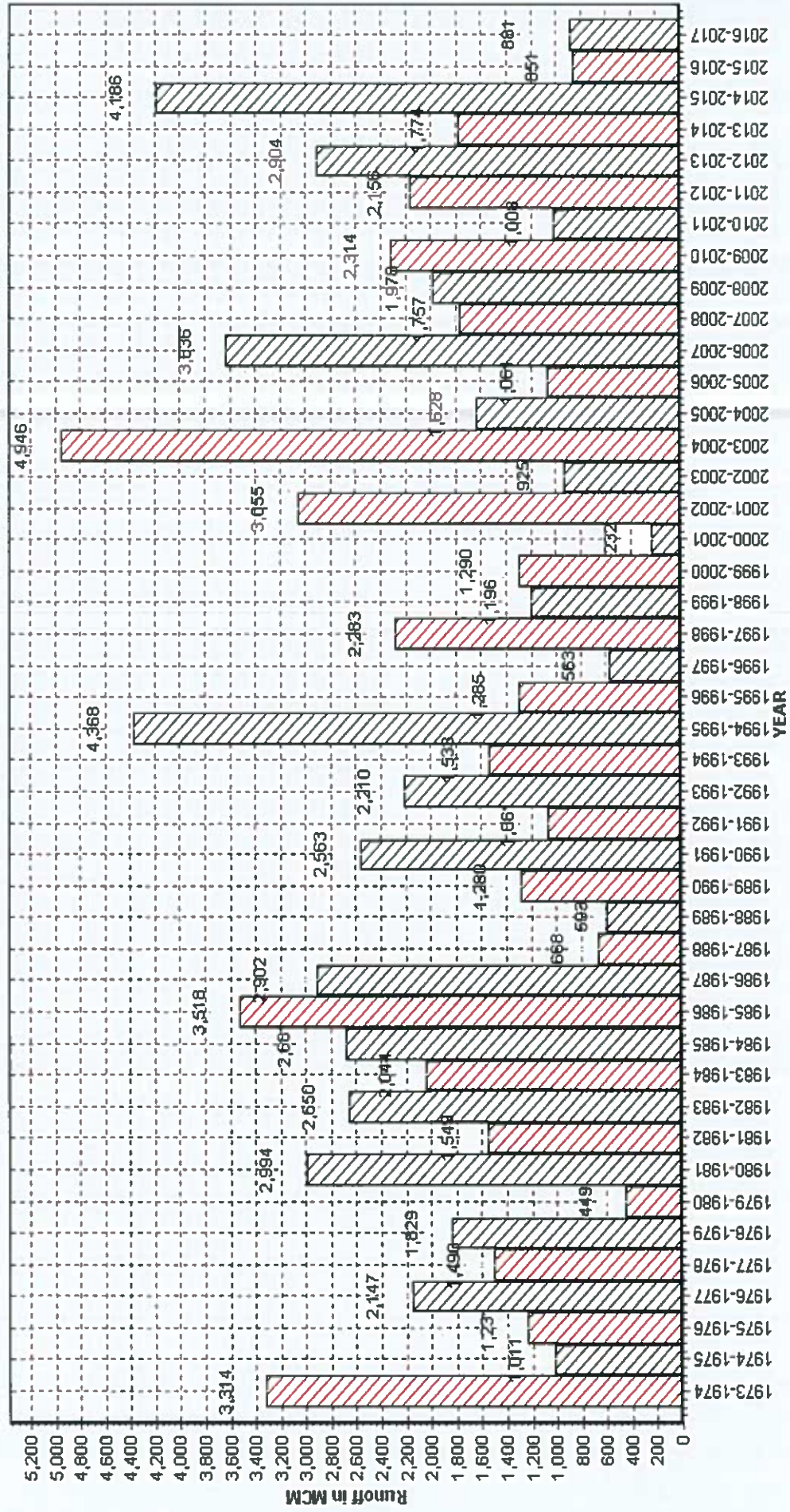


Annual Runoff Values for the period: 1973 - 2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

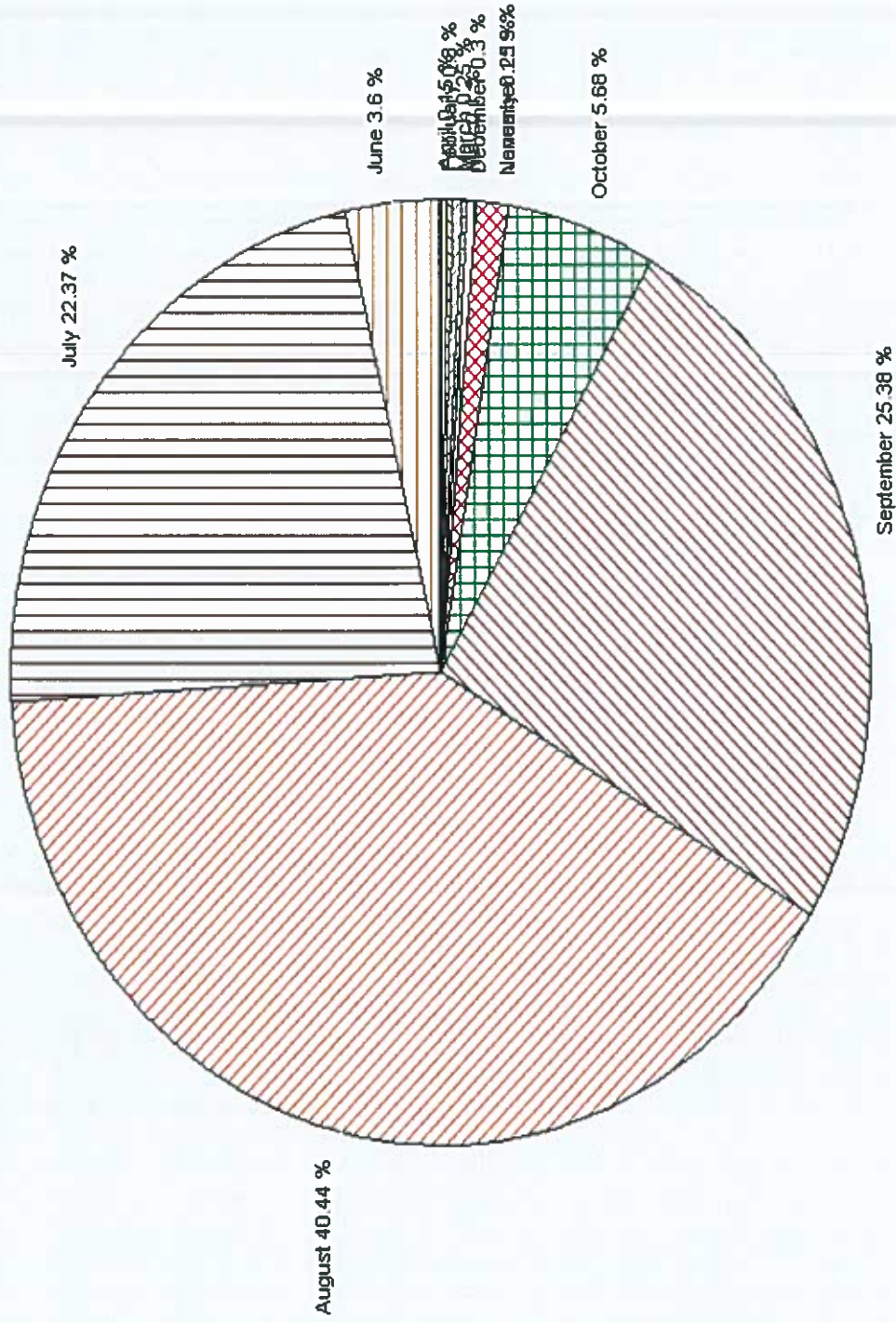


Monthly Average Runoff based on period : 1973-2016

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

June	3.6 %
July	22.37 %
August	40.44 %
September	25.38 %
October	5.68 %
November	1.19 %
December	0.3 %
January	0.25 %
February	0.3 %
March	0.25 %
April	0.15 %
May	0.1 %

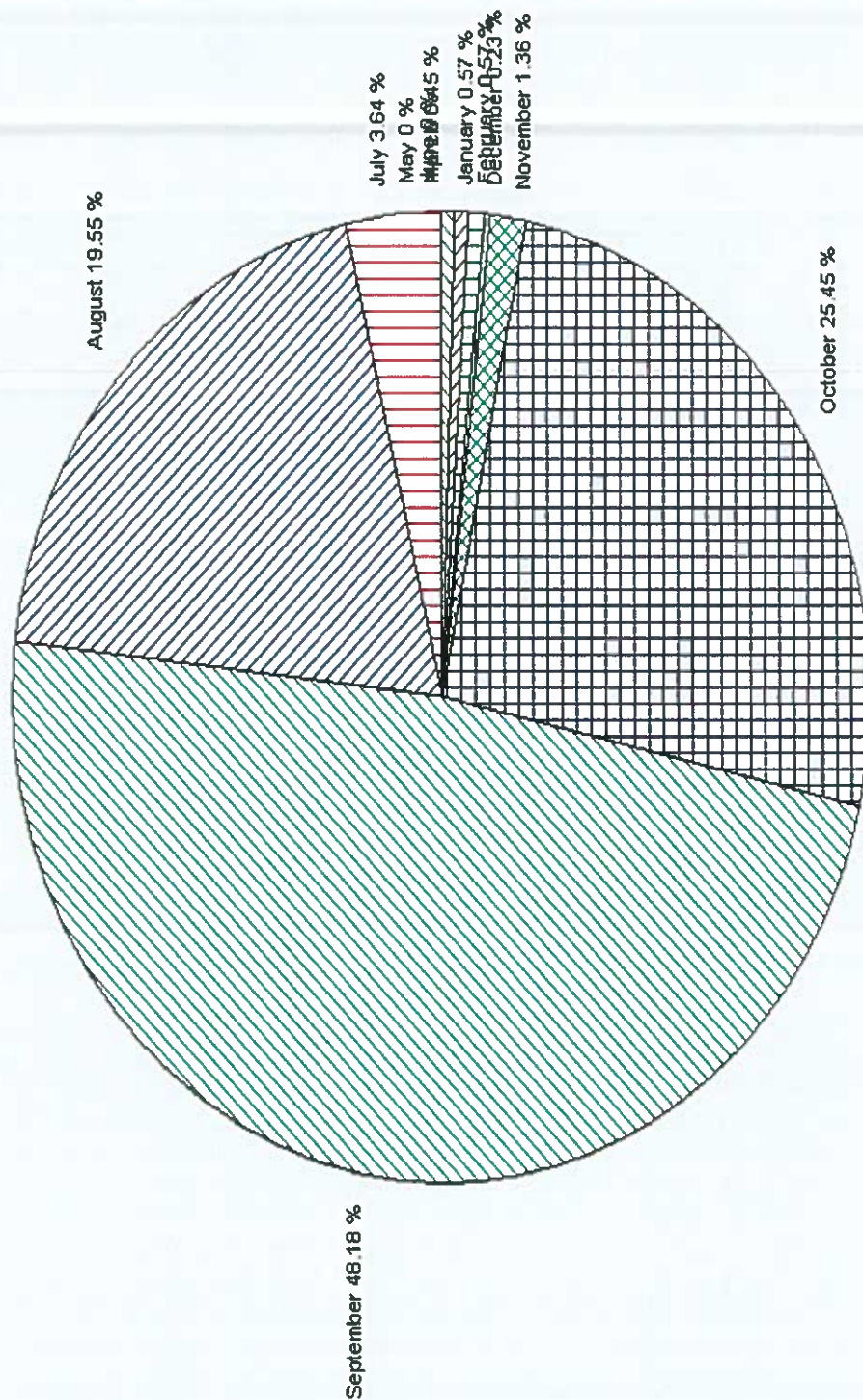


Monthly Runoff for the Year : 2016-2017

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

June	0 %
July	3.64 %
August	19.55 %
September	48.18 %
October	25.45 %
November	1.36 %
December	0.23 %
January	0.57 %
February	0.57 %
March	0.45 %
April	0 %
May	0 %



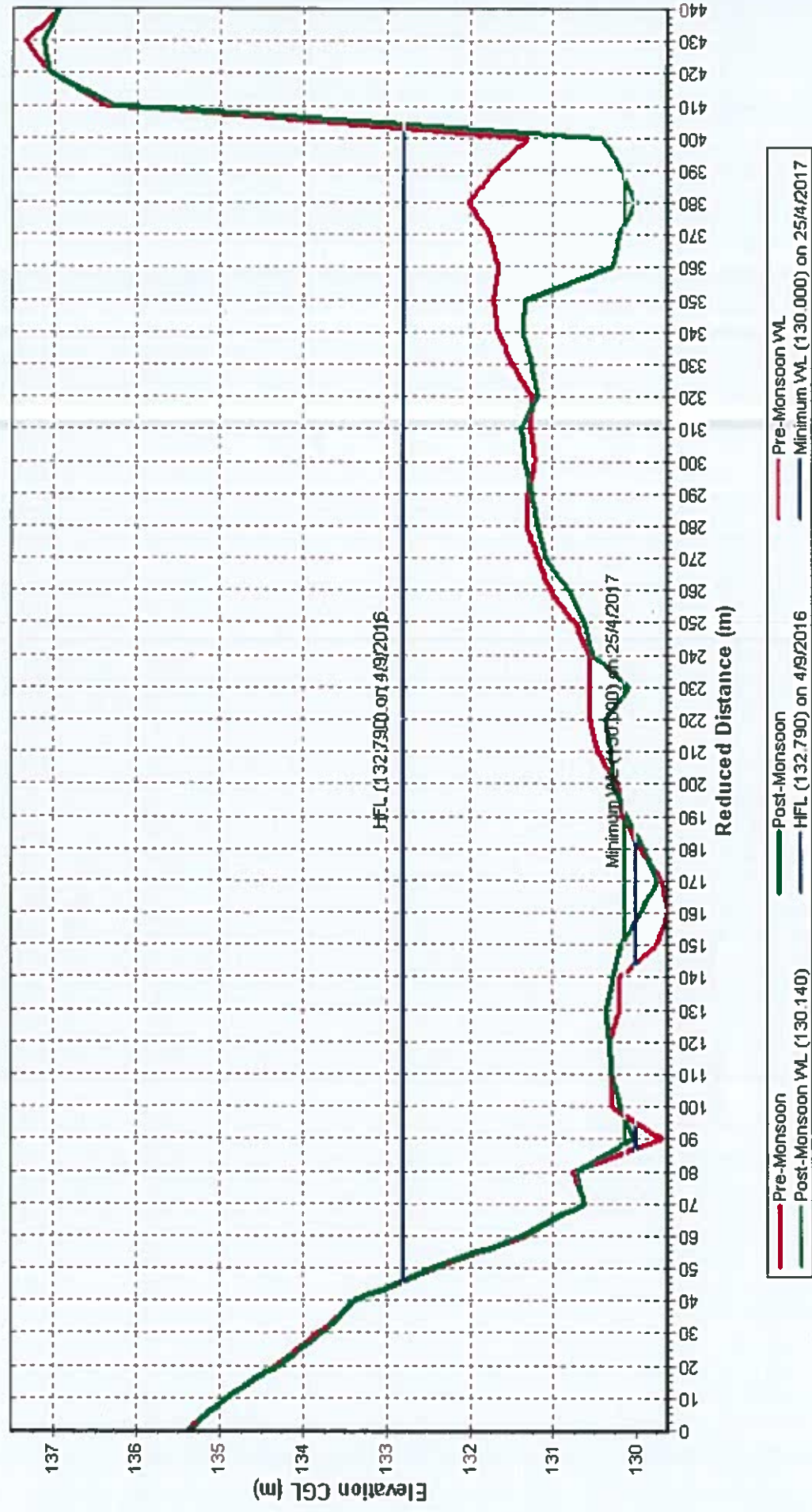
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Division : MD<CWC,Burla

Local River : Ong

Sub-Division : MMSD II,CWC Burla



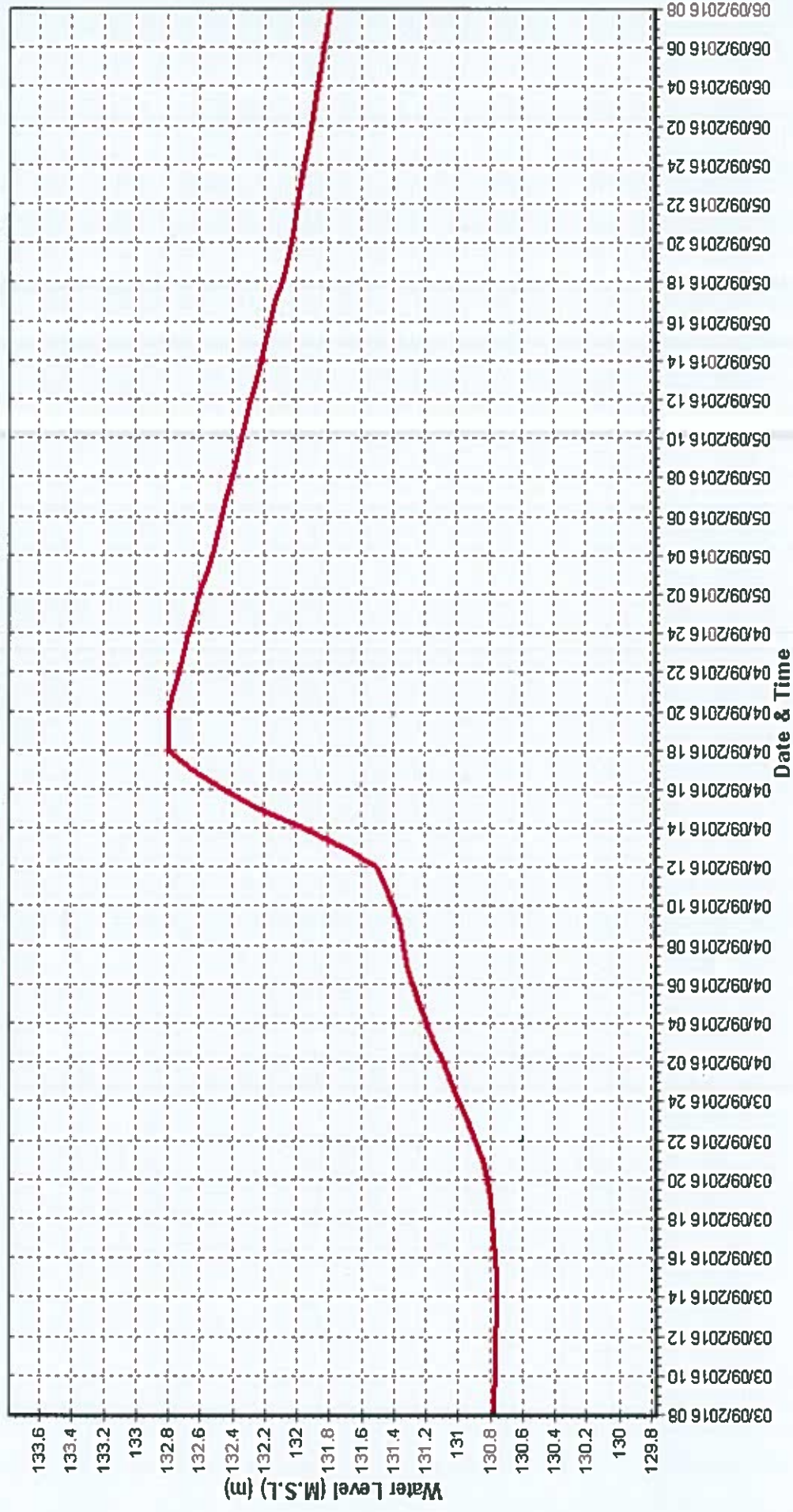
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Division : MD<CWC,Burla

Local River : Ong

Sub-Division : MMSD II,CWCBurla



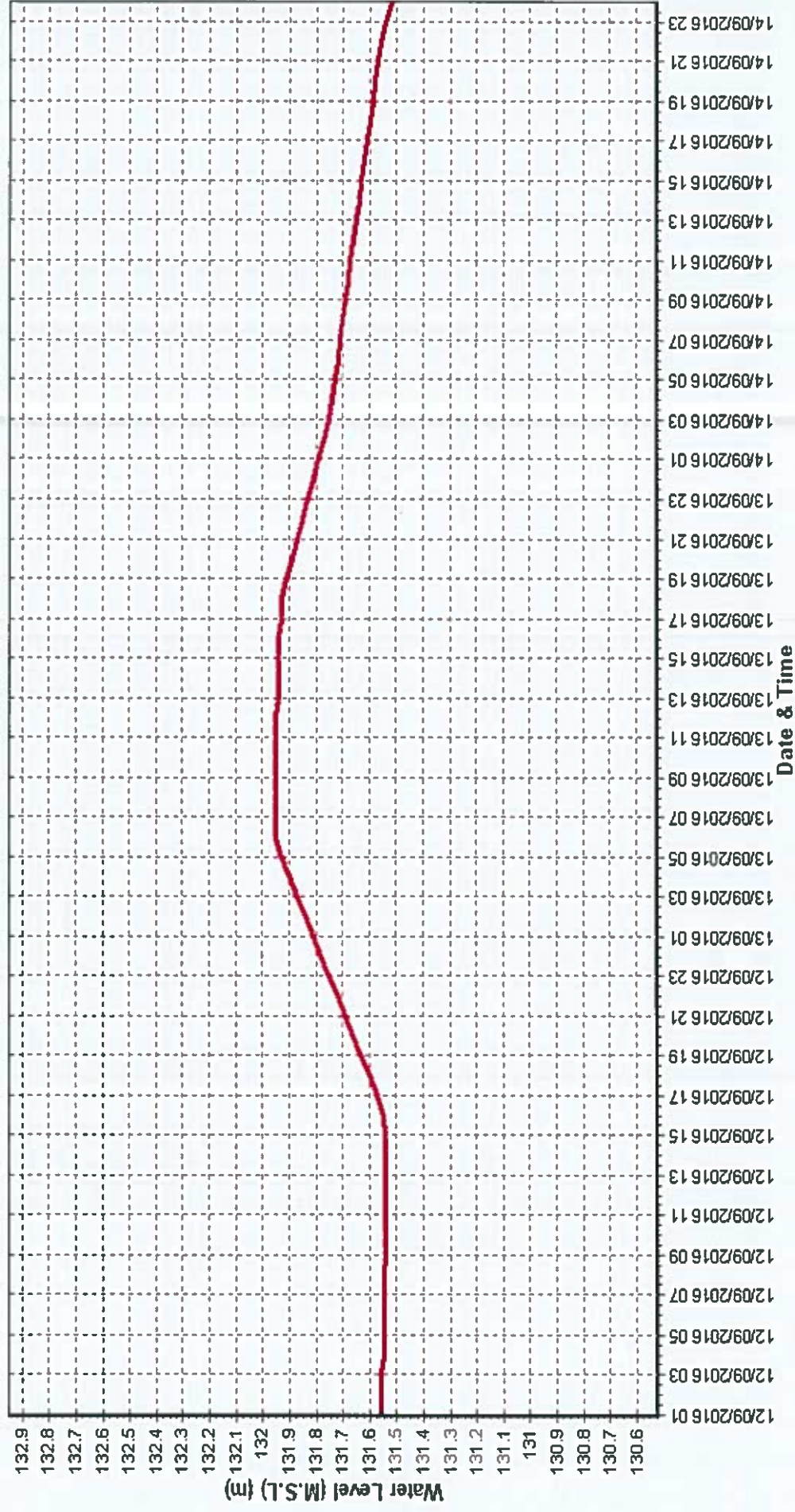
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla



Time Span: 72 Hrs

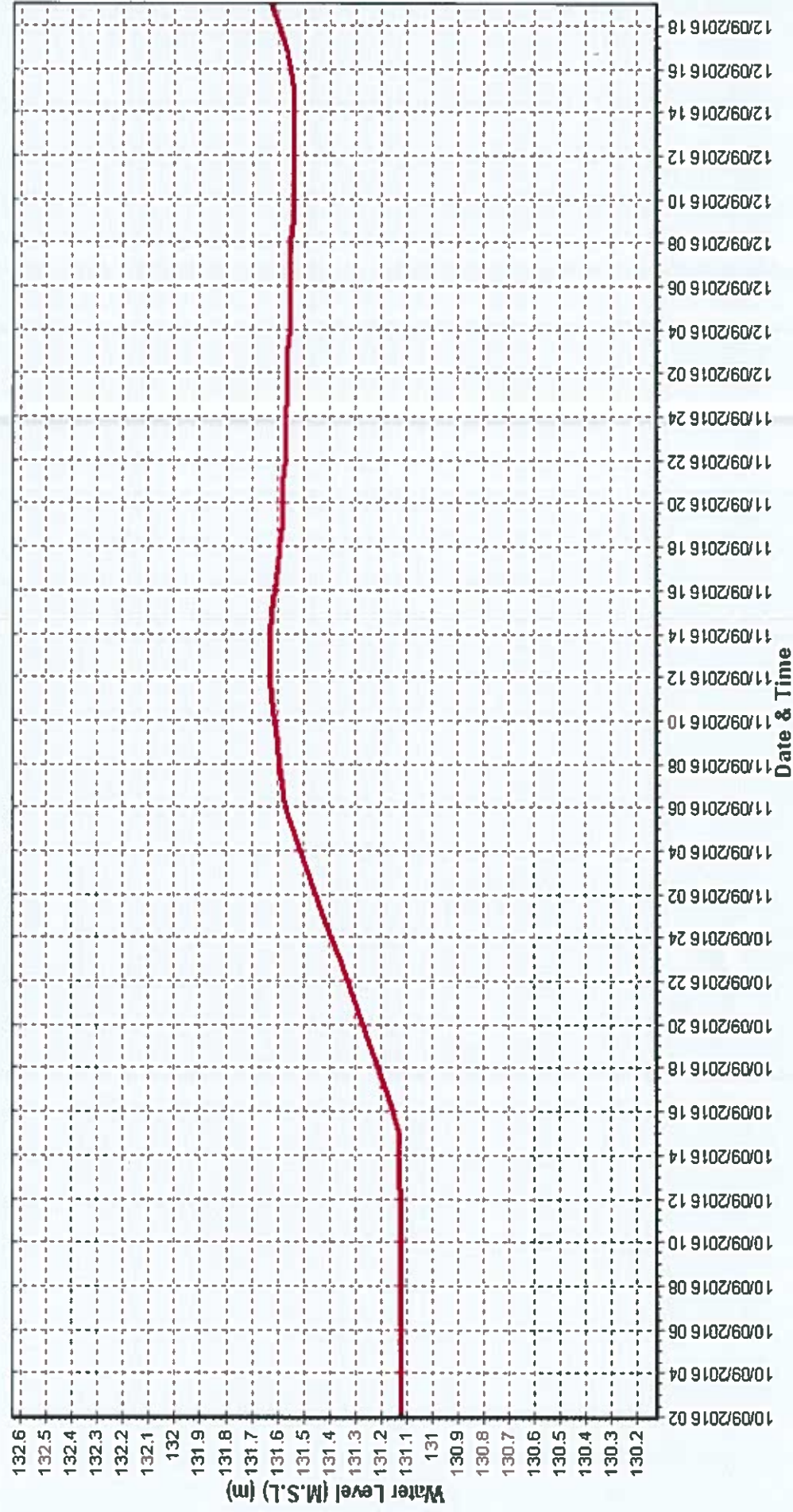
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : SALEBHATA (EMG00E5)

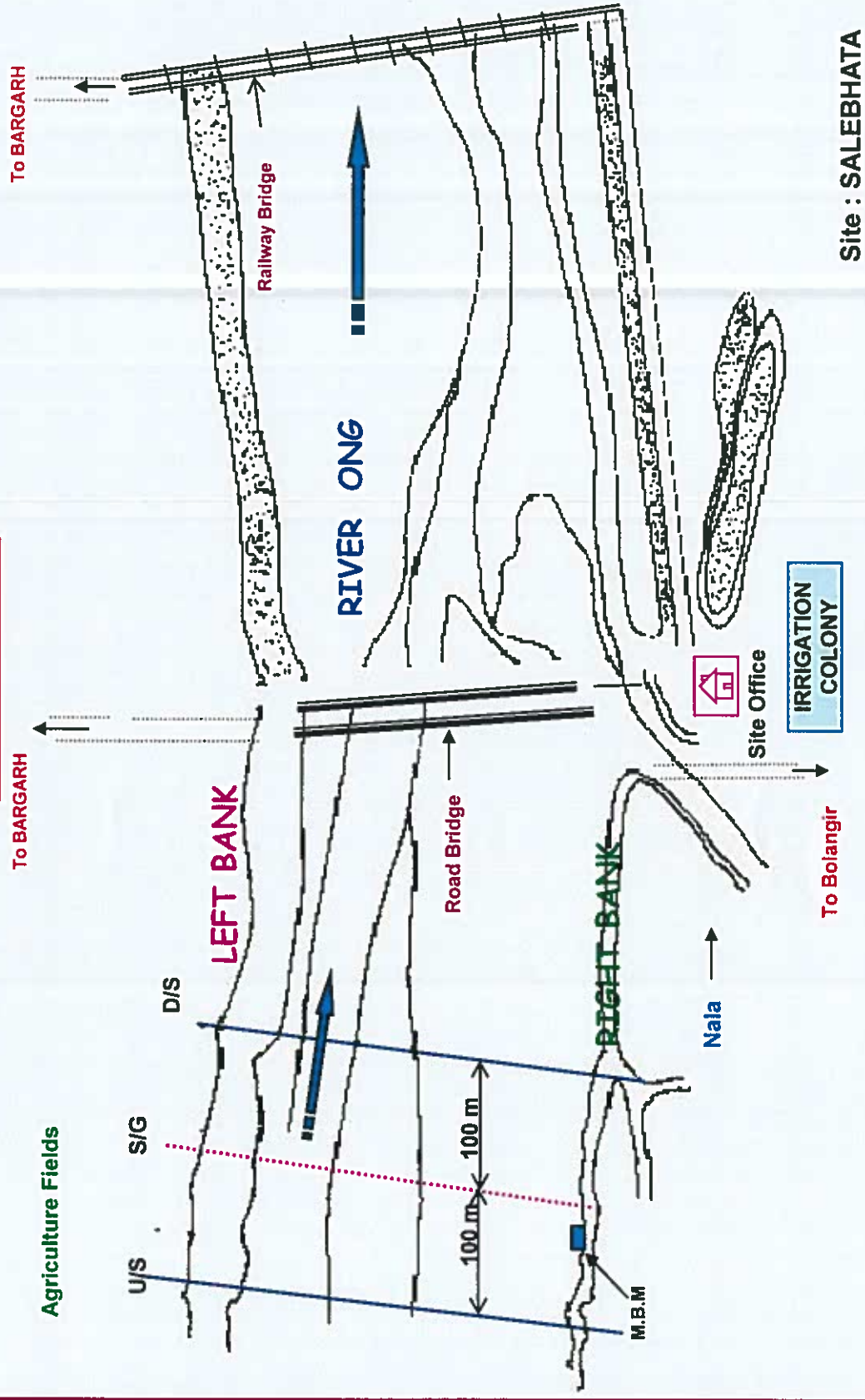
Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla



SITE PLAN



TO BARGARH

Agriculture Fields

Ure

5/5

D/S

LEFT BANK

RIVER ONG

Railway Bridge

Road Bridge

RIGHT BANK

Nala

M.B.M.

Site Office

IRRIGATION COLONY

To Bolangir

Site : SALEBHATA

SECTION – II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla

Day	Jun					Jul					Aug								
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	27.03	0.000	0.000	0.000	0.033	0.033	76
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	70.06	0.000	0.000	0.000	0.048	0.048	290
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	79.51	0.000	0.000	0.000	0.050	0.050	343
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	130.9	0.000	0.000	0.000	0.113	0.113	1274
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	231.1	0.000	0.000	0.000	0.242	0.242	4835
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	166.7	0.000	0.000	0.000	0.188	0.188	2703
7	0.000	0.000	0.000	0.000	0.000	0	3.134	0.000	0.000	0.000	0.000	0	158.0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	3.236	0.000	0.000	0.000	0.000	0	135.2	0.000	0.000	0.000	0.171	0.171	1999
9	0.000	0.000	0.000	0.000	0.000	0	4.221	0.000	0.000	0.000	0.000	0	75.87	0.000	0.000	0.000	0.064	0.064	421
10	0.000	0.000	0.000	0.000	0.000	0	4.530	0.000	0.000	0.000	0.000	0	66.94	0.000	0.000	0.000	0.045	0.045	263
11	0.000	0.000	0.000	0.000	0.000	0	13.80	0.000	0.000	0.026	0.026	31	77.85	0.000	0.000	0.000	0.043	0.043	291
12	0.000	0.000	0.000	0.000	0.000	0	9.770	0.000	0.000	0.224	0.224	189	154.9	0.000	0.000	0.000	0.096	0.096	1278
13	0.000	0.000	0.000	0.000	0.000	0	22.85	0.000	0.000	0.025	0.025	49	97.64	0.000	0.000	0.000	0.051	0.051	429
14	0.000	0.000	0.000	0.000	0.000	0	11.43	0.000	0.000	0.020	0.020	20	285.0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	9.763	0.000	0.000	0.020	0.020	17	39.52	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	10.75	0.000	0.000	0.018	0.018	17	19.85	0.000	0.000	0.000	0.016	0.016	28
17	0.000	0.000	0.000	0.000	0.000	0	10.15	0.000	0.000	0.000	0.000	0	22.65	0.000	0.000	0.000	0.018	0.018	36
18	0.000	0.000	0.000	0.000	0.000	0	10.06	0.000	0.000	0.017	0.017	15	27.85	0.000	0.000	0.000	0.036	0.036	88
19	0.000	0.000	0.000	0.000	0.000	0	6.971	0.000	0.000	0.017	0.017	10	31.73	0.000	0.000	0.000	0.055	0.055	149
20	0.000	0.000	0.000	0.000	0.000	0	7.126	0.000	0.000	0.016	0.016	10	23.33	0.000	0.000	0.000	0.031	0.031	62
21	0.000	0.000	0.000	0.000	0.000	0	7.845	0.000	0.000	0.015	0.015	10	14.02	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	7.039	0.000	0.000	0.014	0.014	9	9.215	0.000	0.000	0.000	0.026	0.026	21
23	0.000	0.000	0.000	0.000	0.000	0	6.965	0.000	0.000	0.013	0.013	8	8.074	0.000	0.000	0.000	0.024	0.024	17
24	0.000	0.000	0.000	0.000	0.000	0	44.18	0.000	0.000	0.000	0.000	0	9.035	0.000	0.000	0.000	0.034	0.034	26
25	0.000	0.000	0.000	0.000	0.000	0	28.76	0.000	0.000	0.048	0.048	120	6.603	0.000	0.000	0.000	0.021	0.021	12
26	0.000	0.000	0.000	0.000	0.000	0	16.36	0.000	0.000	0.024	0.024	34	5.650	0.000	0.000	0.000	0.025	0.025	12
27	0.000	0.000	0.000	0.000	0.000	0	16.96	0.000	0.000	0.024	0.024	35	4.665	0.000	0.000	0.000	0.039	0.039	16
28	0.000	0.000	0.000	0.000	0.000	0	14.68	0.000	0.000	0.021	0.021	27	5.600	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	51.61	0.000	0.000	0.096	0.096	428	3.819	0.000	0.000	0.000	0.017	0.017	6
30	0.000	0.000	0.000	0.000	0.000	0	29.60	0.000	0.000	0.078	0.078	199	3.905	0.000	0.000	0.000	0.026	0.026	9
31							23.05	0.000	0.000	0.000	0.000	0	4.095	0.000	0.000	0.000	0.023	0.023	8
Ten Daily Mean																			
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	1.512	0.000	0.000	0.000	0.000	0	114.1	0.000	0.000	0.000	0.095	0.095	1220
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	11.27	0.000	0.000	0.038	0.038	36	78.03	0.000	0.000	0.000	0.035	0.035	236
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	22.46	0.000	0.000	0.030	0.030	79	6.789	0.000	0.000	0.000	0.021	0.021	11
Monthly												1227							14690
Total						0													

Annual Sediment Load (Metric Tonnes) : 43053

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla

Day	Sap				Oct				Nov			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	3.965	0.000	0.000	0.021	0.021	7	190.1	0.000	0.000	0.049	0.049	808
2	69.80	0.000	0.000	0.034	0.034	205	151.3	0.000	0.000	0.000	0.000	0
3	37.29	0.000	0.000	0.044	0.044	141	122.9	0.000	0.000	0.037	0.037	396
4	221.2	0.000	0.000	0.000	0.000	0	81.93	0.000	0.000	0.026	0.026	183
5	560.8	0.000	0.000	0.073	0.073	3518	173.4	0.000	0.000	0.038	0.038	569
6	290.3	0.000	0.000	0.073	0.073	1841	144.3	0.000	0.000	0.037	0.037	455
7	208.3	0.000	0.000	0.111	0.111	2003	112.9	0.000	0.000	0.036	0.036	347
8	163.4	0.000	0.000	0.066	0.066	925	151.2	0.000	0.000	0.039	0.039	506
9	134.8	0.000	0.000	0.050	0.050	579	185.9	0.000	0.000	0.000	0.000	0
10	142.2	0.000	0.000	0.057	0.057	703	352.7	0.000	0.000	0.000	0.000	0
11	309.9	0.000	0.000	0.000	0.000	0	276.9	0.000	0.000	0.000	0.000	0
12	295.7	0.000	0.000	0.000	0.000	0	172.9	0.000	0.000	0.000	0.000	0
13	434.8	0.000	0.000	0.073	0.073	2739	112.2	0.000	0.000	0.029	0.029	285
14	285.0	0.000	0.000	0.050	0.050	1224	57.84	0.000	0.000	0.011	0.011	52
15	209.9	0.000	0.000	0.061	0.061	1114	46.44	0.000	0.000	0.012	0.012	46
16	184.0	0.000	0.000	0.060	0.060	949	43.53	0.000	0.000	0.000	0.000	0
17	83.81	0.000	0.000	0.024	0.024	172	33.37	0.000	0.000	0.011	0.011	32
18	70.45	0.000	0.000	0.000	0.000	0	22.90	0.000	0.000	0.010	0.010	20
19	57.98	0.000	0.000	0.015	0.015	73	17.80	0.000	0.000	0.011	0.011	16
20	45.41	0.000	0.000	0.020	0.020	77	16.01	0.000	0.000	0.016	0.016	21
21	44.90	0.000	0.000	0.027	0.027	105	14.26	0.000	0.000	0.016	0.016	20
22	49.55	0.000	0.000	0.050	0.050	213	13.54	0.000	0.000	0.013	0.013	15
23	50.76	0.000	0.000	0.024	0.024	106	12.31	0.000	0.000	0.000	0.000	0
24	49.35	0.000	0.000	0.029	0.029	123	12.31	0.000	0.000	0.012	0.012	13
25	48.06	0.000	0.000	0.000	0.000	0	12.85	0.000	0.000	0.013	0.013	14
26	37.86	0.000	0.000	0.020	0.020	66	11.22	0.000	0.000	0.012	0.012	12
27	161.0	0.000	0.000	0.129	0.129	1788	9.476	0.000	0.000	0.013	0.013	11
28	149.8	0.000	0.000	0.052	0.052	674	10.57	0.000	0.000	0.021	0.021	19
29	257.8	0.000	0.000	0.120	0.120	2679	9.918	0.000	0.000	0.017	0.017	14
30	244.3	0.000	0.000	0.059	0.059	1250	8.789	0.000	0.000	0.000	0.000	0
31							8.224	0.000	0.000	0.010	0.010	7
Ten Daily Mean												
Ten Daily I	183.2	0.000	0.000	0.053	0.053	992	166.7	0.000	0.000	0.026	0.026	326
Ten Daily II	197.7	0.000	0.000	0.030	0.030	635	79.99	0.000	0.000	0.010	0.010	47
Ten Daily III	109.3	0.000	0.000	0.051	0.051	700	11.22	0.000	0.000	0.012	0.012	11
Monthly												
Total						23273						3864

Annual Sediment Load (Metric Tonnes) : 43053

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla

Day		Dec					Jan					Feb							
		Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1		1.442	0.000	0.000	0.000	0.000	0	0.695	0.000	0.000	0.000	0.000	0	1.751	0.000	0.000	0.000	0.000	0
2		1.743	0.000	0.000	0.000	0.000	0	0.986	0.000	0.000	0.000	0.000	0	1.857	0.000	0.000	0.000	0.000	0
3		1.565	0.000	0.000	0.000	0.000	0	1.080	0.000	0.000	0.000	0.000	0	1.997	0.000	0.000	0.000	0.000	0
4		1.565	0.000	0.000	0.000	0.000	0	1.056	0.000	0.000	0.000	0.000	0	2.085	0.000	0.000	0.000	0.000	0
5		1.477	0.000	0.000	0.000	0.000	0	1.151	0.000	0.000	0.000	0.000	0	2.080	0.000	0.000	0.000	0.000	0
6		1.790	0.000	0.000	0.000	0.000	0	1.192	0.000	0.000	0.000	0.000	0	2.178	0.000	0.000	0.000	0.000	0
7		0.972	0.000	0.000	0.000	0.000	0	1.447	0.000	0.000	0.000	0.000	0	2.079	0.000	0.000	0.000	0.000	0
8		0.852	0.000	0.000	0.000	0.000	0	1.508	0.000	0.000	0.000	0.000	0	2.200	0.000	0.000	0.000	0.000	0
9		0.902	0.000	0.000	0.000	0.000	0	1.503	0.000	0.000	0.000	0.000	0	2.083	0.000	0.000	0.000	0.000	0
10		0.987	0.000	0.000	0.000	0.000	0	1.481	0.000	0.000	0.000	0.000	0	2.438	0.000	0.000	0.000	0.000	0
11		1.000	0.000	0.000	0.000	0.000	0	1.441	0.000	0.000	0.000	0.000	0	2.432	0.000	0.000	0.000	0.000	0
12		0.990	0.000	0.000	0.000	0.000	0	1.439	0.000	0.000	0.000	0.000	0	2.190	0.000	0.000	0.000	0.000	0
13		0.920	0.000	0.000	0.000	0.000	0	2.196	0.000	0.000	0.000	0.000	0	2.083	0.000	0.000	0.000	0.000	0
14		0.974	0.000	0.000	0.000	0.000	0	2.202	0.000	0.000	0.000	0.000	0	2.184	0.000	0.000	0.000	0.000	0
15		0.958	0.000	0.000	0.000	0.000	0	2.256	0.000	0.000	0.000	0.000	0	2.197	0.000	0.000	0.000	0.000	0
16		0.938	0.000	0.000	0.000	0.000	0	2.219	0.000	0.000	0.000	0.000	0	2.190	0.000	0.000	0.000	0.000	0
17		1.022	0.000	0.000	0.000	0.000	0	2.217	0.000	0.000	0.000	0.000	0	2.431	0.000	0.000	0.000	0.000	0
18		1.000	0.000	0.000	0.000	0.000	0	2.351	0.000	0.000	0.000	0.000	0	2.191	0.000	0.000	0.000	0.000	0
19		0.950	0.000	0.000	0.000	0.000	0	1.847	0.000	0.000	0.000	0.000	0	2.190	0.000	0.000	0.000	0.000	0
20		0.911	0.000	0.000	0.000	0.000	0	2.096	0.000	0.000	0.000	0.000	0	2.087	0.000	0.000	0.000	0.000	0
21		0.770	0.000	0.000	0.000	0.000	0	2.132	0.000	0.000	0.000	0.000	0	2.085	0.000	0.000	0.000	0.000	0
22		0.707	0.000	0.000	0.000	0.000	0	2.015	0.000	0.000	0.000	0.000	0	1.986	0.000	0.000	0.000	0.000	0
23		0.516	0.000	0.000	0.000	0.000	0	1.901	0.000	0.000	0.000	0.000	0	1.990	0.000	0.000	0.000	0.000	0
24		0.582	0.000	0.000	0.000	0.000	0	1.731	0.000	0.000	0.000	0.000	0	1.850	0.000	0.000	0.000	0.000	0
25		0.650	0.000	0.000	0.000	0.000	0	1.744	0.000	0.000	0.000	0.000	0	1.542	0.000	0.000	0.000	0.000	0
26		0.494	0.000	0.000	0.000	0.000	0	1.862	0.000	0.000	0.000	0.000	0	1.540	0.000	0.000	0.000	0.000	0
27		0.321	0.000	0.000	0.000	0.000	0	2.082	0.000	0.000	0.000	0.000	0	1.537	0.000	0.000	0.000	0.000	0
28		0.462	0.000	0.000	0.000	0.000	0	2.144	0.000	0.000	0.000	0.000	0	1.629	0.000	0.000	0.000	0.000	0
29		0.465	0.000	0.000	0.000	0.000	0	2.007	0.000	0.000	0.000	0.000	0						
30		0.445	0.000	0.000	0.000	0.000	0	1.812	0.000	0.000	0.000	0.000	0						
31		0.414	0.000	0.000	0.000	0.000	0	1.786	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																			
Ten Daily I		1.330	0.000	0.000	0.000	0.000	0	1.210	0.000	0.000	0.000	0.000	0	2.075	0.000	0.000	0.000	0.000	0
Ten Daily II		0.966	0.000	0.000	0.000	0.000	0	2.027	0.000	0.000	0.000	0.000	0	2.218	0.000	0.000	0.000	0.000	0
Ten Daily III		0.530	0.000	0.000	0.000	0.000	0	1.929	0.000	0.000	0.000	0.000	0	1.770	0.000	0.000	0.000	0.000	0
Monthly																			
Total							0						0						0

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWC Burla

Day	Mar					Apr					May							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.430	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	1.401	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	1.291	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	1.230	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1.396	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	1.513	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	1.667	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	1.716	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	1.715	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	2.993	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	2.993	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	2.760	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	2.332	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	1.977	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	1.693	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	1.610	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	1.592	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	1.578	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	1.512	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	1.377	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	1.243	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	1.087	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.943	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.868	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.858	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.827	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.859	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.741	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.895	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.819	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.755	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	1.635	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	1.942	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.899	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
total						0						0						0

Annual Sediment Load (Metric Tonnes) : 43053

Annual Sediment Load for period : 1973-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC,Burla

Sub-Division : MMSD II,CWCBurla

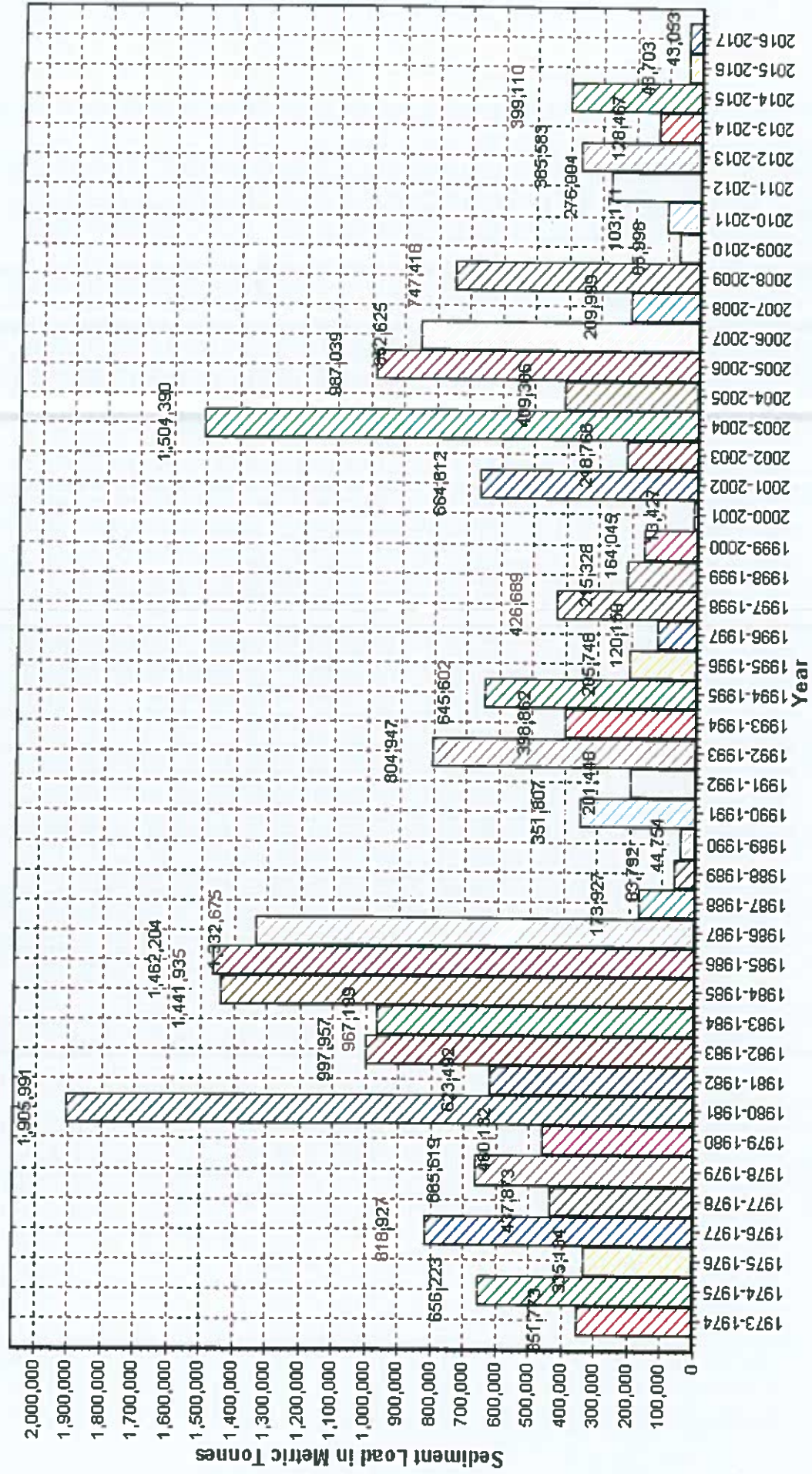
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	351704	69	351773	3314
1974-1975	656223	0	656223	1011
1975-1976	335101	33	335134	1231
1976-1977	818927	0	818927	2147
1977-1978	437367	506	437873	1490
1978-1979	665132	487	665619	1829
1979-1980	460067	65	460132	449
1980-1981	1905525	467	1905991	2994
1981-1982	623245	247	623492	1549
1982-1983	997865	92	997957	2650
1983-1984	967114	86	967199	2044
1984-1985	1441899	35	1441935	2681
1985-1986	1461585	619	1462204	3518
1986-1987	1332653	22	1332675	2902
1987-1988	173925	3	173927	668
1988-1989	63783	9	63792	593
1989-1990	44754	0	44754	1280
1990-1991	351783	24	351807	2563
1991-1992	201445	3	201448	1061
1992-1993	804947	0	804947	2210
1993-1994	398861	2	398862	1533
1994-1995	645553	49	645602	4368
1995-1996	205745	3	205748	1285
1996-1997	120152	8	120159	563
1997-1998	426483	206	426689	2283
1998-1999	215268	60	215328	1196
1999-2000	164001	44	164045	1290
2000-2001	13418	9	13427	232
2001-2002	664612	0	664612	3055
2002-2003	218766	0	218766	925
2003-2004	1504390	0	1504390	4946
2004-2005	409366	0	409366	1628
2005-2006	987039	0	987039	1061
2006-2007	852623	2	852625	3636
2007-2008	209994	5	209999	1757
2008-2009	747416	0	747416	1978
2009-2010	65998	0	65998	2314
2010-2011	103171	0	103171	1008
2011-2012	276004	0	276004	2156
2012-2013	365583	0	365583	2904
2013-2014	128467	0	128467	1774
2014-2015	399110	0	399110	4186
2015-2016	43703	0	43703	851
2016-2017	43053	0	43053	881

Annual Sediment Load for the period: 1973-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

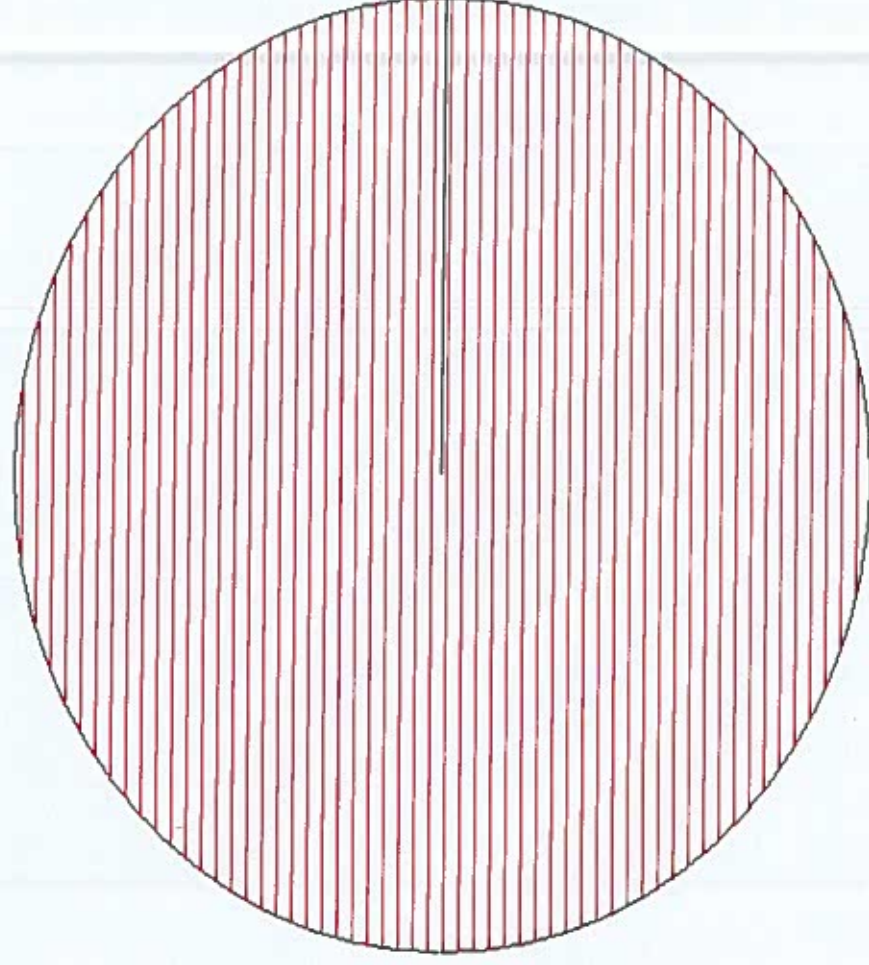
Division : MD<CWC,Burla
Sub-Division : MMSD II,CWC Burla



Seasonal Sediment Load for the period : 1973-2016

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

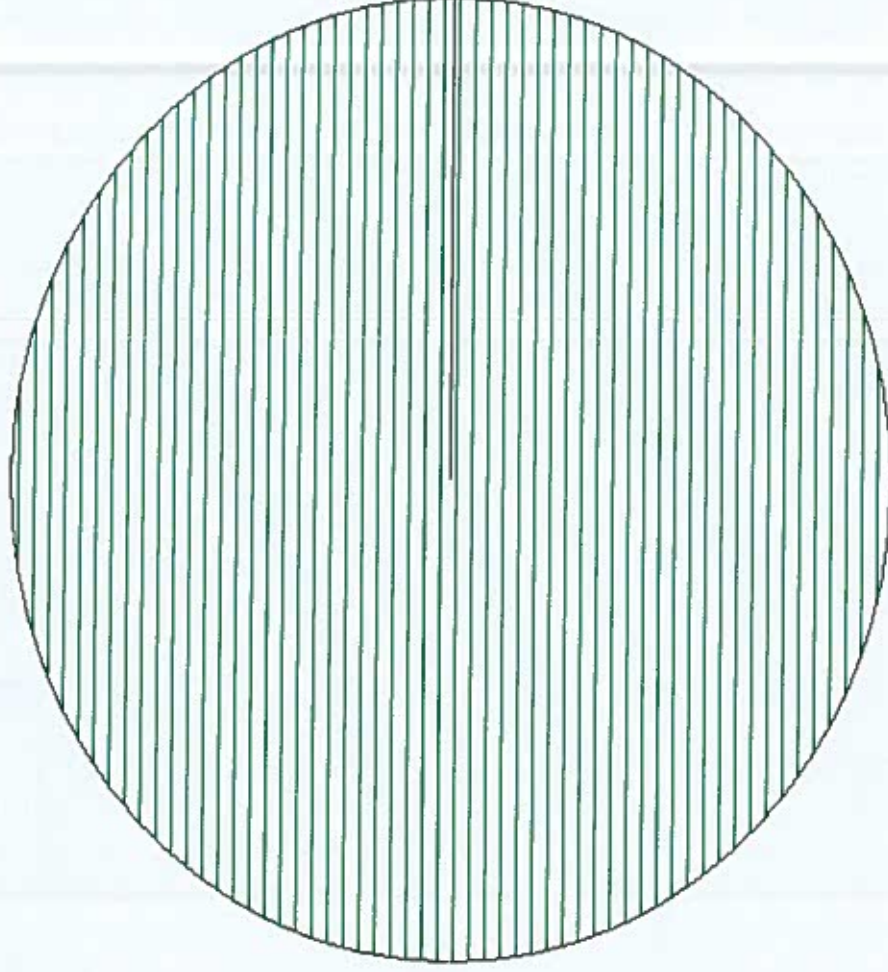
Division : MD<CWC,Burla
Sub-Division : MMSD II,CWC Burla



Seasonal Sediment Load for the Year: 2016-2017

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

Division : MD<CWC, Burla
Sub-Division : MMSD II,CWCBurla

River Water Analysis

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	0.000	0.000	27.03	3.965	190.1	7.975	1.442	0.986	1.751	1.430	0.000	0.000
2	Colour_Cod (-)			Light Brown	Clear	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	
3	EC_FLD (µmho/cm)				326	208	301	273	249	313	359	346	
4	EC_GEN (µmho/cm)			221	259	174	272	211	236	126	273	217	
5	Odour_Code (-)			odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	
6	pH_FLD (pH units)				8.2	7.9	7.9	7.9	7.9	7.9	7.7	8.2	
7	pH_GEN (pH units)			7.5	7.9	7.4	8.1	8.0	8.4	8.2	8.2	8.5	
8	Temp (deg C)				31.8	30.7	26.4	19.6	20.6	22.6	23.5	29.0	
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)			44	144	132	120	140	128	124	208	248	
3	Ca (mg/L)			72	38	48	43	55	50	50	50	37	
4	Cl (mg/L)			11.0	24.0	35.0	32.0	37.0	33.0	38.0	41.0	38.0	
5	CO3 (mg/L)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	HCO3 (mg/L)			27	88	81	73	85	78	76	127	151	
7	K (mg/L)			8.6	18.3	3.2	8.4	5.1	8.7	8.9	9.4	9.3	
8	Mg (mg/L)			3.9	24.3	8.8	1.0	2.9	4.9	33.1	13.6	8.8	
9	Na (mg/L)			10.8	39.8	15.3	23.3	22.2	27.7	23.8	43.5	38.5	
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)			1.2	0.8	2.0	2.8	1.0	0.6	0.6	1.5	1.2	
2	DO (mg/L)			6.7	7.3	6.8	8.3	6.8	8.2	7.3	8.3	6.5	
3	DO_SAT% (%)				98	90	102	73	90	84	97	85	
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)			180	96	120	108	136	124	124	124	92	
2	HAR_Total (mgCaCO3/L)			197	197	157	112	148	145	262	181	129	
3	Na% (%)			10	28	17	29	24	28	16	33	37	
4	RSC (-)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	SAR (-)			0.3	1.2	0.5	1.0	0.8	1.0	0.6	1.4	1.5	
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : SALEBHATA (EMG00E5)

Division : MD<CWC,Burla

Local River : Ong

Sub-Division : MMSD II,CWCBurla

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	560.8	0.000	27.93
2	EC_FLD (μmho/cm)	8	359	208	297
3	EC_GEN (μmho/cm)	9	273	126	221
4	pH_FLD (pH units)	8	8.2	7.7	7.9
5	pH_GEN (pH units)	9	8.5	7.4	8
6	Temp (deg C)	8	31.8	19.6	25.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	9	248	44	143
3	Ca (mg/L)	9	72	37	49
4	Cl (mg/L)	9	41.0	11.0	32.1
5	CO3 (mg/L)	9	0.0	0.0	0
6	HCO3 (mg/L)	9	151	27	87
7	K (mg/L)	9	18.3	3.2	8.9
8	Mg (mg/L)	9	33.1	1.0	11.2
9	Na (mg/L)	9	43.5	10.8	27.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	9	2.8	0.6	1.3
2	DO (mg/L)	9	8.3	6.5	7.4
3	DO_SAT% (%)	8	102	73	90
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	9	180	92	123
2	HAR_Total (mgCaCO3/L)	9	262	112	170
3	Na% (%)	9	37	10	25
4	RSC (-)	9	0.0	0.0	0
5	SAR (-)	9	1.5	0.3	0.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

River Water

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	105.1	261.3	32.99	245.6	251.8	183.5	65.12	41.47	35.53	97.43	191.7	285.5	354.2	66.26	44.23
2	EC_FLD (µmho/cm)	238	152	662	338	207	297	343							272	267
3	EC_GEN (µmho/cm)	238	152	662	338	207	245	319	217	276	281	214	224	270	219	218
4	pH_FLD (pH units)	8.1	8.0		8.1	7.7	7.8	7.8		7.6	7.7	7.8	7.5	7.5	7.7	8.1
5	pH_GEN (pH units)	8.1	8.0		8.0	7.7	7.9	7.6	8.1	7.5	7.7	8.0	8.2	8.1	7.9	7.6
6	Temp (deg C)	27.8	27.5	30.0	29.9	26.8	28.0	26.9	26.2	27.2	29.9	29.6	28.5	31.2	29.1	31.3
	CHEMICAL															
1	ALK-Phen (mgCaCO3/L)	2.8	0.0	0.0	0.0		0.0	0.0	3.7	0.0	0.0	0.0	2.0	1.2	2.0	0.0
2	ALK-TOT (mgCaCO3/L)	123	165	417	181		117	227	146	195	197	154	228	206	211	107
3	B (mg/L)				0.07		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	22	26	83	20		19	24	15	20	24	19	25	26	24	53
5	Cl (mg/L)	10.0	25.0	150.0	21.0		66.0	14.3	9.0	9.7	9.1	9.0	19.5	15.8	14.0	23.3
6	CO3 (mg/L)	3.3	0.0		0.0		0.0	0.0	4.4	0.0	0.0	0.0	2.4	1.4	2.4	0.0
7	F (mg/L)		0.48		8.78		0.14	0.11	0.14	0.20	0.22	0.17				
8	Fe (mg/L)				0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	71	100		111		71	138	85	119	120	94	137	124	126	65
10	K (mg/L)	3.8	1.5		2.3		2.2	1.0	1.0	2.0	2.6	1.1	3.3	3.4	4.4	10.0
11	Mg (mg/L)	5.6	8.3	-31.8	6.0		10.3	12.0	8.5	12.3	13.1	9.5	8.0	8.9	11.2	12.3
12	Na (mg/L)	9.0	18.7		12.0		16.9	10.0	6.9	11.5	19.1	11.8	12.1	20.5	15.7	21.9
13	NO2+NO3 (mg N/L)				0.10	0.05	0.06	0.31								
14	NO2-N (mgN/L)				0.00	0.01	0.02	0.03	0.02	0.02	0.03	0.03				
15	NO3-N (mgN/L)				0.10	0.04	0.04	0.28								
16	P-Tot (mgP/L)		0.050		0.046		0.012	0.053	0.047	0.027	0.020	0.060				
17	SiO2 (mg/L)				10.4		14.0	26.8	21.1	12.3	19.0	13.3				
18	SO4 (mg/L)	14.8	6.0		7.6		9.5	10.3	14.0	21.3	18.1	16.9				

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Water Quality Seasonal Average for the period: 2002-2017

River Water

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

S.No	Parameters	Flood Jun-Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/l)	1.2	0.4	0.8	1.5	0.6	1.4	0.5	1.3	0.7	0.8	1.2	0.7	0.7	0.1	1.3
2	COD (mg/l)						19.8	18.0	17.3	25.0	24.0	22.0				
3	DO (mg/l)	7.8	6.0	5.5	6.8	6.6	7.7	6.7	7.0	6.5	7.1	7.3	7.0	7.3	6.2	6.9
4	DO_SAT% (%)	98	84	72	89	83	98	83	86	81	94	95	90	99	81	94
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/l)	56	65	208	50		47	61	39	50	59	47	63	66	59	132
2	HAR_Total (mgCaCO3/l)	79	99	77	75		90	111	74	101	114	86	97	103	106	184
3	Na% (%)	18	22		23		29	17	17	20	23	23	20	29	26	19
4	RSC (-)	0.1	0.2		0.3		0.0	0.1	0.1	0.1	0.0	0.0	0.4	0.4	0.2	0.0
5	SAR (-)	0.4	0.7		0.6		0.8	0.4	0.4	0.5	0.7	0.6	0.5	0.9	0.7	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

River Water

S.No	Parameters	Winter														
		Nov - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	PHYSICAL															
1	Q (cumec)	1.248	17.16	5.015	6.533	4.552	4.504	2.498	5.760	8.622	2.679	3.692	13.44	3.524	1.507	3.038
2	EC_FLD (µmho/cm)	325	260	326	298		322	370							292	284
3	EC_GEN (µmho/cm)	325	260	326	298		291	323	352	292	307	366	260	307	280	211
4	pH_FLD (pH units)	8.2	8.2	7.7	7.9		7.7	7.8		7.6	7.7	8.1	7.7	7.3	7.7	7.9
5	pH_GEN (pH units)	8.2	8.2	7.7	7.9		8.1	8.1	7.9	7.9	8.0	7.9	8.3	8.4	8.3	8.2
6	Temp (deg C)	21.8		21.0	27.0		21.5	21.3	18.2	22.8	22.7	22.5	22.5	20.4	24.1	22.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	2.1	0.0	0.0	0.0		0.0	2.3	0.0	0.0	0.0	3.0	0.0	0.0	1.5	0.0
2	ALK-TOT (mgCaCO3/L)	237	251	208	200		246	227	246	211	212	275	341	337	289	128
3	B (mg/L)				0.08		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	33	23	20	21		23	23	26	22	22	30	43	38	33	49
5	Cl (mg/L)	8.1	14.7	9.9	29.1		29.7	24.3	15.5	25.9	27.0	18.0	20.5	22.5	18.3	35.0
6	CO3 (mg/L)	2.5	0.0	0.0	0.0		0.0	2.8	0.0	0.0	0.0	3.6	0.0	0.0	1.8	0.0
7	F (mg/L)		2.27	0.45	0.10		0.16	0.21	0.15	0.15	0.20	0.24				
8	Fe (mg/L)				0.1		0.0	0.0	0.0	0.1	0.0	0.1		0.1		
9	HCO3 (mg/L)	142	143	127	122		150	136	150	129	129	164	208	206	174	78
10	K (mg/L)	2.3		1.7	1.5		1.8	1.4	1.3	2.3	1.6	1.2	8.6	3.2	6.4	7.8
11	Mg (mg/L)	7.7	8.0	12.1	14.1		13.6	13.3	14.9	13.0	13.6	11.9	6.8	12.9	9.7	10.5
12	Na (mg/L)	20.2		24.3	19.8		18.1	22.6	15.6	25.1	23.2	25.0	34.0	21.7	27.2	24.3
13	NO2+NO3 (mg N/L)				0.06		0.08	0.40						0.14		
14	NO2-N (mgN/L)				0.00		0.02	0.02	0.02	0.02	0.04	0.04		0.04		
15	NO3-N (mgN/L)				0.06		0.06	0.38						0.10		
16	P-Tot (mgP/L)				0.020		0.025	0.045	0.047	0.052	0.065	0.070		0.040		
17	SiO2 (mg/L)				16.0		18.8	24.7	6.3	13.0	12.3	13.3		10.2		
18	SO4 (mg/L)	1.3	6.4	8.6	5.6		14.2	26.1	18.3	25.6	26.0	23.3		24.4		

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Water Quality Seasonal Average for the period: 2002-2017

River Water

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

S.No	Parameters	Winter															
		Nov - Feb		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	
	BIOLOGICAL/BACTERIOLOGICAL																
1	BOD3-27 (mg/L)	0.7	0.6	1.1	0.5		2.6	0.6	0.7	0.5	0.8	0.9	0.9	1.1	0.8	1.3	
2	COD (mg/L)						23.0	22.0	29.3	23.0	22.0	24.0					
3	DO (mg/L)	7.6	6.1	7.0	7.1		9.1	7.4	7.8	7.9	7.5	8.5	8.7	8.5	7.8	7.7	
4	DO_SAT% (%)	86		79	89		102	83	82	92	87	97	100	95	92	87	
	TRACE & TOXIC																
	CHEMICAL INDICES																
1	HAR_Ca (mgCaCO3/L)	83	58	50	52		59	58	65	55	55	76	107	94	83	123	
2	HAR_Total (mgCaCO3/L)	115	91	100	111		115	113	127	109	112	125	136	148	123	167	
3	Na% (%)	19		34	28		25	30	21	34	30	28	33	24	31	24	
4	RSC (-)	0.3	0.3	0.1	0.0		0.2	0.1	0.0	0.0	0.1	0.3	0.7	0.5	0.7	0.0	
5	SAR (-)	0.5		1.1	0.8		0.7	0.9	0.6	1.1	1.0	1.0	1.3	0.8	1.1	0.8	
	PESTICIDES																

Water Quality Seasonal Average for the period: 2002-2017

Station Name : SALEBHATA (EMG00E5)

Local River : Ong

River Water

Division : MD<CWC,Burla
Sub-Division : MMSD II,CWCBurla

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	0.772	3.316	1.503	1.027	1.491	2.186	1.518	2.870		2.145	2.210	3.119	2.104	1.761	0.477
2	EC_FLD (µmho/cm)	360	310	343		342	380		358	409	358	369	371	338	285	353
3	EC_GEN (µmho/cm)	360	310	343		342	339	331	358	409	358	369	371	338	379	245
4	pH_FLD (pH units)	8.2	8.2	7.8		8.0	8.3		7.7	7.7	7.7	8.1	8.4	7.5	7.9	7.9
5	pH_GEN (pH units)	8.2	8.2	7.9		8.0	8.2	7.9	8.1	7.3	7.7	8.5	8.0	8.3	8.1	8.3
6	Temp (deg C)	27.2		30.5		29.0	27.0	23.0	24.0	27.8	27.6	28.9	28.8	27.2	27.4	26.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	2.1	0.0	0.0			0.0	0.0	0.0	0.0	0.0	6.6	0.3	23.2	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	223	363	236			257	244	233	280	245	327	325	324	238	228
3	B (mg/L)						0.02	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	26	27	24			25	24	28	32	30	29	50	42	34	43
5	Cl (mg/L)	5.0	18.0	9.7			40.5	13.6	20.3	37.9	33.5	36.0	25.7	20.0	19.5	39.5
6	CO3 (mg/L)	2.5	0.0	0.0			0.0	0.0	0.0	0.0	0.0	8.0	0.4	28.0	0.0	0.0
7	F (mg/L)			0.34			0.14	0.25	0.26	0.12	0.19	0.22				
8	Fe (mg/L)					0.0	0.1	0.1	0.1	0.1	0.1	0.1		0.1		
9	HCO3 (mg/L)	133	221	144			157	149	142	171	149	191	198	169	145	139
10	K (mg/L)	5.0		7.3			1.3	1.7	2.9	2.5	1.3	5.8	3.3	3.5	9.1	9.3
11	Mg (mg/L)	8.6	7.3	10.7			12.9	15.1	16.3	18.6	17.3	6.8	12.3	12.6	20.4	11.2
12	Na (mg/L)	39.0		15.2			27.1	16.8	28.2	34.1	24.0	50.0	26.3	31.2	40.8	41.0
13	NO2+NO3 (mg N/L)					0.12	0.40	1.04						0.25		
14	NO2-N (mgN/L)					0.06	0.02	0.02	0.04	0.15	0.14	0.08		0.06		
15	NO3-N (mgN/L)					0.06	0.38	1.02						0.19		
16	P-Tot (mgP/L)						0.030	0.045	0.047	0.087	0.083	0.073		0.047		
17	SiO2 (mg/L)						13.8	26.5	21.4	23.0	18.7	18.3		15.3		
18	SO4 (mg/L)		4.0	15.5			10.7	29.3	29.7	54.2	22.2	23.7		24.7		

Station Name : SALEBHATA (EMG00E5)
Local River : Ong

Water Quality Seasonal Average for the period: 2002-2017
River Water

Division : MD<CWC,Burla
Sub-Division : MM&D II,CWCBurla

S.No	Parameters	Summer															
		Mar - May															
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
	BIOLOGICAL/BACTERIOLOGICAL																
1	BOD3-27 (mg/l)	1.4	1.1	1.2			0.8	1.0	1.1	0.7	0.9	0.6	1.2	1.3	0.5	1.4	
2	COD (mg/L)						20.0	28.0	25.3	25.3	20.0	21.3					
3	DO (mg/L)	8.4	7.4	6.6		5.2	7.9	5.3	6.9	5.9	6.4	6.1	7.4	6.7	6.3	7.4	
4	DO_SAT% (%)	104		84		68	94	61	79	74	80	77	94	84	78	91	
	TRACE & TOXIC																
	CHEMICAL INDICES																
1	HAR_Ca (mgCaCO3/l)	64	67	59			62	59	70	81	76	74	124	104	86	108	
2	HAR_Total (mgCaCO3/l)	100	97	103			116	122	138	158	148	102	176	157	171	155	
3	Na% (%)			23			33	23	29	31	26	50	24	29	33	35	
4	RSC (-)	0.3	1.7	0.4			0.4	0.1	0.0	0.0	0.0	1.4	0.1	0.6	0.3	0.0	
5	SAR (-)			0.7			1.1	0.7	1.0	1.2	0.9	2.2	0.8	1.1	1.4	1.4	
	PESTICIDES																

TEL SUB-BASIN

SITE KESINGA

HISTORY SHEET

Water Year : 2016-2017

Site : KESINGA

Code : EMF00K6

State : Orissa

District : Kalahandi

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Tel

Sub Tributary :

Sub-Sub Tributary :

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Drainage Area : 11960 Sq. Km.

Bank :

Latitude : 20°11'51"

Longitude : 83°13'30"

Zero of Gauge (m) : 166 (m.s.l)

10-11-1977 - 10-11-2025

Opening Date

Closing Date

Gauge : 10-11-1977

Discharge : 07-11-1978

Sediment : 22-09-2006

Water Quality : 01-06-2001

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1980-1981	11157	175.960	19-09-1980	0.100	168.240	03-06-1980
1981-1982	9480	174.175	16-08-1981	0.200	168.115	28-05-1982
1982-1983	4822	173.850	30-08-1982	0.100	168.030	30-03-1983
1983-1984	1655	171.500	27-06-1983	0.020	168.230	06-04-1984
1984-1985	4143	173.175	02-08-1984	0.050	168.210	28-03-1985
1985-1986	7001	174.340	08-08-1985	0.100	168.215	02-06-1985
1986-1987	3707	172.950	23-07-1986	0.020	168.225	16-04-1987
1987-1988	2484	172.365	05-09-1987	0.020	168.300	02-04-1988
1988-1989	1029	170.860	24-09-1988	0.030	168.270	18-06-1988
1989-1990	1463	171.820	12-08-1989	0.150	168.300	28-04-1990
1990-1991	15000	176.090	05-10-1990	0.613	168.185	10-05-1991
1991-1992	9969	176.000	30-07-1991	0.556	168.250	26-05-1992
1992-1993	17568	177.630	28-07-1992	0.183	168.050	20-05-1993
1993-1994	2858	172.740	02-08-1993	0.070	168.300	24-04-1994
1994-1995	9734	175.410	30-08-1994	0.677	168.415	06-06-1994
1995-1996	6608	174.890	24-07-1995	0.066	167.880	31-05-1996
1996-1997	2926	172.830	02-08-1996	0.075	168.075	31-05-1997
1997-1998	8143	176.000	22-08-1997	0.833	168.225	16-04-1998
1998-1999	600.0	171.120	12-07-1998	0.242	168.280	01-04-1999
1999-2000	1368	171.480	30-08-1999	7.000	168.500	10-06-1999
2000-2001	2452	172.430	19-07-2000	30.00	169.000	06-05-2001
2001-2002	12822	176.620	09-07-2001	13.00	168.755	28-04-2002

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2002-2003	1991	171.480	24-08-2002	5.329	168.610	09-01-2003
2003-2004	8908	175.960	29-08-2003	35.10	168.773	13-06-2003
2004-2005	4917	175.685	15-06-2004	25.00	168.565	14-01-2005
2005-2006	8121	175.750	14-09-2005	12.00	168.450	15-01-2006
2006-2007	21192	178.500	04-07-2006	26.86	168.410	20-03-2007
2007-2008	10942	176.635	07-08-2007	10.00	168.400	29-05-2008
2008-2009	20124	177.525	18-09-2008	18.16	167.730	22-05-2009
2009-2010	4607	173.430	20-07-2009	6.175	167.900	10-01-2010
2010-2011	8765	175.495	06-08-2010	20.34	168.205	04-01-2011
2011-2012	2900	172.552	31-08-2011	7.000	168.160	18-03-2012
2012-2013	2688	172.340	06-08-2012	13.12	168.510	14-01-2013
2013-2014	4554	174.500	25-06-2013	19.78	168.690	04-01-2014
2014-2015	7402	175.450	05-08-2014	23.59	168.710	15-01-2015
2015-2016	5400	176.070	17-09-2015	7.000	168.560	10-01-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	169.110	172.3	169.155	131.4	169.650	240.3	169.960	510.0	170.575	815.3	169.200	139.7
2	169.100	166.3	169.595	193.1	169.770	395.7	169.645	252.4	170.400	780.0 *	169.200	138.3
3	169.050	153.8	169.780	461.1 *	169.780	461.1	169.570	231.3	170.125	608.9	169.240	147.0
4	169.030	146.2	169.605	234.3	169.810	530.7	170.120	540.0 *	170.090	550.5	169.200	135.4
5	168.810	30.00 *	169.295	116.7	170.605	967.4	170.510	787.3	170.370	695.0	169.190	130.9
6	169.040	88.67	169.420	190.0 *	171.430	1631	170.635	860.3	170.080	494.9	169.190	130.0 *
7	169.140	104.0	169.240	103.8	170.770	990.0 *	170.180	559.6	170.140	574.8	169.190	130.6
8	168.990	71.14	169.260	115.4	170.700	963.1	169.960	472.1	170.880	1147	169.190	129.6
9	169.140	95.00	169.390	140.0	170.340	822.9	169.830	412.6	170.820	1100 *	169.170	123.5
10	168.930	60.10	169.300	128.0 *	170.030	580.9	169.820	398.1	171.090	1260 *	169.120	68.75
11	168.920	48.66	170.450	795.1	169.830	442.8	170.020	500.0 *	170.670	850.0 *	169.100	66.09
12	168.860	34.00 *	170.305	647.5	170.220	714.1	170.750	997.8	170.340	700.0 *	169.210	121.4
13	169.040	60.54	169.850	437.5	170.000	539.7	170.740	820.0 *	169.970	436.3	169.200	120.0 *
14	169.020	55.72	169.650	259.0	169.690	400.0 *	170.560	851.7	169.805	348.3	169.220	130.0 *
15	169.245	130.2	169.445	207.0	169.610	360.0 *	170.300	707.4	169.640	256.8	169.220	122.0
16	169.175	121.3	169.430	198.5	169.370	212.9	170.140	537.3	169.460	220.0 *	169.280	148.0
17	169.020	58.61	169.680	260.0 *	169.350	209.3	170.000	457.4	169.300	204.3	169.230	126.0
18	169.140	92.50	169.625	261.0	169.410	233.5	169.950	430.0 *	169.270	191.6	169.100	91.14
19	168.940	50.00 *	169.540	193.6	169.310	217.8	169.990	446.6	169.260	187.0	168.930	70.12
20	168.860	37.35	169.420	200.1	169.200	159.1	170.285	675.1	169.240	179.2	168.880	66.00 *
21	168.820	32.86	169.915	483.5	169.090	110.0 *	170.040	481.3	169.230	179.1	168.890	93.87
22	169.040	74.02	169.960	514.4	169.030	105.6	170.020	496.2	169.230	177.1	168.900	68.24
23	169.025	73.98	170.245	649.0	169.030	105.9	169.900	355.5	169.230	170.0 *	168.920	72.70
24	169.210	124.4	169.930	500.0 *	169.210	148.2	169.750	315.7	169.220	172.5	168.940	78.29
25	168.940	57.36	169.660	459.8	169.140	133.8	169.760	320.0 *	169.210	164.9	168.920	72.43
26	169.330	122.0 *	169.630	438.1	169.830	434.3	169.760	379.2	169.210	162.9	168.950	82.00
27	169.340	120.8	169.470	204.3	169.770	426.9	169.800	467.5	169.200	159.0	169.000	70.00 *
28	169.075	106.9	169.450	191.4	170.170	600.0 *	170.210	598.0	169.190	154.9	169.010	94.98
29	169.205	109.8	169.270	172.6	169.710	308.6	171.025	1323	169.180	134.8	168.940	68.61
30	169.405	145.8	169.560	229.8	169.450	225.5	170.460	703.4	169.200	130.0 *	168.940	67.06
31			169.650	275.0 *	169.320	189.7			169.200	140.2		
Ten-Daily Mean												
I Ten-Daily	169.034	108.7	169.404	181.4	170.288	758.3	170.023	502.4	170.457	802.6	169.189	127.4
II Ten-Daily	169.022	68.89	169.740	345.9	169.599	348.9	170.273	642.3	169.696	357.3	169.137	106.1
III Ten-Daily	169.139	96.79	169.704	374.4	169.432	253.5	170.072	543.9	169.209	158.7	168.941	76.82
Monthly												
Min.	168.810	30.00	169.155	103.8	169.030	105.6	169.570	231.3	169.180	130.0	168.880	66.00
Max.	169.405	172.3	170.450	795.1	171.430	1631	171.025	1323	171.090	1260	169.280	148.0
Mean	169.065	91.47	169.619	302.9	169.762	447.1	170.123	562.9	169.769	430.5	169.089	103.4

Annual Runoff in MCM = 5754 Annual Runoff in mm = 481

Peak Observed Discharge = 1631 cumecs on 06/08/2016 Corres. Water Level :171.43 m

Lowest Observed Discharge = 8.577 cumecs on 14/01/2017 Corres. Water Level :168.65 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

587

481

Stage-Discharge Data for the period 2016 - 2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	168.930	64.56	168.770	19.00 *	168.740	19.20	168.920	39.03	169.020	65.85	169.000	65.24
2	168.860	64.02	168.770	19.75	168.720	17.49	168.930	42.91	168.980	60.00 *	169.000	63.98
3	168.840	58.71	168.770	19.17	168.780	21.98	169.030	80.35	168.860	39.93	169.050	73.63
4	168.820	29.00 *	168.760	18.74	168.780	21.37	168.870	58.70	168.820	27.41	169.030	65.78
5	168.790	26.12	168.780	20.80	168.800	22.00 *	168.850	33.00 *	168.800	24.65	169.150	92.44
6	168.800	28.57	168.800	22.44	168.770	21.52	168.830	27.42	168.830	28.78	169.030	64.47
7	168.800	27.96	168.790	20.88	168.770	21.21	168.830	27.01	168.880	34.02	169.050	73.00 *
8	168.820	29.18	168.780	21.00 *	168.780	21.75	168.870	31.05	169.020	66.91	169.080	76.05
9	168.830	32.10	168.750	12.56	168.790	22.91	168.900	39.82	169.030	67.00 *	169.070	73.64
10	168.870	34.03	168.740	10.79	168.830	30.84	168.950	69.55	169.010	67.55	168.970	57.00 *
11	168.850	33.00 *	168.730	11.31	168.870	33.69	168.940	64.81	168.990	61.18	168.950	60.91
12	168.830	30.00 *	168.650	9.553	168.870	33.00 *	168.940	64.00 *	168.970	58.20	168.880	51.98
13	168.780	23.98	168.650	9.008	168.890	35.69	168.930	53.00 *	168.870	39.84	168.850	37.57
14	168.780	24.54	168.650	8.577	168.900	37.37	168.900	42.82	168.800	28.00 *	168.840	34.00 *
15	168.800	26.25	168.630	7.000 *	168.900	37.15	168.870	32.43	168.710	19.61	168.950	56.30
16	168.800	26.23	168.650	9.142	168.890	39.34	168.870	32.65	168.700	18.00 *	168.930	53.29
17	168.780	24.54	168.660	10.52	168.890	35.87	168.860	30.89	168.700	19.36	168.840	36.61
18	168.780	24.00 *	168.660	10.97	168.890	35.44	168.890	37.11	169.000	62.31	168.810	28.07
19	168.780	22.90	168.660	10.20	168.890	35.00 *	168.810	28.00 *	168.920	46.78	168.800	24.26
20	168.800	24.33	168.670	11.09	168.900	39.47	168.810	28.56	169.030	65.30	169.080	77.87
21	168.770	21.04	168.690	12.00	168.900	39.42	168.820	29.42	168.990	62.10	169.050	75.00 *
22	168.760	20.31	168.690	12.00 *	168.880	36.16	168.850	33.13	168.960	58.75	169.270	118.1
23	168.760	20.21	168.700	12.81	168.860	36.51	168.830	31.53	168.980	60.00 *	169.000	66.41
24	168.800	24.16	168.690	12.08	168.850	33.00 *	169.000	63.29	169.010	69.21	169.240	109.5
25	168.790	24.00 *	168.690	11.51	168.850	33.57	168.980	56.94	168.940	57.38	169.340	134.8
26	168.780	23.95	168.690	12.00 *	168.850	34.00 *	169.070	80.00 *	168.950	56.66	169.200	94.59
27	168.770	22.54	168.730	13.97	168.890	37.83	168.960	50.52	168.950	57.21	169.160	86.93
28	168.810	25.07	168.730	13.22	168.900	38.98	168.870	41.44	168.930	52.97	169.060	67.00 *
29	168.800	23.83	168.740	11.00 *			168.850	36.18	168.940	54.91	169.050	62.92
30	168.800	23.49	168.770	21.08			169.030	66.60	169.000	62.00 *	169.000	55.84
31	168.790	22.50	168.760	20.60			168.970	55.07			169.270	117.7
Ten-Daily Mean												
I Ten-Daily	168.836	39.42	168.771	18.51	168.776	22.03	168.898	44.88	168.925	48.21	169.043	70.52
II Ten-Daily	168.798	25.98	168.661	9.737	168.889	36.20	168.882	41.43	168.869	41.86	168.893	46.09
III Ten-Daily	168.785	22.83	168.716	13.84	168.872	36.18	168.930	49.46	168.965	59.12	169.149	89.89
Monthly												
Min.	168.760	20.21	168.630	7.000	168.720	17.49	168.810	27.01	168.700	18.00	168.800	24.26
Max.	168.930	64.56	168.800	22.44	168.900	39.47	169.070	80.35	169.030	69.21	169.340	134.8
Mean	168.805	29.2	168.716	14.03	168.844	31.13	168.904	45.39	168.920	49.73	169.032	69.51

Peak Computed Discharge = 1260 cumecs on 10/10/2016

Corres. Water Level :171.09 m

Lowest Computed Discharge = 7.000 cumecs on 15/01/2017

Corres. Water Level :168.63 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

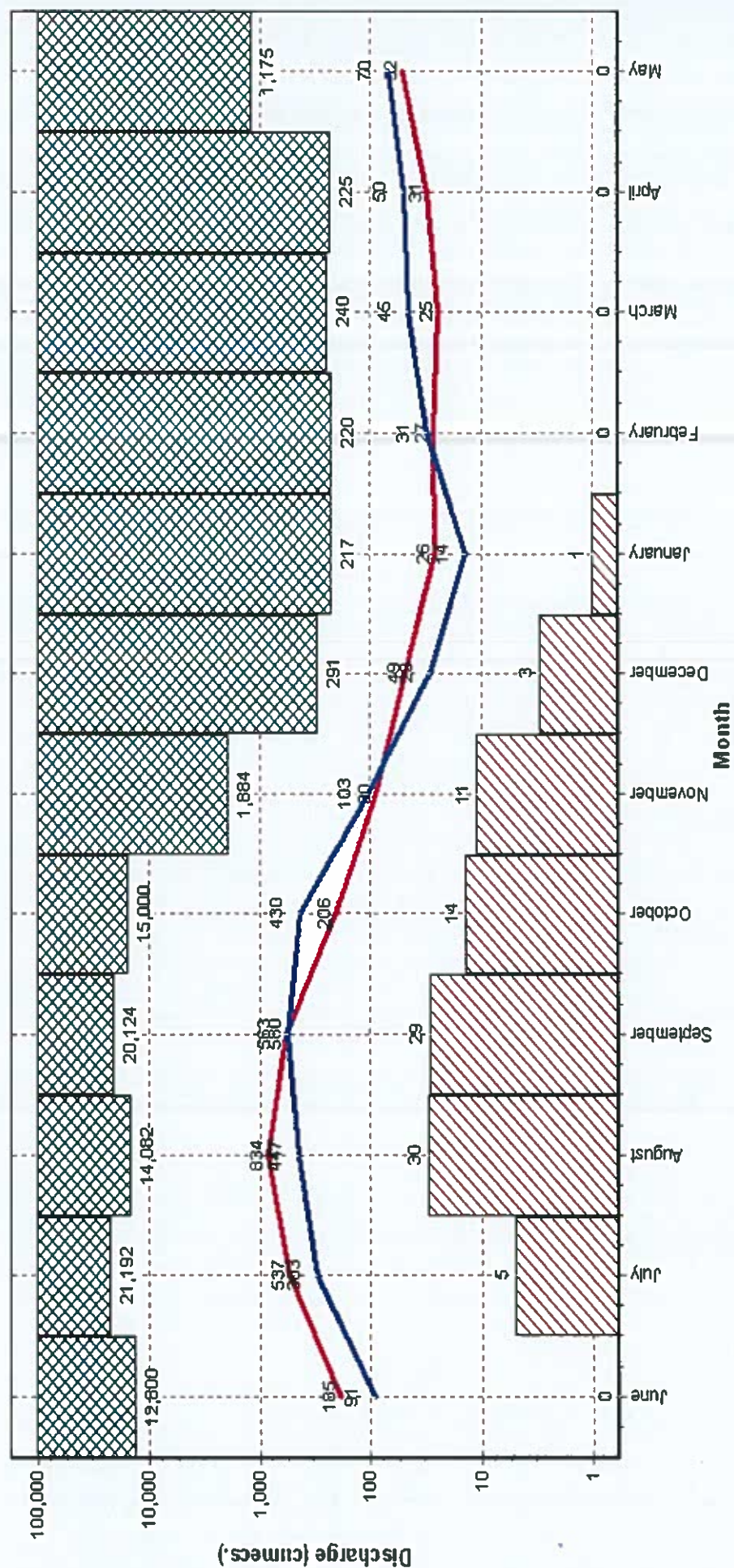
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : KESINGA (EMF00K6)

Data considered : 1980-2017

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla

Local River : Tel



Annual Runoff Values for the period: 1980 - 2017

Station Name : KESINGA (EMF000K6)

Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



Note: Missing values have not been considered while arriving at Annual Runoff

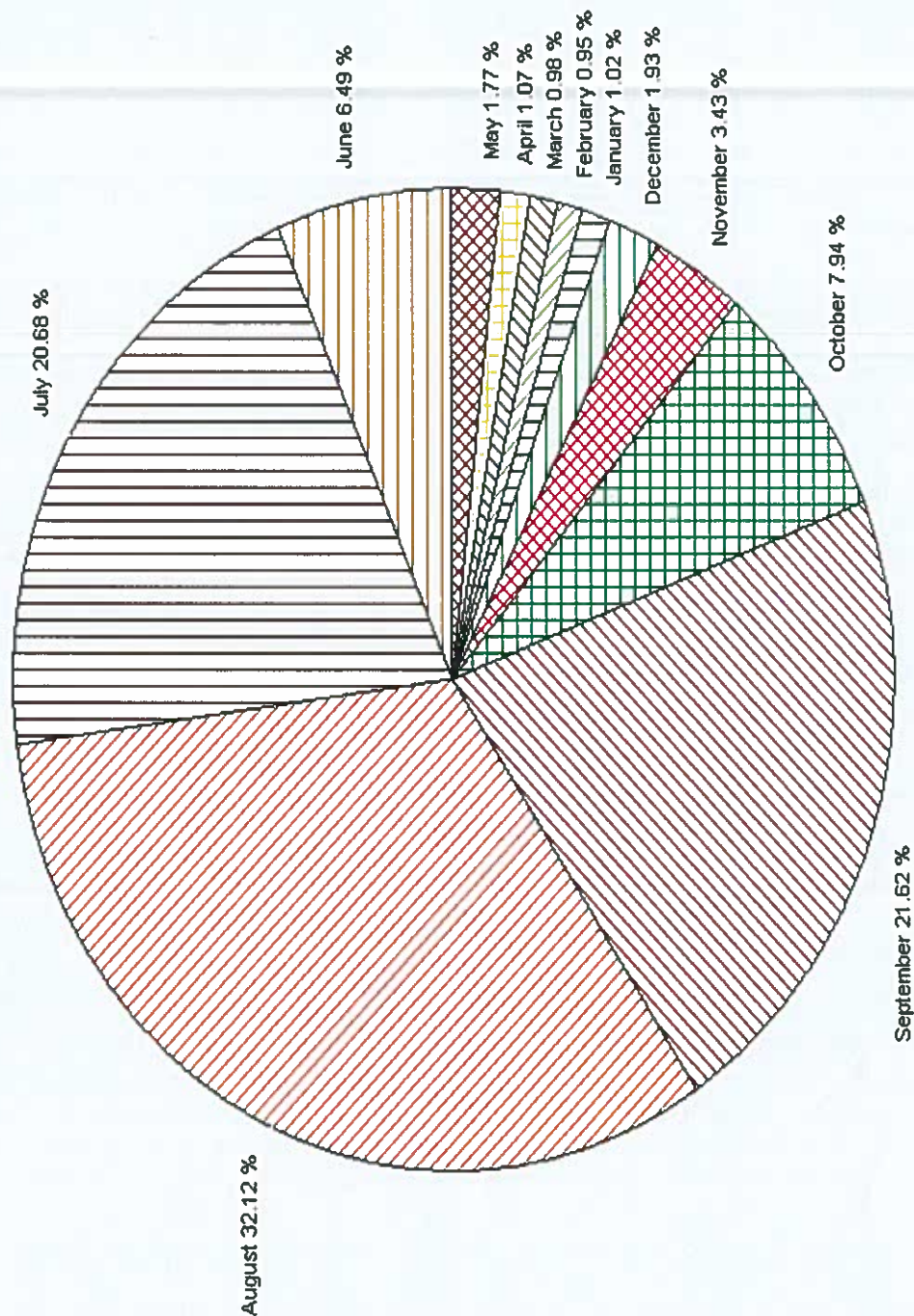
Monthly Average Runoff based on period : 1980-2016

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

June	6.49 %
July	20.68 %
August	32.12 %
September	21.62 %
October	7.94 %
November	3.43 %
December	1.93 %
January	1.02 %
February	0.95 %
March	0.98 %
April	1.07 %
May	1.77 %



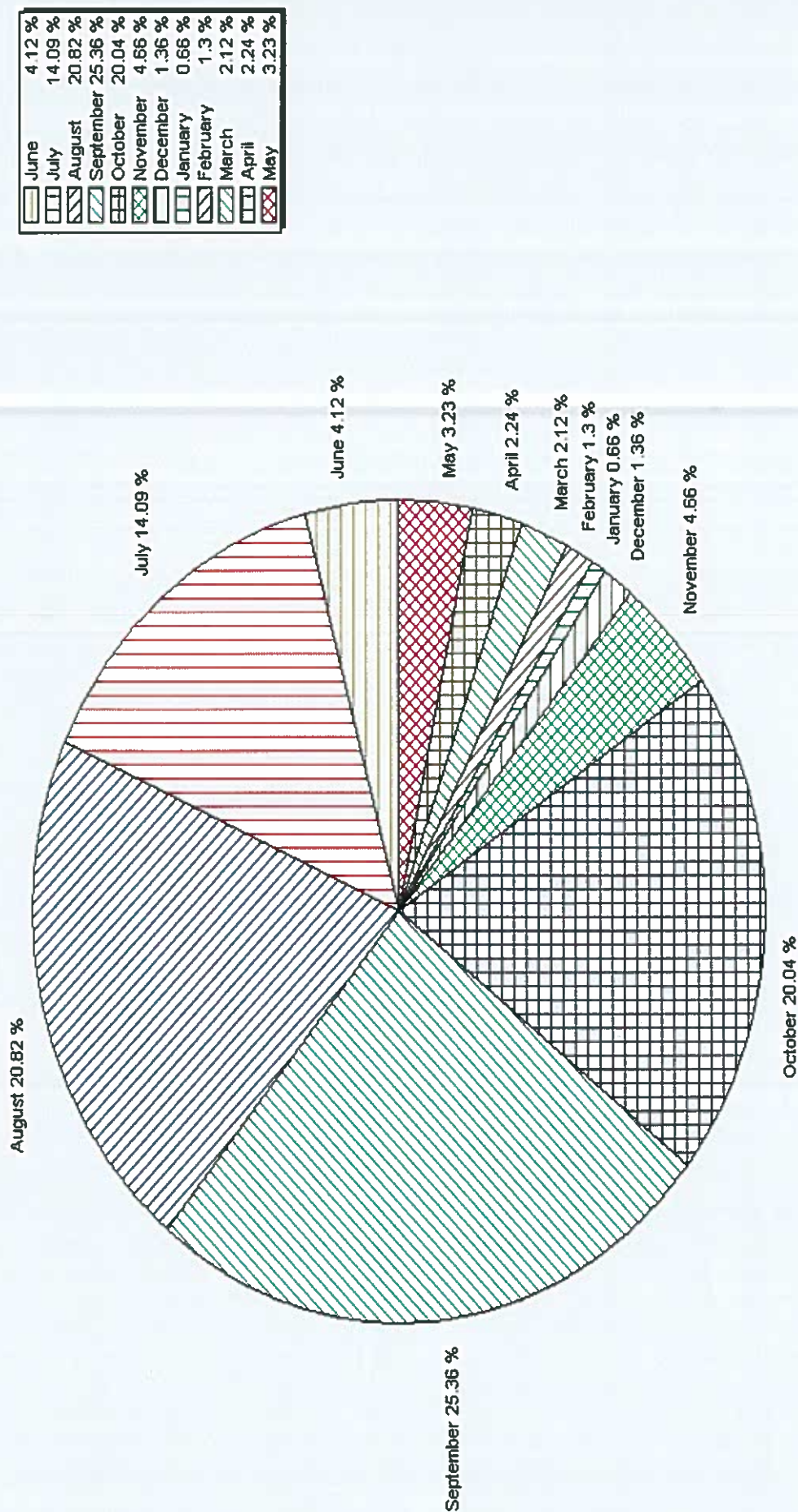
Monthly Runoff for the Year : 2016-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



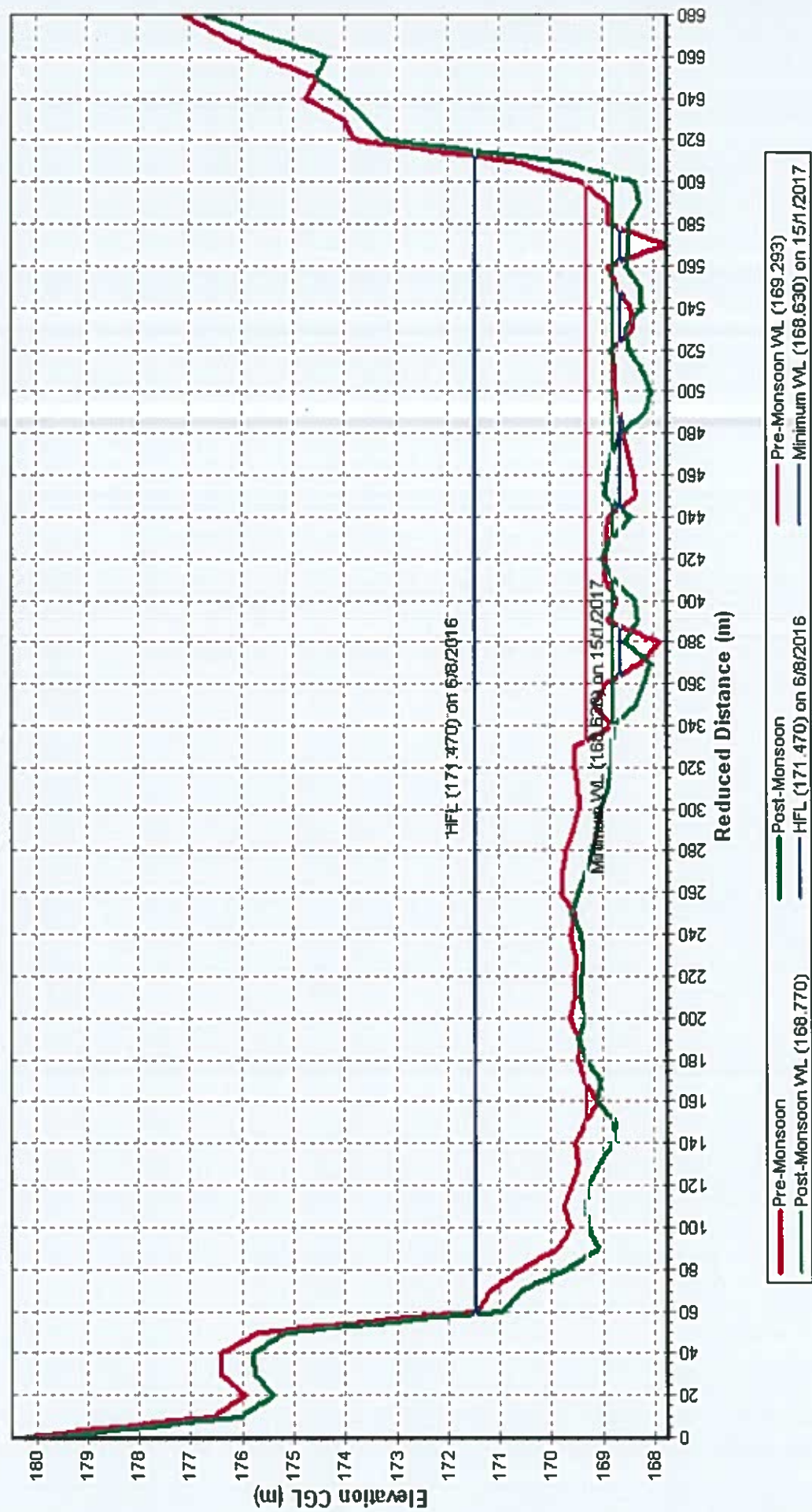
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD, CWC, Burla

Sub-Division : MMSD II, CWC, Burla



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

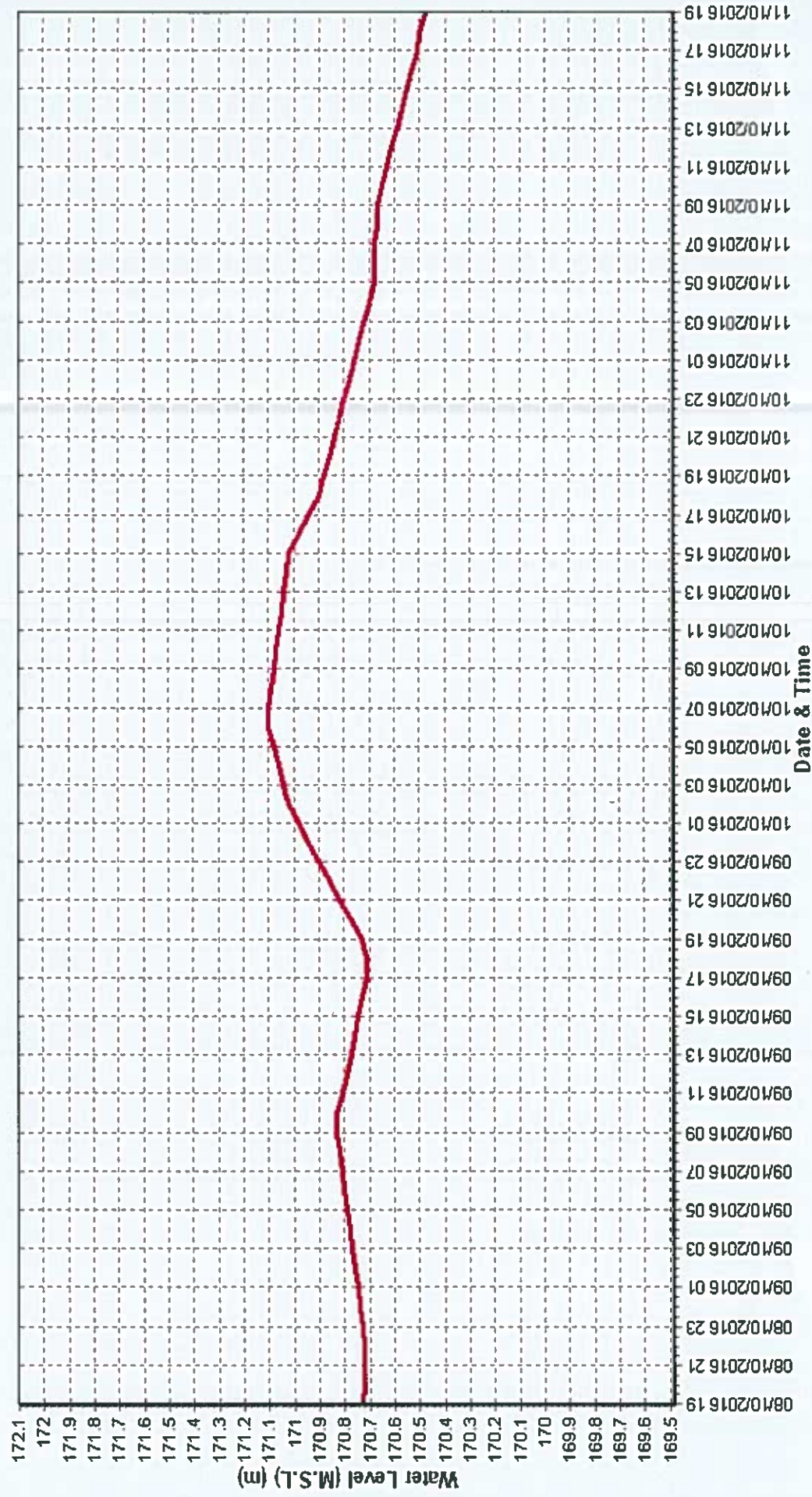


Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

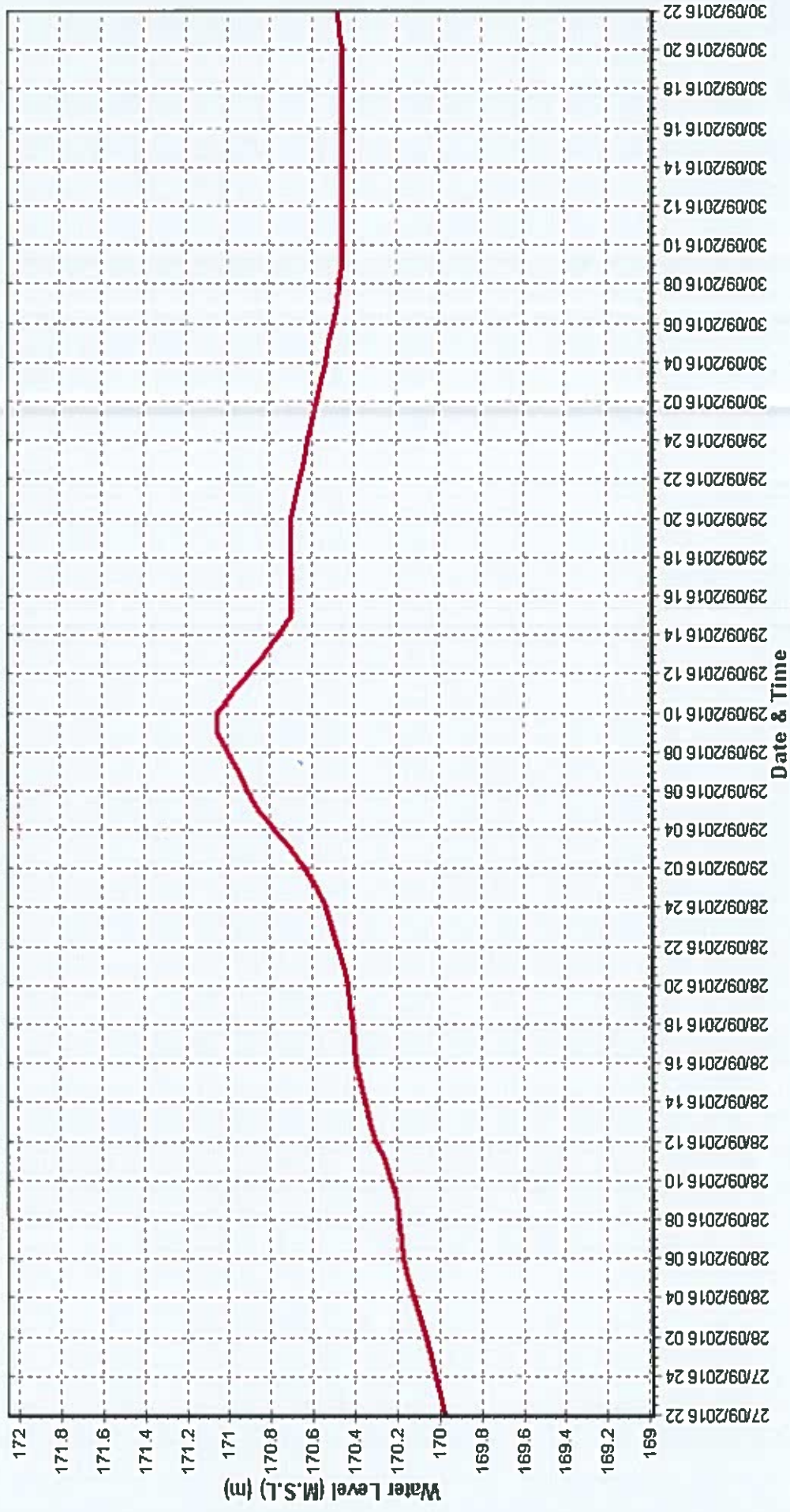


Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : KESINGA (EMF00K6)

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Local River : Tel





SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KESINGA (EMFOOK6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Jun				Jul				Aug			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	172.3	0.000	0.000	0.115	0.115	1712	131.4	0.000	0.000	0.110	0.110	1249
2	166.3	0.000	0.000	0.100	0.100	1437	193.1	0.000	0.000	0.125	0.125	2086
3	153.8	0.000	0.000	0.090	0.090	1196	461.1	0.000	0.000	0.000	0.000	0
4	146.2	0.000	0.000	0.075	0.075	947	234.3	0.000	0.000	0.215	0.215	4352
5	30.00	0.000	0.000	0.000	0.000	0	116.7	0.000	0.000	0.200	0.200	2016
6	88.67	0.000	0.000	0.070	0.070	536	190.0	0.000	0.000	0.000	0.000	0
7	104.0	0.000	0.000	0.090	0.090	808	103.8	0.000	0.000	0.115	0.115	1031
8	71.14	0.000	0.000	0.085	0.085	522	115.4	0.000	0.000	0.120	0.120	1197
9	95.00	0.000	0.000	0.090	0.090	739	140.0	0.000	0.000	0.115	0.115	1391
10	60.10	0.000	0.000	0.070	0.070	363	128.0	0.000	0.000	0.000	0.000	0
11	48.66	0.000	0.000	0.070	0.070	294	795.1	0.000	0.000	0.620	0.620	42592
12	34.00	0.000	0.000	0.000	0.000	0	647.5	0.000	0.000	0.500	0.500	27970
13	60.54	0.000	0.000	0.075	0.075	392	437.5	0.000	0.000	0.350	0.350	13229
14	55.72	0.000	0.000	0.070	0.070	337	259.0	0.000	0.000	0.215	0.215	4812
15	130.2	0.000	0.000	0.110	0.110	1238	207.0	0.000	0.000	0.200	0.200	3577
16	121.3	0.000	0.000	0.100	0.100	1048	198.5	0.000	0.000	0.215	0.215	3687
17	58.61	0.000	0.000	0.095	0.095	481	260.0	0.000	0.000	0.000	0.000	0
18	92.50	0.000	0.000	0.090	0.090	719	261.0	0.000	0.000	0.220	0.220	4962
19	50.00	0.000	0.000	0.000	0.000	0	193.6	0.000	0.000	0.210	0.210	3512
20	37.35	0.000	0.000	0.070	0.070	226	200.1	0.000	0.000	0.180	0.180	3112
21	32.86	0.000	0.000	0.065	0.065	185	483.5	0.000	0.000	0.300	0.300	12534
22	74.02	0.000	0.000	0.080	0.080	512	514.4	0.000	0.000	0.350	0.350	15556
23	73.98	0.000	0.000	0.080	0.080	511	649.0	0.000	0.000	0.720	0.720	40376
24	124.4	0.000	0.000	0.110	0.110	1182	500.0	0.000	0.000	0.000	0.000	0
25	57.36	0.000	0.000	0.090	0.090	446	459.8	0.000	0.000	0.450	0.450	17876
26	122.0	0.000	0.000	0.000	0.000	0	438.1	0.000	0.000	0.400	0.400	15141
27	120.8	0.000	0.000	0.095	0.095	992	204.3	0.000	0.000	0.220	0.220	3883
28	106.9	0.000	0.000	0.090	0.090	832	191.4	0.000	0.000	0.215	0.215	3556
29	109.8	0.000	0.000	0.100	0.100	949	172.6	0.000	0.000	0.210	0.210	3132
30	145.8	0.000	0.000	0.115	0.115	1448	229.8	0.000	0.000	0.220	0.220	4368
31							275.0	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	108.7	0.000	0.000	0.079	0.079	826	181.4	0.000	0.000	0.100	0.100	1332
Ten Daily II	68.89	0.000	0.000	0.068	0.068	474	345.9	0.000	0.000	0.271	0.271	10745
Ten Daily III	96.79	0.000	0.000	0.083	0.083	706	374.4	0.000	0.000	0.280	0.280	10584
Monthly												
Total						20052						237197
												1161893

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KESINGA (EMFOOK6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Sep					Oct					Nov							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	510.0	0.000	0.000	0.600	0.600	26437	815.3	0.000	0.000	0.700	0.700	49308	139.7	0.000	0.000	0.000	0.000	0
2	252.4	0.000	0.000	0.320	0.320	6979	780.0	0.000	0.000	0.000	0.000	0	138.3	0.000	0.000	0.000	0.000	0
3	231.3	0.000	0.000	0.350	0.350	6994	608.9	0.000	0.000	0.580	0.580	30514	147.0	0.000	0.000	0.000	0.000	0
4	540.0	0.000	0.000	0.000	0.000	0	550.5	0.000	0.000	0.400	0.400	19024	135.4	0.000	0.000	0.000	0.000	0
5	787.3	0.000	0.000	0.480	0.480	32653	695.0	0.000	0.000	0.450	0.450	27023	130.9	0.000	0.000	0.000	0.000	0
6	860.3	0.000	0.000	0.500	0.500	37167	494.9	0.000	0.000	0.380	0.380	16247	130.0	0.000	0.000	0.000	0.000	0
7	559.6	0.000	0.000	0.400	0.400	19341	574.8	0.000	0.000	0.400	0.400	19866	130.6	0.000	0.000	0.015	0.015	169
8	472.1	0.000	0.000	0.380	0.380	15501	1147	0.000	0.000	0.730	0.730	72332	129.6	0.000	0.000	0.000	0.000	0
9	412.6	0.000	0.000	0.360	0.360	12832	1100	0.000	0.000	0.000	0.000	0	123.5	0.000	0.000	0.000	0.000	0
10	398.1	0.000	0.000	0.300	0.300	10319	1260	0.000	0.000	0.000	0.000	0	68.75	0.000	0.000	0.000	0.000	0
11	500.0	0.000	0.000	0.000	0.000	0	850.0	0.000	0.000	0.000	0.000	0	66.09	0.000	0.000	0.000	0.000	0
12	997.8	0.000	0.000	0.850	0.850	73279	700.0	0.000	0.000	0.000	0.000	0	121.4	0.000	0.000	0.000	0.000	0
13	820.0	0.000	0.000	0.000	0.000	0	436.3	0.000	0.000	0.300	0.300	11310	120.0	0.000	0.000	0.000	0.000	0
14	851.7	0.000	0.000	0.620	0.620	45623	348.3	0.000	0.000	0.280	0.280	8426	130.0	0.000	0.000	0.000	0.000	0
15	707.4	0.000	0.000	0.580	0.580	35449	256.8	0.000	0.000	0.220	0.220	4881	122.0	0.000	0.000	0.020	0.020	211
16	537.3	0.000	0.000	0.500	0.500	23210	220.0	0.000	0.000	0.000	0.000	0	148.0	0.000	0.000	0.000	0.000	0
17	457.4	0.000	0.000	0.360	0.360	14228	204.3	0.000	0.000	0.180	0.180	3177	126.0	0.000	0.000	0.000	0.000	0
18	430.0	0.000	0.000	0.000	0.000	0	191.6	0.000	0.000	0.160	0.160	2648	91.14	0.000	0.000	0.000	0.000	0
19	446.6	0.000	0.000	0.460	0.460	17749	187.0	0.000	0.000	0.150	0.150	2423	70.12	0.000	0.000	0.000	0.000	0
20	675.1	0.000	0.000	0.520	0.520	30329	179.2	0.000	0.000	0.090	0.090	1393	66.00	0.000	0.000	0.000	0.000	0
21	481.3	0.000	0.000	0.360	0.360	14970	179.1	0.000	0.000	0.080	0.080	1238	93.87	0.000	0.000	0.020	0.020	162
22	496.2	0.000	0.000	0.400	0.400	17149	177.1	0.000	0.000	0.070	0.070	1071	68.24	0.000	0.000	0.000	0.000	0
23	355.5	0.000	0.000	0.350	0.350	10750	170.0	0.000	0.000	0.000	0.000	0	72.70	0.000	0.000	0.000	0.000	0
24	315.7	0.000	0.000	0.320	0.320	8729	172.5	0.000	0.000	0.060	0.060	894	78.29	0.000	0.000	0.000	0.000	0
25	320.0	0.000	0.000	0.000	0.000	0	164.9	0.000	0.000	0.040	0.040	570	72.43	0.000	0.000	0.000	0.000	0
26	379.2	0.000	0.000	0.300	0.300	9830	162.9	0.000	0.000	0.040	0.040	563	82.00	0.000	0.000	0.000	0.000	0
27	467.5	0.000	0.000	0.350	0.350	14137	159.0	0.000	0.000	0.030	0.030	412	70.00	0.000	0.000	0.000	0.000	0
28	598.0	0.000	0.000	0.580	0.580	29969	154.9	0.000	0.000	0.030	0.030	402	94.98	0.000	0.000	0.040	0.040	328
29	1323	0.000	0.000	0.950	0.950	108553	134.8	0.000	0.000	0.020	0.020	233	68.61	0.000	0.000	0.000	0.000	0
30	703.4	0.000	0.000	0.750	0.750	45579	130.0	0.000	0.000	0.000	0.000	0	67.06	0.000	0.000	0.000	0.000	0
31							140.2	0.000	0.000	0.015	0.015	182						
Ten Daily Mean																		
Ten Daily I	502.4	0.000	0.000	0.369	0.369	16822	802.6	0.000	0.000	0.364	0.364	23431	127.4	0.000	0.000	0.002	0.002	17
Ten Daily II	642.3	0.000	0.000	0.389	0.389	23987	357.3	0.000	0.000	0.138	0.138	3426	106.1	0.000	0.000	0.002	0.002	21
Ten Daily III	543.9	0.000	0.000	0.436	0.436	25967	158.7	0.000	0.000	0.035	0.035	506	76.82	0.000	0.000	0.006	0.006	49
Monthly						667753						274135						871
Total																		

Annual Sediment Load (Metric Tonnes) : 2367052

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KESINGA (EMFOOK6)

Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day	Dec				Jan				Feb			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	64.56	0.000	0.000	0.000	0.000	0	19.00	0.000	0.000	0.000	0.000	0
2	64.02	0.000	0.000	0.000	0.000	0	19.75	0.000	0.000	0.040	0.040	68
3	58.71	0.000	0.000	0.000	0.000	0	19.17	0.000	0.000	0.000	0.000	0
4	29.00	0.000	0.000	0.000	0.000	0	18.74	0.000	0.000	0.000	0.000	0
5	26.12	0.000	0.000	0.065	0.065	147	20.80	0.000	0.000	0.000	0.000	0
6	28.57	0.000	0.000	0.000	0.000	0	22.44	0.000	0.000	0.000	0.000	0
7	27.96	0.000	0.000	0.000	0.000	0	20.88	0.000	0.000	0.000	0.000	0
8	29.18	0.000	0.000	0.000	0.000	0	21.00	0.000	0.000	0.000	0.000	0
9	32.10	0.000	0.000	0.000	0.000	0	12.56	0.000	0.000	0.040	0.040	43
10	34.03	0.000	0.000	0.000	0.000	0	10.79	0.000	0.000	0.000	0.000	0
11	33.00	0.000	0.000	0.000	0.000	0	11.31	0.000	0.000	0.000	0.000	0
12	30.00	0.000	0.000	0.000	0.000	0	9.553	0.000	0.000	0.000	0.000	0
13	23.98	0.000	0.000	0.000	0.000	0	9.008	0.000	0.000	0.000	0.000	0
14	24.54	0.000	0.000	0.000	0.000	0	8.577	0.000	0.000	0.000	0.000	0
15	26.25	0.000	0.000	0.000	0.000	0	7.000	0.000	0.000	0.000	0.000	0
16	26.23	0.000	0.000	0.000	0.000	0	9.142	0.000	0.000	0.030	0.030	24
17	24.54	0.000	0.000	0.000	0.000	0	10.52	0.000	0.000	0.000	0.000	0
18	24.00	0.000	0.000	0.000	0.000	0	10.97	0.000	0.000	0.000	0.000	0
19	22.90	0.000	0.000	0.050	0.050	99	10.20	0.000	0.000	0.000	0.000	0
20	24.33	0.000	0.000	0.000	0.000	0	11.09	0.000	0.000	0.000	0.000	0
21	21.04	0.000	0.000	0.000	0.000	0	12.00	0.000	0.000	0.000	0.000	0
22	20.31	0.000	0.000	0.000	0.000	0	12.00	0.000	0.000	0.000	0.000	0
23	20.21	0.000	0.000	0.000	0.000	0	12.81	0.000	0.000	0.030	0.030	33
24	24.16	0.000	0.000	0.000	0.000	0	12.08	0.000	0.000	0.000	0.000	0
25	24.00	0.000	0.000	0.000	0.000	0	11.51	0.000	0.000	0.000	0.000	0
26	23.95	0.000	0.000	0.060	0.060	124	12.00	0.000	0.000	0.000	0.000	0
27	22.54	0.000	0.000	0.000	0.000	0	13.97	0.000	0.000	0.000	0.000	0
28	25.07	0.000	0.000	0.000	0.000	0	13.22	0.000	0.000	0.000	0.000	0
29	23.83	0.000	0.000	0.000	0.000	0	11.00	0.000	0.000	0.000	0.000	0
30	23.49	0.000	0.000	0.000	0.000	0	21.08	0.000	0.000	0.050	0.050	91
31	22.50	0.000	0.000	0.000	0.000	0	20.60	0.000	0.000	0.000	0.000	0
Ten Daily Mean												
Ten Daily I	39.42	0.000	0.000	0.007	0.007	15	18.51	0.000	0.000	0.008	0.008	11
Ten Daily II	25.98	0.000	0.000	0.005	0.005	10	9.737	0.000	0.000	0.003	0.003	2
Ten Daily III	22.83	0.000	0.000	0.005	0.005	11	13.84	0.000	0.000	0.007	0.007	11
Monthly												
Total						370						260
												593

Annual Sediment Load (Metric Tonnes) : 2367052

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KESINGA (EMFOOK6)

Division : MD,CWC,Burla

Local River : Tel

Sub-Division : MMSD II,CWC,Burla

Day	Mar				Apr				May			
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	39.03	0.000	0.000	0.000	0.000	0	65.85	0.000	0.000	0.000	0.000	0
2	42.91	0.000	0.000	0.000	0.000	0	60.00	0.000	0.000	0.000	0.000	0
3	80.35	0.000	0.000	0.000	0.000	0	39.93	0.000	0.000	0.060	0.060	207
4	58.70	0.000	0.000	0.000	0.000	0	27.41	0.000	0.000	0.000	0.000	0
5	33.00	0.000	0.000	0.000	0.000	0	24.65	0.000	0.000	0.000	0.000	0
6	27.42	0.000	0.000	0.050	0.050	118	28.78	0.000	0.000	0.000	0.000	0
7	27.01	0.000	0.000	0.000	0.000	0	34.02	0.000	0.000	0.000	0.000	0
8	31.05	0.000	0.000	0.000	0.000	0	66.91	0.000	0.000	0.000	0.000	0
9	39.82	0.000	0.000	0.000	0.000	0	67.00	0.000	0.000	0.000	0.000	0
10	69.55	0.000	0.000	0.000	0.000	0	67.55	0.000	0.000	0.070	0.070	409
11	64.81	0.000	0.000	0.000	0.000	0	61.18	0.000	0.000	0.000	0.000	0
12	64.00	0.000	0.000	0.000	0.000	0	58.20	0.000	0.000	0.000	0.000	0
13	53.00	0.000	0.000	0.000	0.000	0	39.84	0.000	0.000	0.000	0.000	0
14	42.82	0.000	0.000	0.000	0.000	0	28.00	0.000	0.000	0.000	0.000	0
15	32.43	0.000	0.000	0.000	0.000	0	19.61	0.000	0.000	0.000	0.000	0
16	32.65	0.000	0.000	0.000	0.000	0	18.00	0.000	0.000	0.000	0.000	0
17	30.89	0.000	0.000	0.000	0.000	0	19.36	0.000	0.000	0.040	0.040	67
18	37.11	0.000	0.000	0.000	0.000	0	62.31	0.000	0.000	0.000	0.000	0
19	28.00	0.000	0.000	0.000	0.000	0	46.78	0.000	0.000	0.000	0.000	0
20	28.56	0.000	0.000	0.040	0.040	99	65.30	0.000	0.000	0.000	0.000	0
21	29.42	0.000	0.000	0.000	0.000	0	62.10	0.000	0.000	0.000	0.000	0
22	33.13	0.000	0.000	0.000	0.000	0	58.75	0.000	0.000	0.000	0.000	0
23	31.53	0.000	0.000	0.000	0.000	0	60.00	0.000	0.000	0.000	0.000	0
24	63.29	0.000	0.000	0.000	0.000	0	69.21	0.000	0.000	0.060	0.060	359
25	56.94	0.000	0.000	0.000	0.000	0	57.38	0.000	0.000	0.000	0.000	0
26	80.00	0.000	0.000	0.000	0.000	0	56.66	0.000	0.000	0.000	0.000	0
27	50.52	0.000	0.000	0.060	0.060	262	57.21	0.000	0.000	0.000	0.000	0
28	41.44	0.000	0.000	0.000	0.000	0	52.97	0.000	0.000	0.000	0.000	0
29	36.18	0.000	0.000	0.000	0.000	0	54.91	0.000	0.000	0.000	0.000	0
30	66.60	0.000	0.000	0.000	0.000	0	62.00	0.000	0.000	0.000	0.000	0
31	55.07	0.000	0.000	0.000	0.000	0						0
Ten Daily Mean												
Ten Daily I	44.88	0.000	0.000	0.005	0.005	12	48.21	0.000	0.000	0.013	0.013	62
Ten Daily II	41.43	0.000	0.000	0.004	0.004	10	41.86	0.000	0.000	0.004	0.004	7
Ten Daily III	49.46	0.000	0.000	0.005	0.005	24	59.12	0.000	0.000	0.006	0.006	36
Monthly												
Total						479						1041
												2408

Annual Sediment Load for period : 2007-2017**Station Name : KESINGA (EMF00K6)****Division : MD,CWC,Burla****Local River : Tel****Sub-Division : MMSD II,CWC,Burla**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
2007-2008	9149768	62436	9212204	12388
2008-2009	3435170	3833	3439003	10213
2009-2010	14769963	0	14769963	6330
2010-2011	1740879	18185	1759065	7364
2011-2012	814286	1885	816171	4687
2012-2013	1089262	12615	1101877	6443
2013-2014	1785660	79203	1864862	10690
2014-2015	18343818	8036	18351854	10411
2015-2016	4549630	3815	4553445	5766
2016-2017	2361901	5151	2367052	5754

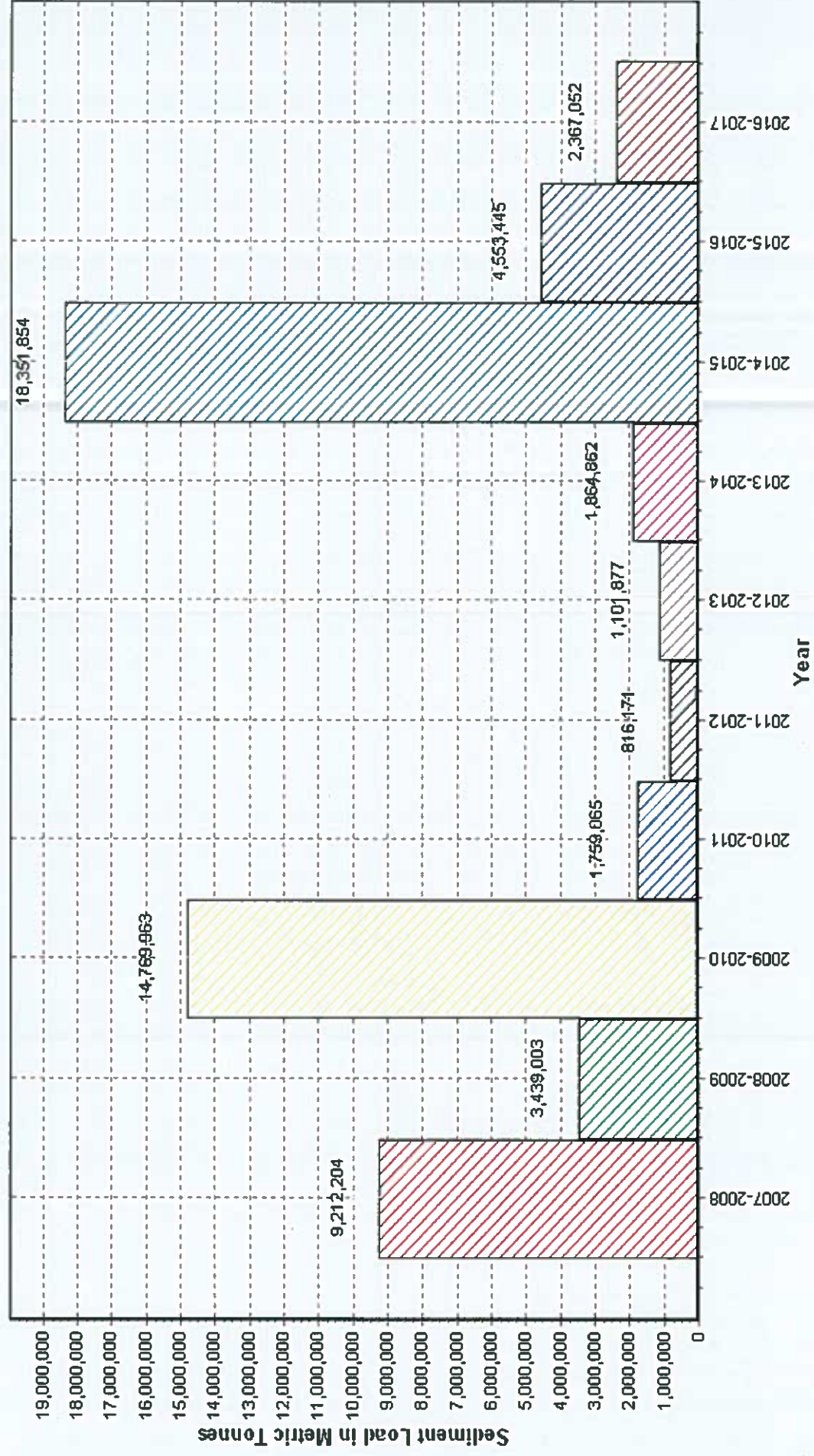
Annual Sediment Load for the period: 2007-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

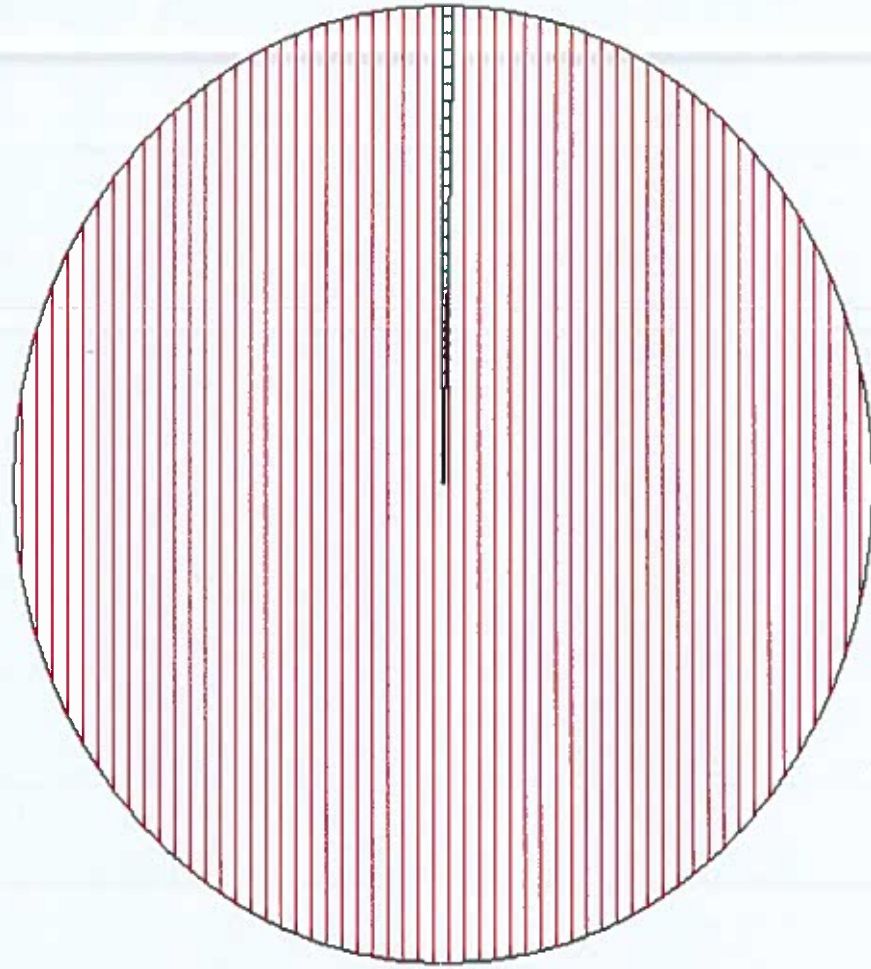


Seasonal Sediment Load for the period : 2007-2016

Station Name : KESINGA (EMF00K6)

Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



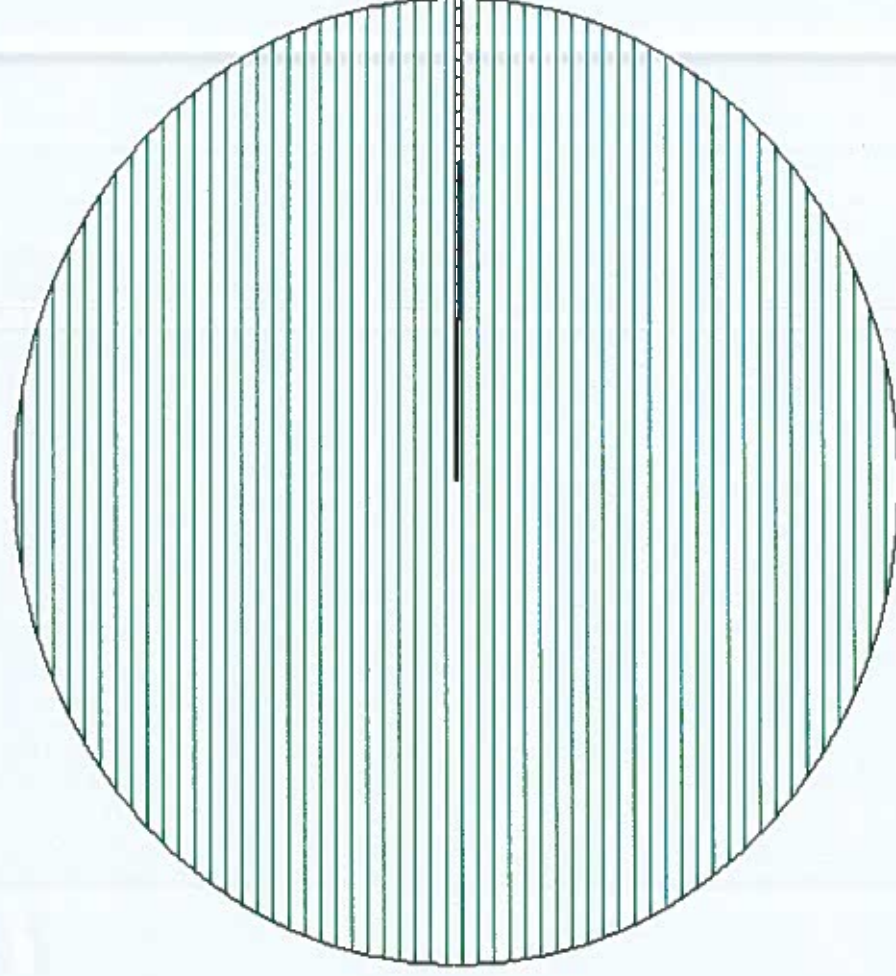
Monsoon 55,678,436

Non-Monsoon 190,008

Seasonal Sediment Load for the Year: 2016-2017

Station Name : KESINGA (EMF00K6)
Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

River Water Analysis

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
PHYSICAL													
1	Q (cumec)	172.3	131.4	240.3	510.0	815.3	139.7	64.56	19.75	19.20	39.03	65.85	65.24
2	Colour_Cod (-)	Clear	Brown	Light Brown	Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)				243	244	274	210	226	275	208	182	128
4	EC_GEN (µmho/cm)	74	186	178	143	195	130	152	134	208	182	157	155
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.7	9.1	6.7	8.4	9.8	9.3	7.1	7.1	8.3	8.6	9.8	7.1
7	pH_GEN (pH units)	7.4	7.4	7.3	7.2	7.4	8.2	8.1	8.9	8.5	8.2	7.9	7.1
8	Temp (deg C)	31.0	30.0	30.5	30.5	29.5	29.0	24.5	24.0	23.5	21.5	28.0	30.8
CHEMICAL													
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Alk-TOT (mgCaCO3/L)	128	124	160	160	132	144	148	124	148	225	176	192
3	Ca (mg/L)	34	30	38	27	69	69	64	64	34	37	43	43
4	Cl (mg/L)	22.0	10.0	15.0	9.0	24.0	26.0	26.0	38.0	50.0	59.0	39.0	40.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	78	76	98	98	81	88	90	76	90	137	107	117
7	K (mg/L)	13.8	20.4	10.8	19.2	13.3	8.4	6.3	6.4	7.0	6.2	8.9	9.9
8	Mg (mg/L)	2.9	2.9	5.8	17.5	5.8	1.9	5.8	1.9	16.5	14.6	9.7	5.8
9	Na (mg/L)	24.7	26.8	19.8	27.5	34.5	23.5	14.1	18.5	17.1	20.1	27.7	17.7
BIOLOGICAL/BACTERIOLOGICAL													
1	BOD3-27 (mg/L)	0.7	0.7	0.4	0.4	0.5	1.1	0.6	0.6	0.9	1.6	1.1	1.4
2	DO (mg/L)	4.0	5.7	4.0	3.4	4.3	6.4	5.5	6.2	6.9	8.6	7.5	6.5
3	DO_SAT% (%)	54	75	53	45	56	83	65	74	81	97	96	86
TRACE & TOXIC													
CHEMICAL INDICES													
1	HAR_Ca (mgCaCO3/L)	84	76	96	68	172	172	160	160	84	92	108	108
2	HAR_Total (mgCaCO3/L)	96	88	120	141	197	180	185	168	153	153	149	132
3	Na% (%)	32	34	24	27	26	21	14	19	19	21	27	21
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.1	1.2	0.8	1.0	1.1	0.8	0.5	0.6	0.6	0.7	1.0	0.7
PESTICIDES													

Water Quality Summary for the period : 2016-2017

Station Name : KESINGA (EMF00K6)

Division : MD,CWC,Burla

Local River : Tel

Sub-Division : MMSD II,CWC,Burla

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	1631	7.000	182.5
2	EC_FLD (µmho/cm)	9	275	128	221
3	EC_GEN (µmho/cm)	12	208	74	158
4	pH_FLD (pH units)	12	9.8	6.7	8.3
5	pH_GEN (pH units)	12	8.9	7.1	7.8
6	Temp (deg C)	12	31.0	21.5	27.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	225	124	155
3	Ca (mg/L)	12	69	27	46
4	Cl (mg/L)	12	59.0	9.0	29.8
5	CO3 (mg/L)	12	0.0	0.0	0
6	HCO3 (mg/L)	12	137	76	95
7	K (mg/L)	12	20.4	6.2	10.9
8	Mg (mg/L)	12	17.5	1.9	7.6
9	Na (mg/L)	12	34.5	14.1	22.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.6	0.4	0.8
2	DO (mg/L)	12	8.6	3.4	5.8
3	DO_SAT% (%)	12	97	45	72
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	172	68	115
2	HAR_Total (mgCaCO3/L)	12	197	88	147
3	Na% (%)	12	34	14	24
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	1.2	0.5	0.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KESINGA (EMF000K6)

Local River : Tel

River Water

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	176.5	584.9	192.2			811.9	522.0	250.1	197.8	406.7	264.0	975.1	577.4	351.2	373.8
2	EC_FLD (µmho/cm)	191	174	172			153	188	300							244
3	EC_GEN (µmho/cm)	191	174	172			143	265	192	202	161	156	168	155	156	155
4	pH_FLD (pH units)	8.0	7.9				7.7	7.6							8.0	8.5
5	pH_GEN (pH units)	8.0	7.9				7.9	7.8	8.1	7.6	7.7	8.0	8.4	8.1	8.2	7.3
6	Temp (deg C)	27.8	28.0	30.0			30.3	30.1	27.2	29.7	29.3	28.3	27.0	28.1	29.2	30.3
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.6	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.6	0.0
2	ALK-TOT (mgCaCO3/L)	116	166	180			103	178	138	132	109	98	182	192	181	141
3	B (mg/L)						0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	15	21	24			9	18	15	16	14	13	20	20	21	40
5	Cl (mg/L)	6.6	22.3	10.0			9.0	10.6	7.0	5.3	7.7	10.3	16.4	11.0	15.0	16.0
6	CO3 (mg/L)	0.9	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	4.3	0.0
7	F (mg/L)		0.26				0.10	0.12	0.19	0.13	0.16	0.11				
8	Fe (mg/L)						0.1	0.0	0.0	0.0	0.0	0.0				
9	HCO3 (mg/L)	73	101				63	109	84	81	67	60	111	116	106	86
10	K (mg/L)	7.2	1.1				1.1	1.2	1.2	1.4	1.9	0.8	2.9	2.6	5.2	15.5
11	Mg (mg/L)	4.9	6.3	11.2			6.3	10.7	8.4	7.9	6.7	7.9	5.0	8.4	11.5	7.0
12	Na (mg/L)	7.6	1.5				14.2	7.7	6.3	8.2	8.3	6.2	11.1	12.2	14.7	26.7
13	NO2+NO3 (mg N/L)						0.06	0.44								
14	NO2-N (mgN/L)						0.01	0.04	0.02	0.02	0.03	0.05				
15	NO3-N (mgN/L)						0.05	0.40								
16	o-PO4-P (mg P/L)							0.014								
17	P-Tot (mgP/L)		0.035				0.010	0.021	0.013	0.037	0.015	0.057				
18	SiO2 (mg/L)						9.1	24.2	21.3	10.8	15.4	14.5				
19	SO4 (mg/L)	4.9	7.7				8.7	11.4	12.7	15.6	16.5	14.9				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KESINGA (EMIF00K6)
Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

River Water

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.9	0.4	0.6			0.8	0.9	0.8	0.7	0.9	0.8	0.8	0.6	0.5	0.5
2	COD (mg/L)						11.7	21.3	22.7	18.7	17.0	18.7				
3	DO (mg/L)	8.0	6.3	5.1			7.5	6.2	6.7	6.2	6.9	8.0	7.1	7.5	6.9	4.3
4	DO_SAT% (%)	102	81	68			100	82	84	81	89	103	89	95	90	57
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	38	53	61			24	46	38	40	34	31	50	49	52	99
2	HAR_Total (mgCaCO3/L)	86	79	107			50	90	73	73	62	64	71	84	100	129
3	Na% (%)	18	4				41	22	16	19	23	18	24	24	23	29
4	RSC (-)	0.1	0.3				0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.0
5	SAR (-)	0.5	0.1				1.0	0.4	0.3	0.4	0.5	0.4	0.6	0.6	0.6	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Winter																	
		Nov - Feb																	
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017			
	PHYSICAL																		
1	Q (cumec)	25.27	151.0	129.6			154.1	91.23	29.43	102.9	28.27	43.54	164.4	82.47	62.05	60.80			
2	EC_FLD (µmho/cm)	179	184				198	187							160	246			
3	EC_GEN (µmho/cm)	179	184				172	161	227	220	189	255	227	172	180	156			
4	pH_FLD (pH units)	8.1	8.2				8.5	7.6							8.5	7.9			
5	pH_GEN (pH units)	8.1	8.2				8.4	8.0	8.3	7.8	8.1	7.8	8.4	8.4	8.4	8.4			
6	Temp (deg C)	26.3					20.0	23.0	22.0	24.0	21.1	19.8	21.8	21.0	24.6	25.3			
	CHEMICAL																		
1	Alk-Phen (mgCaCO3/L)	1.0	0.0				3.7	0.0	9.2	0.0	0.0	0.0	0.5	0.0	3.5	0.0			
2	ALK-TOT (mgCaCO3/L)	139	174				107	111	155	149	130	158	228	198	186	141			
3	B (mg/L)						0.01	0.00	0.00	0.00	0.00	0.00							
4	Ca (mg/L)	19	25				13	13	20	16	14	20	28	25	23	58			
5	Cl (mg/L)	4.0	12.3				12.8	12.6	8.0	17.2	13.9	20.0	16.8	15.8	13.3	35.0			
6	CO3 (mg/L)	1.2	0.0				4.4	0.0	11.1	0.0	0.0	0.0	0.6	0.0	4.2	0.0			
7	F (mg/L)		1.50				0.06	0.34	0.14	0.38	0.13	0.15							
8	Fe (mg/L)						0.0	0.0	0.0	0.0	0.1	0.0		0.1					
9	HCO3 (mg/L)	84	142				61	68	83	91	79	96	138	121	109	86			
10	K (mg/L)	2.9					1.3	1.5	1.5	1.5	1.4	1.0	8.0	2.9	5.6	7.0			
11	Mg (mg/L)	9.2	5.8				5.8	5.8	10.7	8.8	8.3	9.3	12.9	16.8	10.9	6.6			
12	Na (mg/L)	5.0					18.5	7.3	7.7	15.4	7.7	13.1	19.9	18.0	17.1	18.3			
13	NO2+NO3 (mg N/L)						0.11	1.03						0.16					
14	NO2-N (mgN/L)						0.01	0.01	0.02	0.07	0.02	0.04		0.04					
15	NO3-N (mgN/L)						0.10	1.02						0.12					
16	o-PO4-P (mg P/L)																		
17	P-Tot (mgP/L)						0.020	0.015	0.035	0.040	0.035	0.045		0.040					
18	SiO2 (mg/L)						12.0	8.8	15.1	16.7	10.0	11.0		11.5					
19	SO4 (mg/L)	9.2	7.9				7.6	11.8	15.5	24.9	19.0	12.5		13.5					

Station Name : KESINGA (EMF00K6)
Local River : Tel

Water Quality Seasonal Average for the period: 2002-2017

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

River Water

S.No	Parameters	Winter														
		Now - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	0.9				0.7	0.8	0.6	0.9	1.2	0.8	0.7	1.0	1.3	0.8
2	COD (mg/L)						24.0	20.0	16.0	16.0	18.0	20.0				
3	DO (mg/L)	8.9	5.7				9.7	6.9	8.6	7.5	8.4	8.1	8.5	8.7	8.6	6.3
4	DO_SAT% (%)	109					102	81	98	90	94	88	96	97	103	76
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	49	63				33	32	49	39	36	50	70	63	58	144
2	HAR_Total (mgCaCO3/L)	87	87				57	56	94	75	71	89	124	133	104	172
3	Na% (%)	5					41	21	15	28	19	21	24	21	26	18
4	RSC (-)	0.2	0.2				0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.0
5	SAR (-)	0.1					1.1	0.4	0.3	0.8	0.4	0.6	0.8	0.7	0.7	0.6
	PESTICIDES															

2014

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KESINGA (EMF00K6)

Local River : Tel

River Water

Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	25.44	66.86	59.31			43.70	54.89	51.54	58.82	17.13	70.80	134.5	38.86	24.56	56.71
2	EC_FLD (µmho/cm)	152	198					225								173
3	EC_GEN (µmho/cm)	152	198				158	192	166	467	196	153	148	177	176	165
4	pH_FLD (pH units)	8.1	8.2					8.2							8.0	8.5
5	pH_GEN (pH units)	8.1	8.2				8.7	8.2	7.9	7.1	7.7	8.6	8.2	8.6	8.3	7.7
6	Temp (deg C)	30.2						29.4	29.0	28.0	24.0	29.3	26.7	27.0	27.5	26.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0				16.6	0.0	0.0	0.0	0.0	3.0	0.0	8.6	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	103	191				89	115	102	389	135	180	180	225	197	198
3	B (mg/L)						0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	11	14				14	6	12	40	15	18	24	27	29	41
5	Cl (mg/L)	8.1	13.0				15.7	8.2	3.2	16.3	6.6	11.5	11.7	13.7	20.3	46.0
6	CO3 (mg/L)	0.0	0.0				20.0	0.0	0.0	0.0	0.0	3.6	0.0	10.4	0.0	0.0
7	F (mg/L)						0.09	0.16	0.12	0.10	0.14	0.11				
8	Fe (mg/L)							0.0	0.0	0.1	0.1	0.1		0.1		
9	HCO3 (mg/L)	63	117				34	70	62	237	83	106	110	127	120	120
10	K (mg/L)	5.1					2.2	2.2	1.4	1.2	1.0	5.1	2.0	4.4	14.4	8.3
11	Mg (mg/L)	2.6	4.3				6.8	3.9	7.8	28.7	10.7	6.8	15.9	12.0	12.6	10.0
12	Na (mg/L)	4.5					13.0	6.3	7.8	12.7	7.1	26.2	11.5	17.1	34.7	21.8
13	NO2+NO3 (mg N/L)							1.61						0.18		
14	NO2-N (mgN/L)							0.01	0.01	0.60	0.10	0.05		0.07		
15	NO3-N (mgN/L)							1.60						0.12		
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)						0.020	0.010	0.020	0.120	0.070	0.075		0.053		
18	SiO2 (mg/L)						13.2	15.4	9.0	56.0	11.2	11.5		11.0		
19	SO4 (mg/L)		5.6				18.0	18.4	12.0	56.0	12.8	11.0		11.7		

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KESINGA (EMF00K6)

Division : MD,CWC,Burla

Local River : Tel

River Water

Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)		0.7				0.6	0.4	0.8	1.8	1.0	0.5	0.3	0.4	2.9	1.4
2	COD (mg/L)						16.0	20.0	20.0	24.0	16.0	14.0				
3	DO (mg/L)	7.5	6.3				9.6	6.8	6.8	6.8	7.8	6.7	7.0	7.0	6.6	7.5
4	DO_SAT% (%)	97						88	88	87	93	87	86	87	83	93
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	28	35				34	16	30	100	38	46	59	68	73	103
2	HAR_Total (mgCaCO3/L)	38	52				62	32	63	220	83	74	125	118	126	145
3	Na% (%)						30	28	21	11	16	35	18	22	33	23
4	RSC (-)	0.3	0.9				0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.1	0.1	0.0
5	SAR (-)						0.7	0.5	0.4	0.4	0.3	1.3	0.5	0.7	1.4	0.8
	PESTICIDES															

SITE KANTAMAL

HISTORY SHEET

Water Year : 2016-2017

Site : KANTAMAL

Code : EMF00C3

State : Orissa

District : Boudh

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Tel

Sub Tributary :

Sub-Sub Tributary :

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Drainage Area : 19600 Sq. Km.

Bank :

Latitude : 20°39'00"

Longitude : 83°43'55"

Zero of Gauge (m) : 118 (m.s.l)

08-08-1971 - 08-08-2025

Opening Date

Closing Date

Gauge : 08-08-1971

Discharge : 26-08-1971

Sediment : 22-07-1976

Water Quality : 01-01-1972

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1972-1973	7117	108.120	06-07-1972	0.100	101.820	15-05-1973
1973-1974	12862	109.088	09-07-1973	0.100	102.020	11-05-1974
1974-1975	2700	107.230	18-08-1974	0.050	119.575	08-05-1975
1975-1976	4700	126.030	14-08-1975	0.046	119.435	14-05-1976
1976-1977	11380	129.135	03-08-1976	0.098	119.295	16-04-1977
1977-1978	15374	130.505	14-09-1977	0.470	118.910	31-05-1978
1978-1979	12000	129.090	14-08-1978	0.060	119.310	30-05-1979
1979-1980	4210	126.360	09-07-1979	0.012	119.290	12-06-1979
1980-1981	12960	129.400	19-09-1980	0.852	119.370	30-05-1981
1981-1982	8852	128.365	09-08-1981	0.840	119.345	01-06-1981
1982-1983	7900	131.415	30-08-1982	0.100	118.945	15-04-1983
1983-1984	2131	123.700	08-08-1983	0.300	119.330	05-04-1984
1984-1985	3400	127.050	02-08-1984	0.010	119.615	26-04-1985
1985-1986	9611	128.465	08-08-1985	0.200	119.090	20-04-1986
1986-1987	5099	126.105	26-06-1986	0.010	119.755	20-04-1987
1987-1988	3231	124.880	05-09-1987	0.028	119.740	23-04-1988
1988-1989	1180	123.450	24-09-1988	0.210	119.555	15-02-1989
1989-1990	2257	124.280	28-08-1989	0.473	119.710	28-04-1990
1990-1991	13633	130.480	23-08-1990	3.091	119.500	29-05-1991
1991-1992	10560	129.145	30-07-1991	1.457	119.665	21-05-1992
1992-1993	16263	130.280	28-07-1992	0.192	119.160	25-05-1993
1993-1994	5400	126.630	15-08-1993	0.286	119.620	30-05-1994

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1994-1995	11659	129.470	05-09-1994	0.274	119.620	04-06-1994
1995-1996	8692	128.260	02-09-1995	0.900	119.560	23-05-1996
1996-1997	1891	123.773	03-08-1996	0.286	119.100	02-04-1997
1997-1998	11982	129.760	22-08-1997	0.100	119.040	08-06-1997
1998-1999	891.5	122.860	03-07-1998	0.253	119.055	23-03-1999
1999-2000	1974	123.680	02-09-1999	2.180	119.190	10-06-1999
2000-2001	3425	125.140	19-07-2000	39.78	120.150	08-05-2001
2001-2002	12770	129.860	08-07-2001	13.31	120.225	21-05-2002
2002-2003	2900	123.950	25-08-2002	7.505	120.020	28-01-2003
2003-2004	12915	130.110	29-08-2003	39.90	120.300	10-06-2003
2004-2005	9008	129.400	16-06-2004	25.13	120.040	31-03-2005
2005-2006	11030	130.010	14-09-2005	33.64	120.245	10-06-2005
2006-2007	17500	131.730	05-07-2006	29.60	119.775	01-02-2007
2007-2008	12857	130.300	08-08-2007	20.70	119.820	28-05-2008
2008-2009	20000	132.700	19-09-2008	15.00	119.060	31-05-2009
2009-2010	11798	129.035	20-07-2009	15.28	119.190	20-06-2009
2010-2011	10944	128.790	07-08-2010	24.18	119.770	23-03-2011
2011-2012	3268	125.130	07-09-2011	3.523	119.500	21-04-2012
2012-2013	3466	125.325	03-08-2012	14.75	119.735	16-06-2012
2013-2014	7260	127.160	01-08-2013	33.00	119.960	26-01-2014
2014-2015	7778	128.060	05-08-2014	32.08	119.980	04-04-2015
2015-2016	6594	128.120	17-09-2015	8.581	119.640	21-01-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	120.300	153.7	120.590	164.2	121.195	334.3	121.030	359.8	122.525	1254	120.540	213.7
2	120.220	114.7	120.930	260.8	121.240	347.8	121.600	795.0	122.580	1281 *	120.520	204.3
3	120.100	82.06	121.630	540.2 *	121.285	364.6	121.390	660.0	122.245	1074	120.500	197.9
4	120.240	125.0	121.460	454.2	121.438	394.7	122.870	1597 *	122.020	907.8	120.480	189.9
5	120.180	75.14 *	121.050	267.3	122.670	1243	124.000	2488	121.885	807.1	120.470	185.0
6	120.135	68.41	120.840	233.0 *	123.950	2340	123.590	2143	122.230	1072	120.470	185.0 *
7	120.090	59.20	120.605	192.2	123.680	2123 *	122.970	1611	121.830	782.1	120.450	176.0
8	120.300	142.8	120.440	152.2	123.100	1657	122.545	1314	122.695	1341	120.440	172.5
9	120.280	124.1	120.450	154.1	122.665	1256	123.640	2246	122.910	1468 *	120.440	172.7
10	120.250	86.50	120.880	273.9 *	122.410	1174	122.530	1292	123.460	1785 *	120.420	166.8
11	120.220	80.54	121.095	322.0	122.720	1330	122.640	1304 *	123.320	1704 *	120.410	163.8
12	120.200	77.73 *	122.010	839.9	122.430	1228	122.510	1271	122.720	1355 *	120.360	152.5
13	120.060	58.10	121.895	727.9	122.275	1117	123.350	1917 *	122.190	1047	120.370	155.0 *
14	120.205	89.94	121.270	422.7	121.810	751.2 *	123.110	1732	121.790	766.5	120.400	165.0 *
15	120.200	92.30	121.100	277.8	121.440	485.2 *	122.580	1352	121.510	655.6	120.460	184.7
16	120.330	118.7	120.845	229.2	121.340	381.6	122.470	1286	121.290	581.5 *	120.520	199.6
17	120.410	141.1	121.210	345.5 *	121.395	398.4	122.170	1060	121.150	534.4	120.520	196.2
18	120.460	158.6	121.115	314.2	121.620	462.4	121.940	1015 *	121.010	452.9	120.480	184.6
20	120.350	84.72	121.180	360.5	121.230	340.9	122.140	1070	120.855	315.2	120.300	142.4 *
21	120.190	72.88	121.245	466.3	121.000	298.8 *	122.180	1112	120.790	285.8	120.140	103.1
22	120.130	61.82	121.820	650.6	120.850	271.4	122.030	850.5	120.750	258.2	120.100	96.11
23	120.230	88.92	121.585	546.2	121.100	335.4	122.185	1058	120.700	249.4 *	120.100	94.90
24	120.910	315.5	121.850	680.0 *	120.790	252.6	121.990	929.6	120.680	245.9	120.090	92.15
25	120.370	108.2	121.600	602.0	120.750	254.8	121.680	750.0 *	120.620	233.1	120.090	91.04
26	120.340	96.30 *	121.220	395.0	120.945	321.1	121.585	687.1	120.580	217.6	120.110	95.15
27	120.590	156.3	121.135	338.5	121.750	882.6	121.685	762.7	120.560	214.5	120.180	115.8 *
28	120.455	136.4	120.990	265.3	121.580	753.7 *	121.775	816.2	120.540	207.1	120.150	107.5
29	120.405	122.4	120.910	248.1	121.850	961.3	122.425	1185	120.520	200.5	120.130	101.6
30	120.375	114.5	120.750	218.4	121.325	652.3	122.785	1486	120.510	197.2 *	120.090	94.92
31			120.890	255.8 *	121.160	571.1			120.550	212.0		
Ten-Daily Mean												
I Ten-Daily	120.209	103.2	120.887	269.2	122.363	1123	122.616	1451	122.438	1177	120.473	186.4
II Ten-Daily	120.280	99.58	121.308	427.6	121.777	691.9	122.469	1290	121.674	782.9	120.428	172.5
III Ten-Daily	120.399	127.3	121.272	424.2	121.191	505.0	122.032	963.7	120.618	229.2	120.118	99.22
Monthly												
Min.	120.060	58.10	120.440	152.2	120.750	252.6	121.030	359.8	120.510	197.2	120.090	91.04
Max.	120.910	315.5	122.010	839.9	123.950	2340	124.000	2488	123.460	1785	120.540	213.7
Mean	120.296	110	121.160	375.3	121.758	764.8	122.373	1235	121.546	713.6	120.340	152.7

Annual Runoff in MCM = 9587 Annual Runoff in mm = 489

Peak Observed Discharge = 2488 cumecs on 05/09/2016 Corres. Water Level :124 m

Lowest Observed Discharge = 15.27 cumecs on 16/01/2017 Corres. Water Level :119.56 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : KANTAMAL (EMF00C3)

Division : MD,CWC,Burla

Local River : Tel

Sub-Division : MMSD II,CWC,Burla

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	120.090	96.57	119.720	37.00 *	119.670	28.81	119.800	37.78	119.840	35.97	120.220	77.01
2	120.070	92.57	119.690	36.13	119.670	28.29	119.800	35.83	119.840	35.48 *	120.100	74.90
3	120.010	82.27	119.690	35.68	119.670	27.96	119.800	35.93	119.990	55.81	120.200	74.21
4	120.000	73.00 *	119.690	35.77	119.670	28.06	119.800	36.01	119.990	55.37	119.990	56.71
5	120.000	73.12	119.670	34.28	119.670	28.00 *	119.840	37.67 *	119.970	53.53	119.990	55.63
6	119.950	64.28	119.640	32.48	119.720	30.51	119.810	35.19	119.750	30.47	119.970	53.85
7	119.960	69.31	119.640	32.09	119.720	30.46	119.810	35.42	119.750	30.12	120.200	72.50 *
8	119.950	68.65	119.640	32.00 *	119.720	30.23	119.810	35.52	119.750	30.01	120.200	75.56
9	119.980	73.22	119.720	36.36	119.720	28.89	119.820	39.27	119.740	28.90 *	120.180	71.81
10	119.980	73.16	119.720	36.89	119.720	29.33	119.880	44.77	120.120	70.94	120.100	64.30 *
11	119.970	72.00 *	119.700	35.72	119.720	29.31	120.020	62.68	120.100	67.64	120.040	58.73
12	119.960	71.00 *	119.700	35.32	119.750	34.43 *	119.970	55.10 *	120.100	67.56	120.040	58.23
13	119.910	67.85	119.610	20.58	119.800	42.94	119.940	50.71 *	119.910	45.23	120.020	55.04
14	119.900	66.26	119.610	20.41	119.800	42.85	120.030	62.88	119.910	45.22 *	120.020	55.05 *
15	119.910	67.64	119.570	16.00 *	119.800	42.48	120.030	62.34	119.900	43.69	119.990	51.36
16	119.840	58.72	119.560	15.27	119.800	42.11	119.920	49.04	119.900	43.71 *	119.990	50.92
17	119.840	58.00	119.560	15.44	119.790	40.73	119.880	44.51	120.030	65.86	119.970	48.59
18	119.830	55.00 *	119.560	15.54	119.790	40.15	119.880	44.36	120.100	75.79	119.710	31.93
20	119.800	45.62	119.580	17.96	119.790	42.76	119.840	33.01	119.950	50.70	119.700	30.73
21	119.800	45.87	119.580	17.65	119.790	42.51	119.840	32.93	119.950	50.32	119.700	30.73 *
22	119.780	40.11	119.580	17.66 *	119.800	41.04	119.820	30.99	120.100	75.69	120.040	60.66
23	119.780	39.75	119.630	26.57	119.830	43.76	119.800	30.25	120.100	75.49 *	120.040	59.37
24	119.740	36.13	119.630	26.61	119.830	43.72 *	119.800	30.80	120.000	54.71	120.020	56.36
25	119.730	36.20 *	119.630	26.25	119.830	43.76	119.800	30.64	119.990	53.77	120.220	88.90
26	119.780	37.31	119.650	27.50 *	119.830	43.76 *	119.800	30.64 *	119.990	52.93	120.200	85.29
27	119.780	37.67	119.650	27.59	119.800	42.16	120.100	74.12	120.020	54.23	120.240	93.83
28	119.750	35.93	119.650	27.32	119.800	42.17	120.100	73.17	119.960	42.33	120.260	98.72 *
29	119.830	51.55	119.650	27.50 *			120.080	70.20	119.980	44.32	120.220	89.33
30	119.780	42.52	119.670	28.71			119.840	36.35	119.980	44.24 *	120.200	86.05
31	119.720	38.40	119.670	28.69			119.840	36.08			120.200	86.55
Ten-Daily Mean												
I Ten-Daily	119.999	76.61	119.682	34.87	119.695	29.05	119.817	37.34	119.874	42.66	120.115	67.65
II Ten-Daily	119.876	60.86	119.603	20.99	119.783	39.92	119.939	50.90	119.990	56.68	119.919	47.18
III Ten-Daily	119.770	40.13	119.635	25.64	119.814	42.86	119.893	43.29	120.007	54.80	120.122	75.98
Monthly												
Min.	119.720	35.93	119.560	15.27	119.670	27.96	119.800	30.25	119.740	28.90	119.700	30.73
Max.	120.090	96.57	119.720	37.00	119.830	43.76	120.100	74.12	120.120	75.79	120.260	98.72
Mean	119.878	58.59	119.640	27.12	119.760	36.88	119.883	43.83	119.957	51.38	120.054	64

Peak Computed Discharge = 2123 cumecs on 07/08/2016

Corres. Water Level :123.68 m

Lowest Computed Discharge = 16.00 cumecs on 15/01/2017

Corres. Water Level :119.57 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

013

511

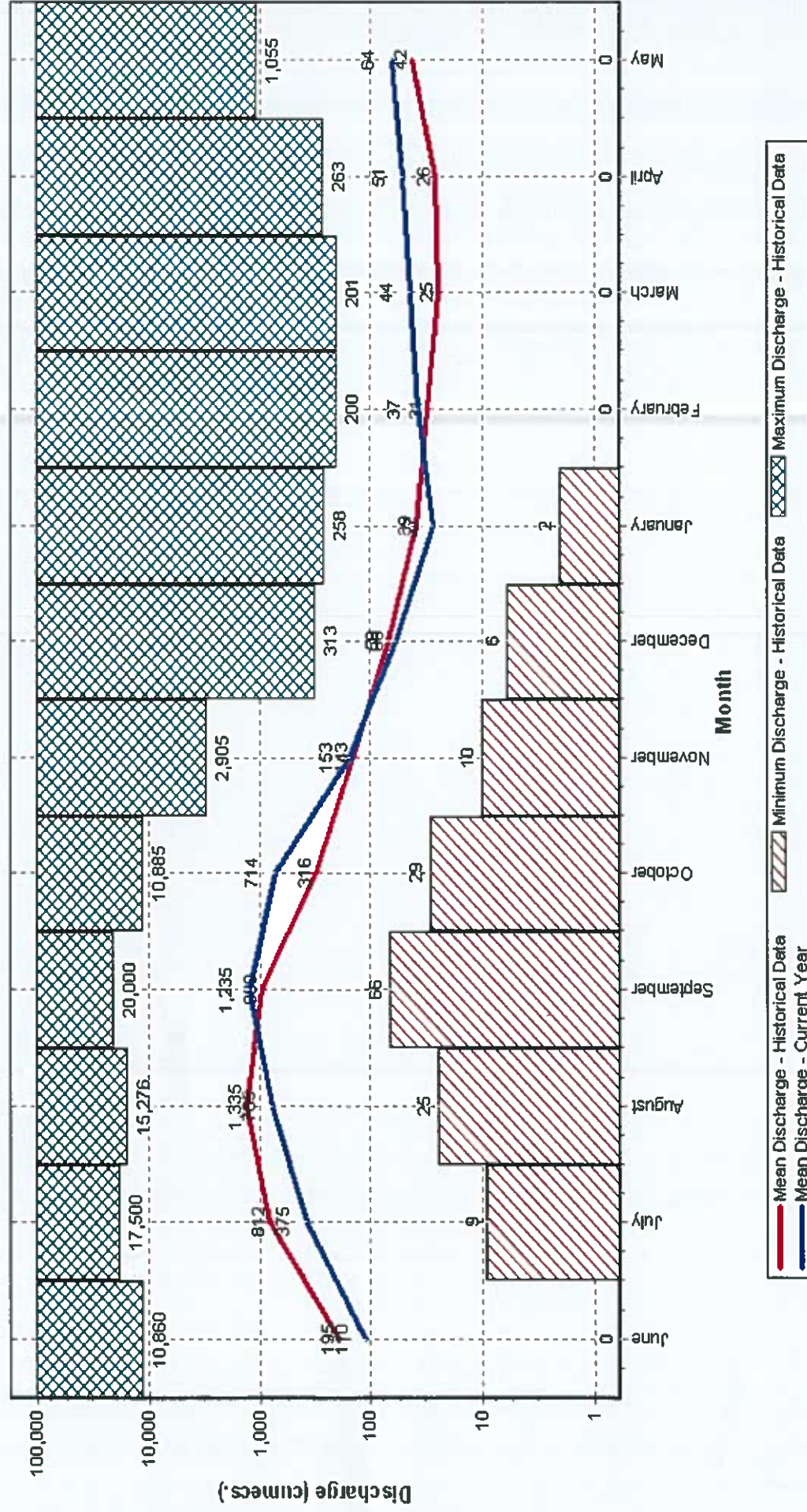
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Data considered : 1972-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



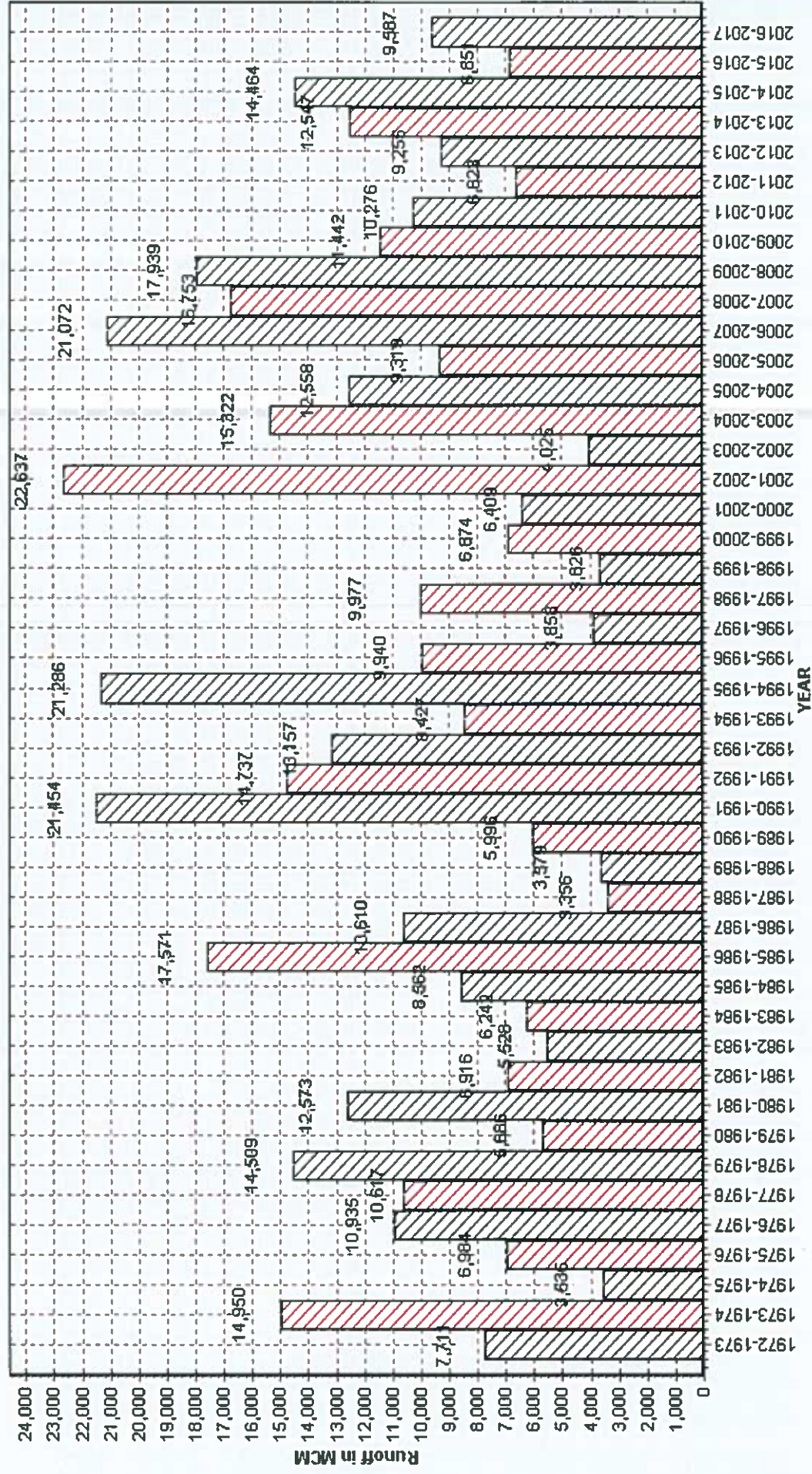
Annual Runoff Values for the period: 1972 - 2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

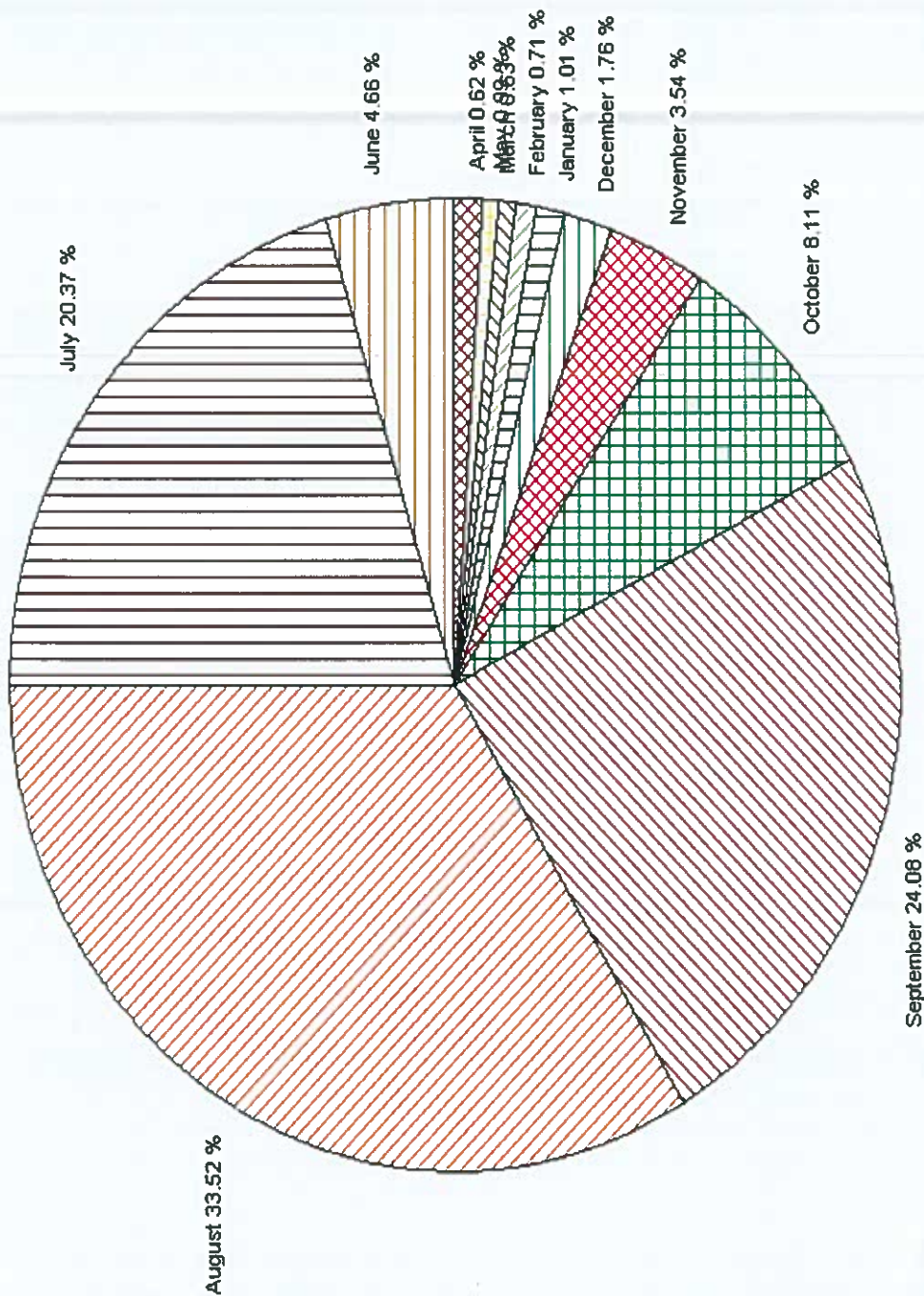


Monthly Average Runoff based on period : 1972-2016

Station Name : KANTAMAL (EMF00C3)
Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

June	4.66 %
July	20.37 %
August	33.52 %
September	24.08 %
October	8.11 %
November	3.54 %
December	1.76 %
January	1.01 %
February	0.71 %
March	0.63 %
April	0.62 %
May	0.99 %



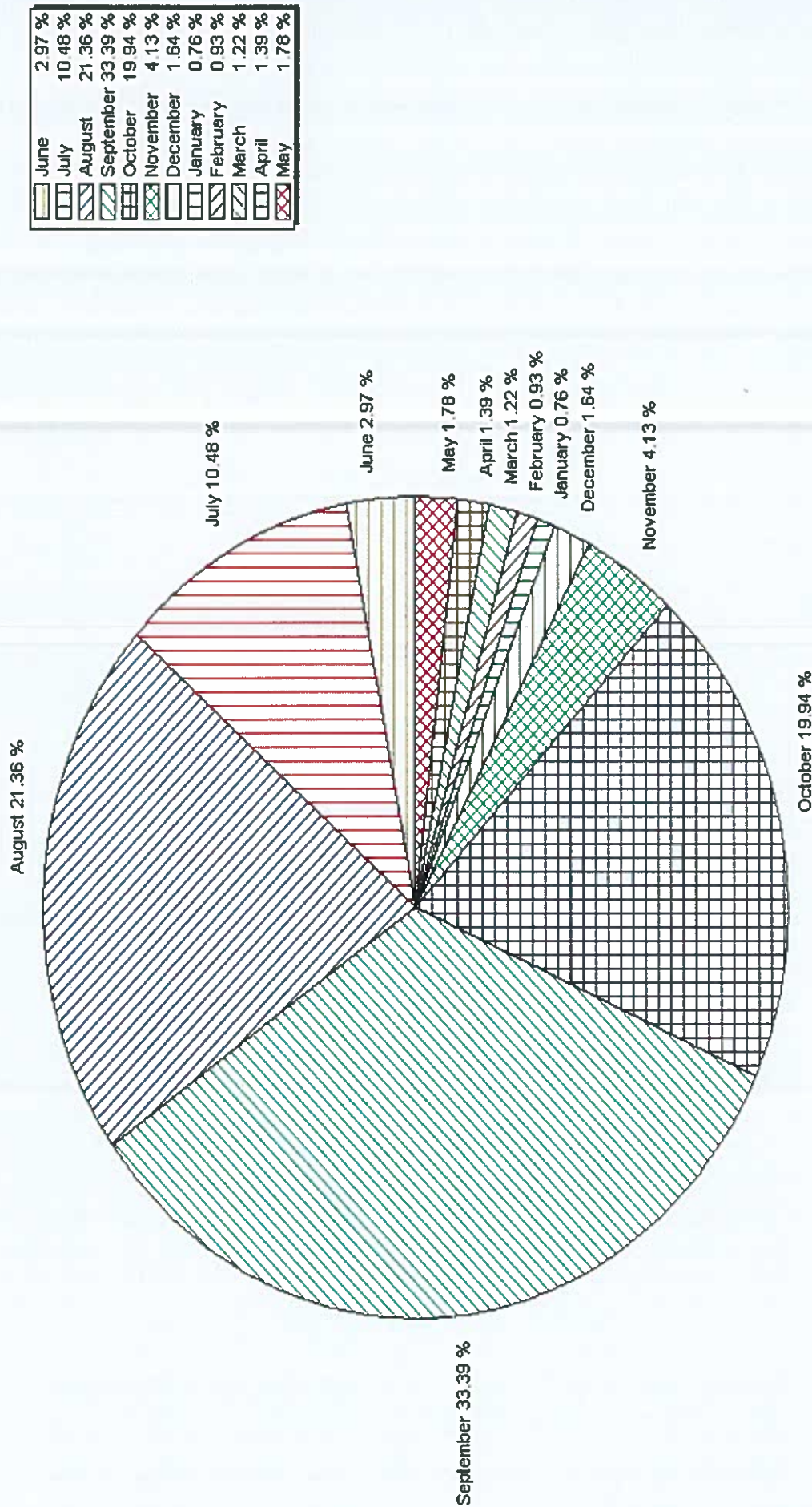
Monthly Runoff for the Year : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD, CWC, Burla

Sub-Division : MMSD II, CWC, Burla

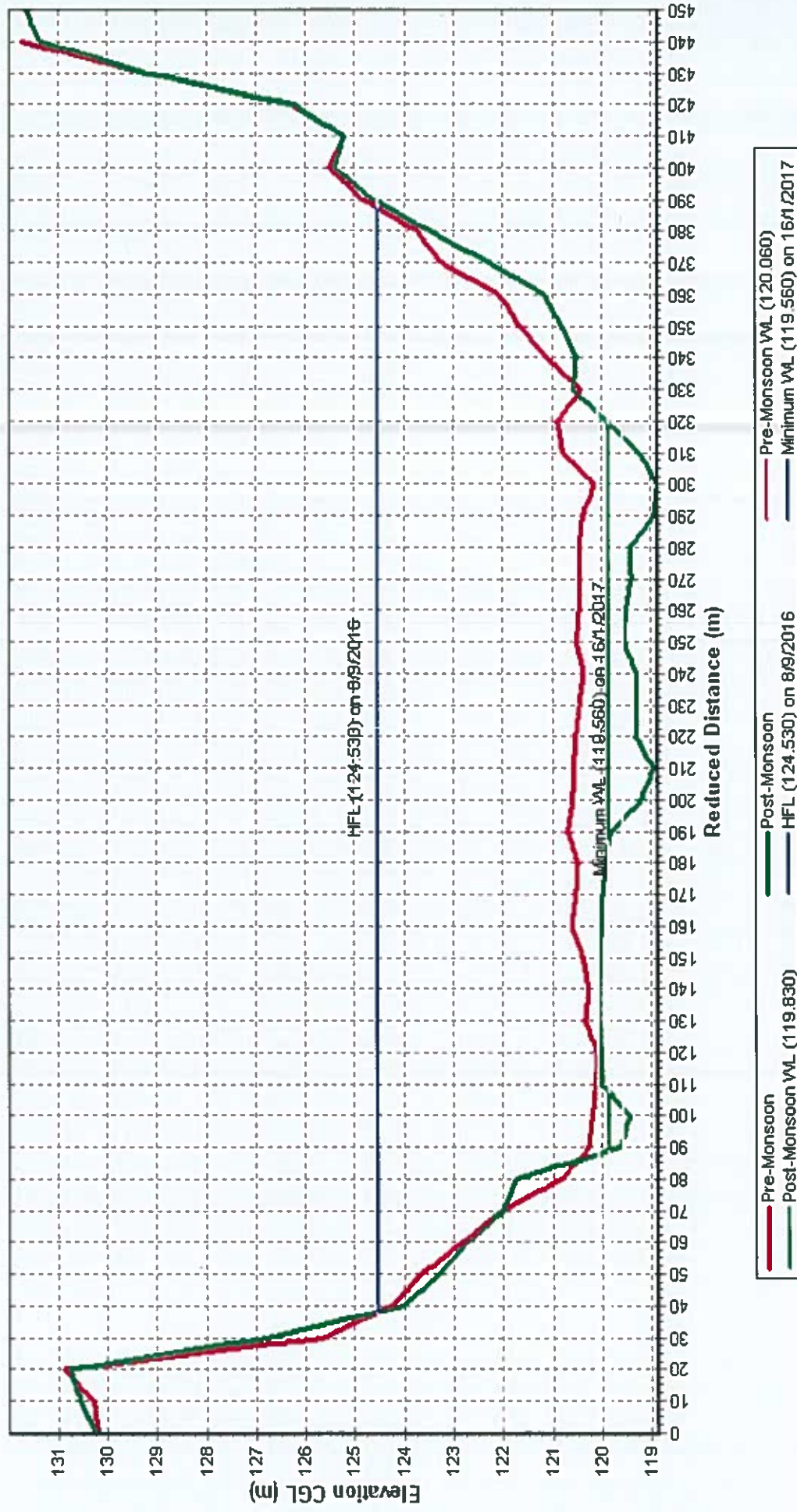


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Local River : Tel



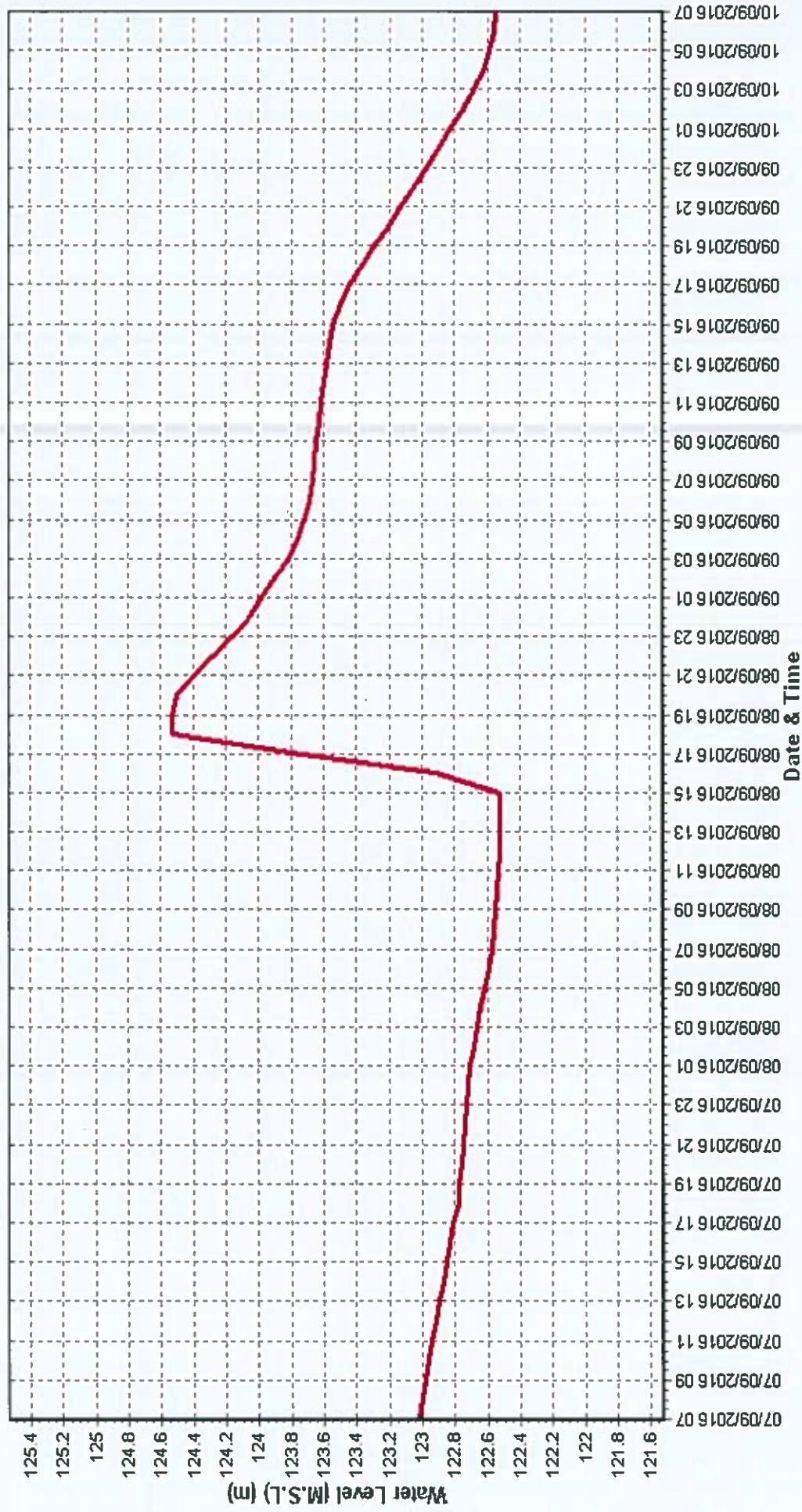
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



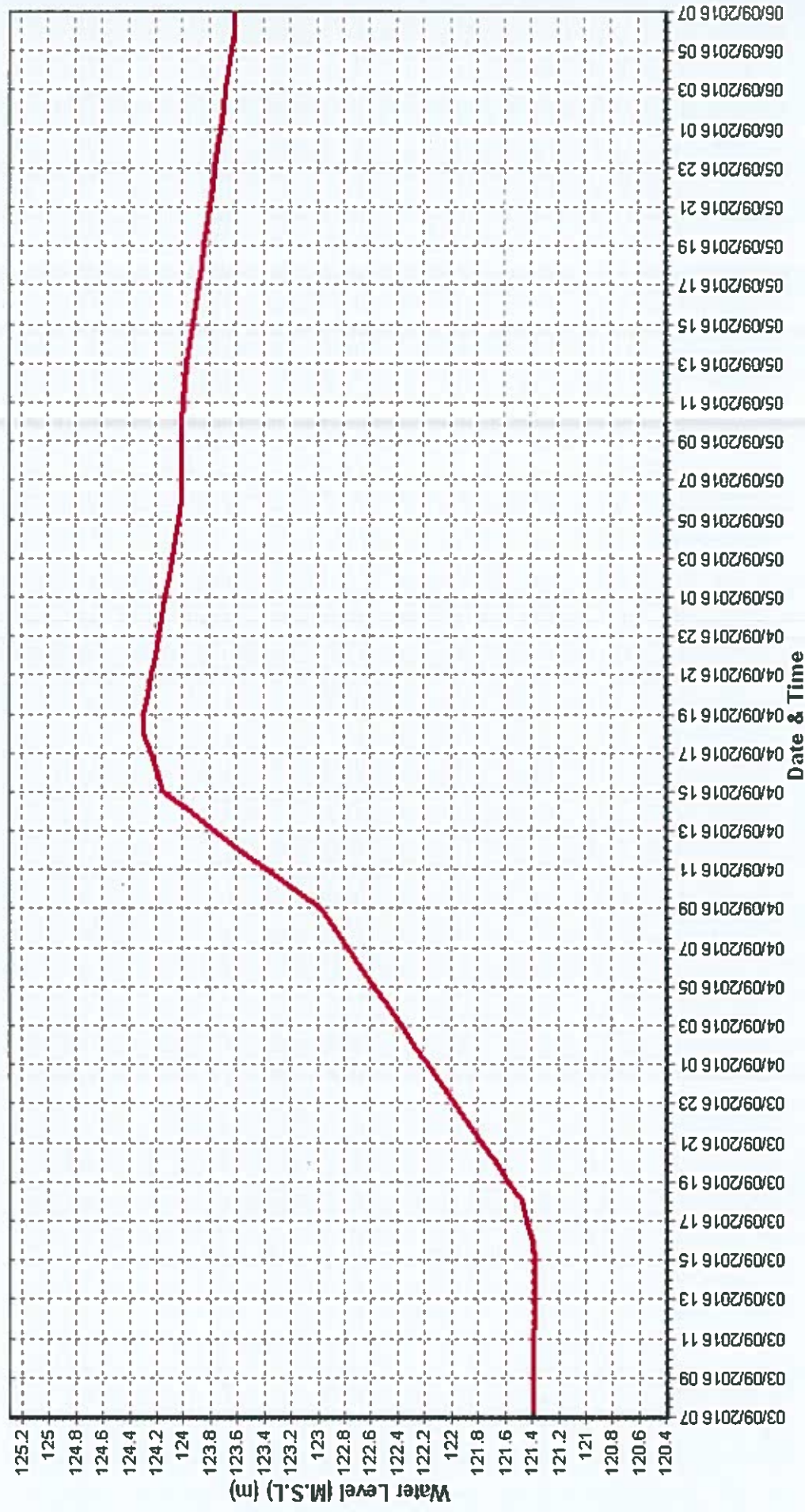
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Division : MD,CWC,Burla

Local River : Tel

Sub-Division : MMSD II,CWC,Burla



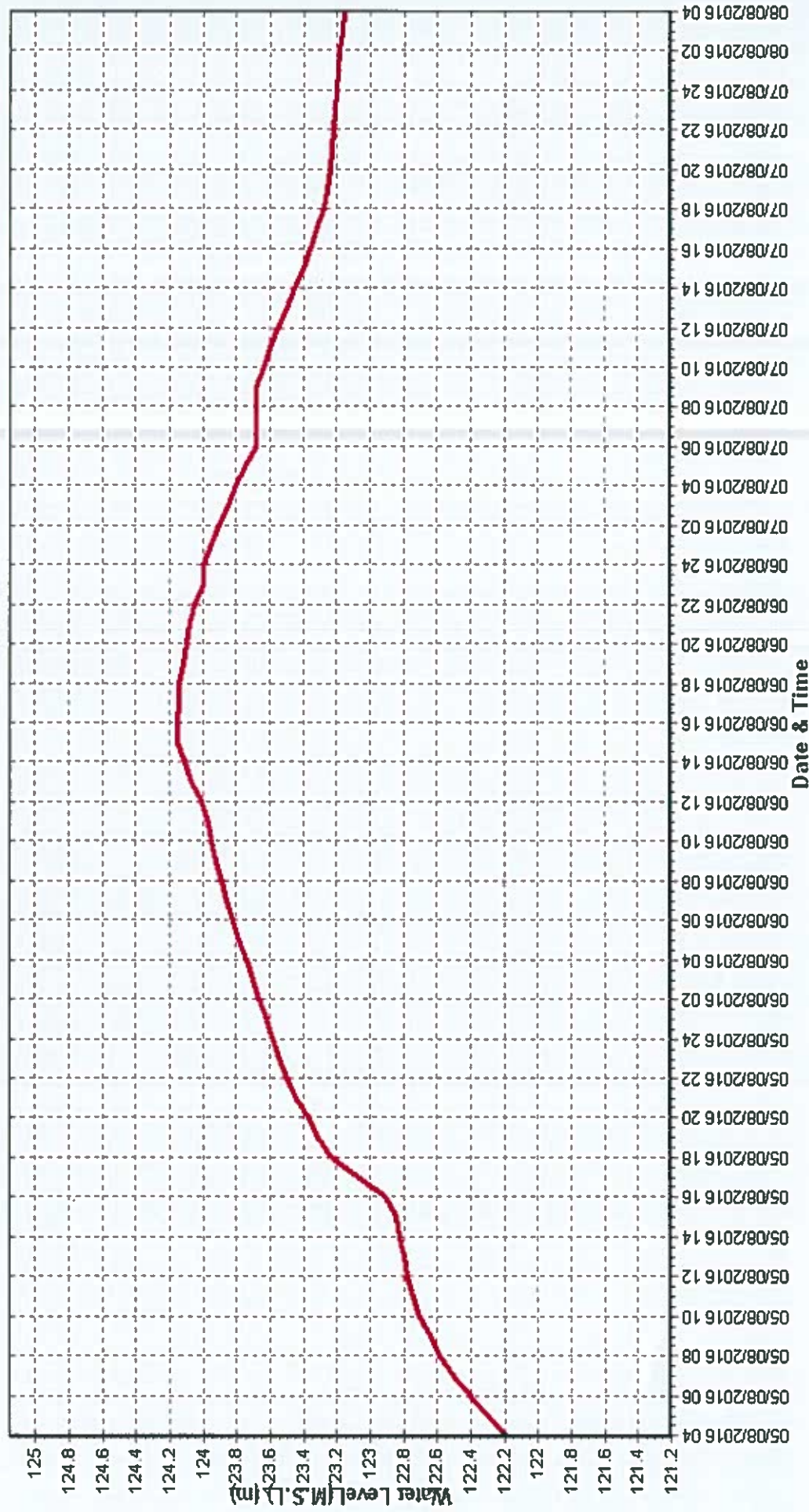
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

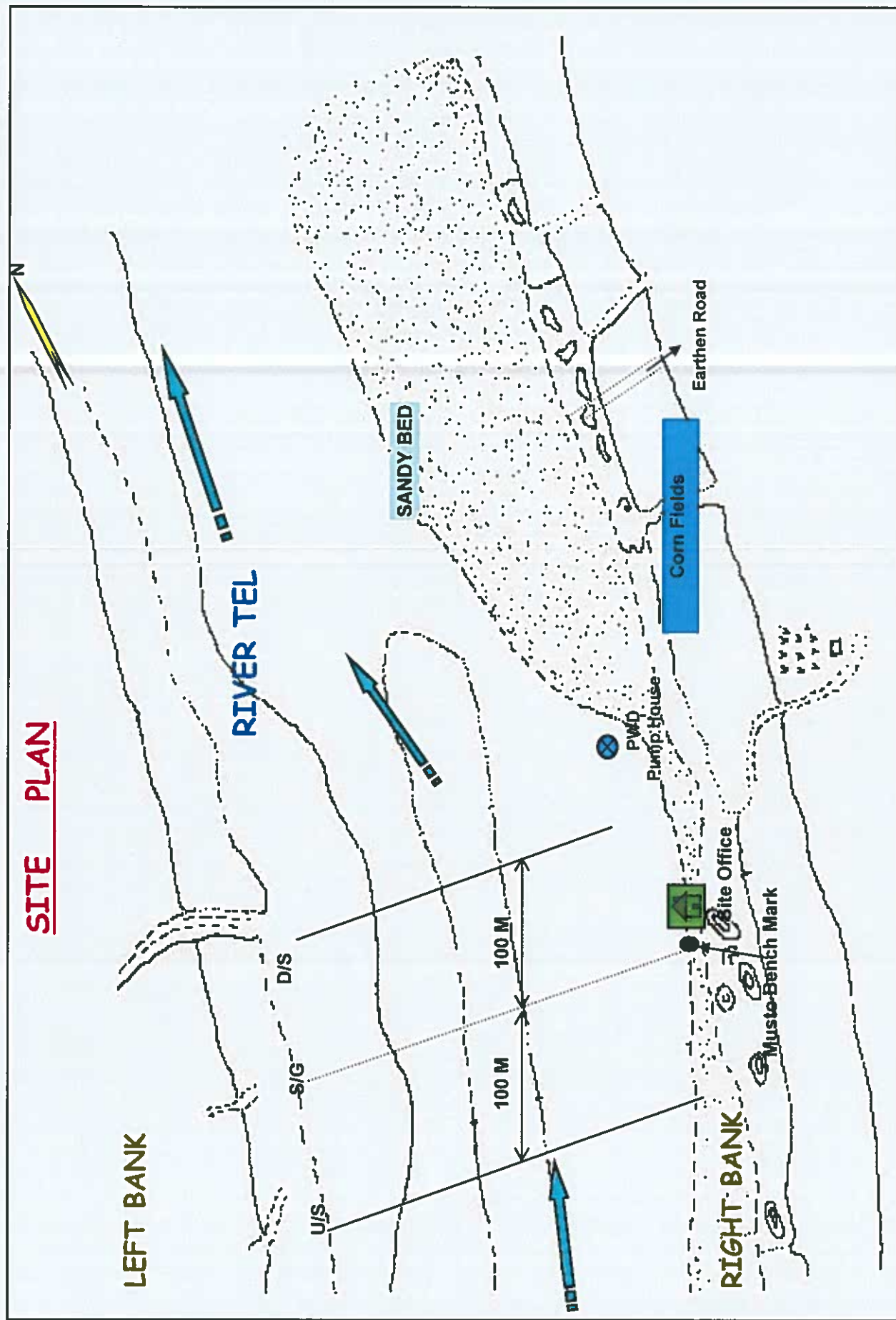
Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla



Time Span: 72 Hrs

SITE PLAN



SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KANTAMAL (EMF00C3)
Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day		Jun					Jul					Aug							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	153.7	0.000	0.000	0.059	0.059	777	164.2	0.000	0.000	0.134	0.134	1898	334.3	0.000	0.000	0.000	0.326	0.326	9424
2	114.7	0.000	0.000	0.047	0.047	464	260.8	0.000	0.000	0.141	0.141	3169	347.8	0.000	0.000	0.000	0.321	0.321	9656
3	82.06	0.000	0.000	0.043	0.043	301	540.2	0.000	0.000	0.000	0.000	0	364.6	0.000	0.000	0.000	0.340	0.340	10711
4	125.0	0.000	0.000	0.045	0.045	486	454.2	0.000	0.000	0.191	0.191	7508	394.7	0.000	0.000	0.000	0.448	0.448	15262
5	75.14	0.000	0.000	0.000	0.000	0	267.3	0.000	0.000	0.176	0.176	4053	1243	0.000	0.000	0.000	0.755	0.755	81063
6	68.41	0.000	0.000	0.035	0.035	208	233.0	0.000	0.000	0.000	0.000	0	2340	0.000	0.000	0.000	0.810	0.810	163763
7	59.20	0.000	0.000	0.039	0.039	198	192.2	0.000	0.000	0.138	0.138	2285	2123	0.000	0.000	0.000	0.000	0.000	0
8	142.8	0.000	0.000	0.049	0.049	599	152.2	0.000	0.000	0.139	0.139	1825	1657	0.000	0.000	0.000	1.063	1.063	152188
9	124.1	0.000	0.000	0.045	0.045	478	154.1	0.000	0.000	0.129	0.129	1714	1256	0.000	0.000	0.000	0.823	0.823	89267
10	86.50	0.000	0.000	0.039	0.039	290	273.9	0.000	0.000	0.000	0.000	0	1174	0.000	0.000	0.000	0.530	0.530	53756
11	80.54	0.000	0.000	0.038	0.038	261	322.0	0.000	0.000	0.151	0.151	4212	1330	0.000	0.000	0.000	0.308	0.308	35343
12	77.73	0.000	0.000	0.000	0.000	0	839.9	0.000	0.000	1.501	1.501	108918	1228	0.000	0.000	0.000	0.418	0.418	44302
13	58.10	0.000	0.000	0.039	0.039	196	727.9	0.000	0.000	0.489	0.489	30728	1117	0.000	0.000	0.000	0.453	0.453	43675
14	89.94	0.000	0.000	0.036	0.036	276	422.7	0.000	0.000	0.324	0.324	11833	751.2	0.000	0.000	0.000	0.000	0.000	0
15	92.30	0.000	0.000	0.035	0.035	279	277.8	0.000	0.000	0.279	0.279	6696	485.2	0.000	0.000	0.000	0.000	0.000	0
16	118.7	0.000	0.000	0.049	0.049	499	229.2	0.000	0.000	0.270	0.270	5347	381.6	0.000	0.000	0.000	0.213	0.213	7006
17	141.1	0.000	0.000	0.059	0.059	719	345.5	0.000	0.000	0.000	0.000	0	398.4	0.000	0.000	0.000	0.178	0.178	6110
18	158.6	0.000	0.000	0.125	0.125	1706	314.2	0.000	0.000	0.274	0.274	7433	462.4	0.000	0.000	0.000	0.245	0.245	9788
20	84.72	0.000	0.000	0.064	0.064	469	360.5	0.000	0.000	0.256	0.256	7983	340.9	0.000	0.000	0.000	0.178	0.178	5229
21	72.88	0.000	0.000	0.062	0.062	390	466.3	0.000	0.000	0.324	0.324	13052	298.8	0.000	0.000	0.000	0.000	0.000	0
22	61.82	0.000	0.000	0.063	0.063	336	650.6	0.000	0.000	0.376	0.376	21152	271.4	0.000	0.000	0.000	0.128	0.128	2990
23	88.92	0.000	0.000	0.069	0.069	526	546.2	0.000	0.000	0.386	0.386	18229	335.4	0.000	0.000	0.000	0.260	0.260	7533
24	315.5	0.000	0.000	0.389	0.389	10590	680.0	0.000	0.000	0.000	0.000	0	252.6	0.000	0.000	0.000	0.235	0.235	5128
25	108.2	0.000	0.000	0.364	0.364	3402	602.0	0.000	0.000	0.493	0.493	25615	254.8	0.000	0.000	0.000	0.200	0.200	4402
26	96.30	0.000	0.000	0.000	0.000	0	395.0	0.000	0.000	0.479	0.479	16342	321.1	0.000	0.000	0.000	0.178	0.178	4925
27	156.3	0.000	0.000	0.325	0.325	4395	338.5	0.000	0.000	0.294	0.294	8593	882.6	0.000	0.000	0.000	0.235	0.235	17921
28	136.4	0.000	0.000	0.323	0.323	3799	265.3	0.000	0.000	0.313	0.313	7164	753.7	0.000	0.000	0.000	0.000	0.000	0
29	122.4	0.000	0.000	0.312	0.312	3298	248.1	0.000	0.000	0.291	0.291	6245	961.3	0.000	0.000	0.000	0.268	0.268	22217
30	114.5	0.000	0.000	0.309	0.309	3057	218.4	0.000	0.000	0.313	0.313	5897	652.3	0.000	0.000	0.000	0.275	0.275	15499
31							255.8	0.000	0.000	0.000	0.000	0	571.1	0.000	0.000	0.000	0.270	0.270	13323
Ten Daily Mean																			
Ten Daily I		103.2	0.000	0.000	0.040	0.040	269.2	0.000	0.000	0.105	0.105	2245	1123	0.000	0.000	0.000	0.542	0.542	58509
Ten Daily II		99.58	0.000	0.000	0.044	0.044	427.6	0.000	0.000	0.386	0.386	19498	691.9	0.000	0.000	0.000	0.218	0.218	15823
Ten Daily III		127.3	0.000	0.000	0.221	0.221	424.2	0.000	0.000	0.297	0.297	11117	505.0	0.000	0.000	0.000	0.186	0.186	8540
Monthly																			
Total						38003						339726							837259

Annual Sediment Load (Metric Tonnes) : 2121152

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD, CWC, Burla

Sub-Division : MMSD II, CWC, Burla

Day		Sep					Oct					Nov							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	359.8	0.000	0.000	0.243	0.243	7539	1254	0.000	0.000	0.130	0.130	14085	213.7	0.000	0.000	0.000	0.027	0.027	498
2	795.0	0.000	0.000	0.650	0.650	44648	1281	0.000	0.000	0.000	0.000	0	204.3	0.000	0.000	0.000	0.025	0.025	441
3	660.0	0.000	0.000	0.128	0.128	7270	1074	0.000	0.000	0.020	0.020	1855	197.9	0.000	0.000	0.000	0.022	0.022	373
4	1597	0.000	0.000	0.000	0.000	0	907.8	0.000	0.000	0.235	0.235	18432	189.9	0.000	0.000	0.000	0.020	0.020	325
5	2488	0.000	0.000	0.628	0.628	134870	807.1	0.000	0.000	0.275	0.275	19176	185.0	0.000	0.000	0.000	0.019	0.019	307
6	2143	0.000	0.000	0.500	0.500	92571	1072	0.000	0.000	0.205	0.205	18982	185.0	0.000	0.000	0.000	0.000	0.000	0
7	1611	0.000	0.000	0.353	0.353	49052	782.1	0.000	0.000	0.203	0.203	13683	176.0	0.000	0.000	0.000	0.019	0.019	286
8	1314	0.000	0.000	0.333	0.333	37754	1341	0.000	0.000	0.175	0.175	20277	172.5	0.000	0.000	0.000	0.019	0.019	277
9	2246	0.000	0.000	0.179	0.179	34695	1468	0.000	0.000	0.000	0.000	0	172.7	0.000	0.000	0.000	0.018	0.018	275
10	1292	0.000	0.000	0.233	0.233	25957	1785	0.000	0.000	0.000	0.000	0	166.8	0.000	0.000	0.000	0.018	0.018	256
11	1304	0.000	0.000	0.000	0.000	0	1704	0.000	0.000	0.000	0.000	0	163.8	0.000	0.000	0.000	0.018	0.018	249
12	1271	0.000	0.000	0.250	0.250	27443	1355	0.000	0.000	0.000	0.000	0	152.5	0.000	0.000	0.000	0.018	0.018	240
13	1917	0.000	0.000	0.000	0.000	0	1047	0.000	0.000	0.165	0.165	14930	155.0	0.000	0.000	0.000	0.000	0.000	0
14	1732	0.000	0.000	0.268	0.268	40032	766.5	0.000	0.000	0.073	0.073	4802	165.0	0.000	0.000	0.000	0.000	0.000	0
15	1352	0.000	0.000	0.260	0.260	30372	655.6	0.000	0.000	0.065	0.065	3682	184.7	0.000	0.000	0.000	0.018	0.018	294
16	1286	0.000	0.000	0.150	0.150	16672	581.5	0.000	0.000	0.000	0.000	0	199.6	0.000	0.000	0.000	0.018	0.018	310
17	1060	0.000	0.000	0.178	0.178	16257	534.4	0.000	0.000	0.080	0.080	3694	196.2	0.000	0.000	0.000	0.018	0.018	298
18	1015	0.000	0.000	0.000	0.000	0	452.9	0.000	0.000	0.080	0.080	3131	184.6	0.000	0.000	0.000	0.017	0.017	274
20	1070	0.000	0.000	0.125	0.125	11558	315.2	0.000	0.000	0.077	0.077	2089	142.4	0.000	0.000	0.000	0.000	0.000	0
21	1112	0.000	0.000	0.250	0.250	24011	285.8	0.000	0.000	0.077	0.077	1899	103.1	0.000	0.000	0.000	0.018	0.018	159
22	850.5	0.000	0.000	0.130	0.130	9553	258.2	0.000	0.000	0.103	0.103	2300	96.11	0.000	0.000	0.000	0.016	0.016	135
23	1058	0.000	0.000	0.125	0.125	11430	249.4	0.000	0.000	0.000	0.000	0	94.90	0.000	0.000	0.000	0.016	0.016	131
24	929.6	0.000	0.000	0.123	0.123	9839	245.9	0.000	0.000	0.103	0.103	2190	92.15	0.000	0.000	0.000	0.016	0.016	126
25	750.0	0.000	0.000	0.000	0.000	0	233.1	0.000	0.000	0.102	0.102	2045	91.04	0.000	0.000	0.000	0.016	0.016	123
26	687.1	0.000	0.000	0.145	0.145	8608	217.6	0.000	0.000	0.131	0.131	2458	95.15	0.000	0.000	0.000	0.016	0.016	132
27	762.7	0.000	0.000	0.148	0.148	9719	214.5	0.000	0.000	0.125	0.125	2324	115.8	0.000	0.000	0.000	0.000	0.000	0
28	816.2	0.000	0.000	0.160	0.160	11283	207.1	0.000	0.000	0.108	0.108	1928	107.5	0.000	0.000	0.000	0.017	0.017	154
29	1185	0.000	0.000	0.250	0.250	25605	200.5	0.000	0.000	0.118	0.118	2044	101.6	0.000	0.000	0.000	0.016	0.016	144
30	1486	0.000	0.000	0.300	0.300	38519	197.2	0.000	0.000	0.000	0.000	0	94.92	0.000	0.000	0.000	0.016	0.016	133
31							212.0	0.000	0.000	0.119	0.119	2180							
Ten Daily Mean																			
Ten Daily I		1451	0.000	0.000	0.324	43436	1177	0.000	0.000	0.124	0.124	10649	186.4	0.000	0.000	0.000	0.019	0.019	304
Ten Daily II		1290	0.000	0.000	0.137	15295	782.9	0.000	0.000	0.063	0.063	3547	172.5	0.000	0.000	0.000	0.012	0.012	194
Ten Daily III		963.7	0.000	0.000	0.163	14857	229.2	0.000	0.000	0.090	0.090	1761	99.22	0.000	0.000	0.000	0.015	0.015	124
Monthly																			
Total						735871						161333							6219

Annual Sediment Load (Metric Tonnes) : 2121152

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	96.57	0.000	0.000	0.015	0.015	127	37.00	0.000	0.000	0.000	0.000	0	28.81	0.000	0.000	0.000	0.000	0
2	92.57	0.000	0.000	0.015	0.015	120	36.13	0.000	0.000	0.011	0.011	34	28.29	0.000	0.000	0.000	0.000	0
3	82.27	0.000	0.000	0.015	0.015	106	35.68	0.000	0.000	0.000	0.000	0	27.96	0.000	0.000	0.000	0.000	0
4	73.00	0.000	0.000	0.000	0.000	0	35.77	0.000	0.000	0.000	0.000	0	28.06	0.000	0.000	0.000	0.000	0
5	73.12	0.000	0.000	0.015	0.015	94	34.28	0.000	0.000	0.000	0.000	0	28.00	0.000	0.000	0.000	0.000	0
6	64.28	0.000	0.000	0.015	0.015	81	32.48	0.000	0.000	0.000	0.000	0	30.51	0.000	0.000	0.012	0.012	33
7	69.31	0.000	0.000	0.015	0.015	87	32.09	0.000	0.000	0.000	0.000	0	30.46	0.000	0.000	0.000	0.000	0
8	68.65	0.000	0.000	0.014	0.014	85	32.00	0.000	0.000	0.000	0.000	0	30.23	0.000	0.000	0.000	0.000	0
9	73.22	0.000	0.000	0.014	0.014	87	36.36	0.000	0.000	0.010	0.010	33	28.89	0.000	0.000	0.000	0.000	0
10	73.16	0.000	0.000	0.013	0.013	83	36.89	0.000	0.000	0.000	0.000	0	29.33	0.000	0.000	0.000	0.000	0
11	72.00	0.000	0.000	0.000	0.000	0	35.72	0.000	0.000	0.000	0.000	0	29.31	0.000	0.000	0.000	0.000	0
12	71.00	0.000	0.000	0.000	0.000	0	35.32	0.000	0.000	0.000	0.000	0	34.43	0.000	0.000	0.000	0.000	0
13	67.85	0.000	0.000	0.013	0.013	74	20.58	0.000	0.000	0.000	0.000	0	42.94	0.000	0.000	0.013	0.013	48
14	66.26	0.000	0.000	0.012	0.012	71	20.41	0.000	0.000	0.000	0.000	0	42.85	0.000	0.000	0.000	0.000	0
15	67.64	0.000	0.000	0.012	0.012	71	16.00	0.000	0.000	0.000	0.000	0	42.48	0.000	0.000	0.000	0.000	0
16	58.72	0.000	0.000	0.012	0.012	62	15.27	0.000	0.000	0.010	0.010	13	42.11	0.000	0.000	0.000	0.000	0
17	58.00	0.000	0.000	0.012	0.012	60	15.44	0.000	0.000	0.000	0.000	0	40.73	0.000	0.000	0.000	0.000	0
18	55.00	0.000	0.000	0.000	0.000	0	15.54	0.000	0.000	0.000	0.000	0	40.15	0.000	0.000	0.000	0.000	0
20	45.62	0.000	0.000	0.011	0.011	45	17.96	0.000	0.000	0.000	0.000	0	42.76	0.000	0.000	0.012	0.012	45
21	45.87	0.000	0.000	0.011	0.011	45	17.65	0.000	0.000	0.000	0.000	0	42.51	0.000	0.000	0.000	0.000	0
22	40.11	0.000	0.000	0.011	0.011	39	17.66	0.000	0.000	0.000	0.000	0	41.04	0.000	0.000	0.000	0.000	0
23	39.75	0.000	0.000	0.011	0.011	38	26.57	0.000	0.000	0.013	0.013	29	43.76	0.000	0.000	0.000	0.000	0
24	36.13	0.000	0.000	0.011	0.011	34	26.61	0.000	0.000	0.000	0.000	0	43.72	0.000	0.000	0.000	0.000	0
25	36.20	0.000	0.000	0.000	0.000	0	26.25	0.000	0.000	0.000	0.000	0	43.76	0.000	0.000	0.000	0.000	0
26	37.31	0.000	0.000	0.011	0.011	35	27.50	0.000	0.000	0.000	0.000	0	43.76	0.000	0.000	0.000	0.000	0
27	37.67	0.000	0.000	0.011	0.011	34	27.59	0.000	0.000	0.000	0.000	0	42.16	0.000	0.000	0.011	0.011	40
28	35.93	0.000	0.000	0.010	0.010	32	27.32	0.000	0.000	0.000	0.000	0	42.17	0.000	0.000	0.000	0.000	0
29	51.55	0.000	0.000	0.011	0.011	47	27.50	0.000	0.000	0.000	0.000	0						
30	42.52	0.000	0.000	0.011	0.011	39	28.71	0.000	0.000	0.013	0.013	32						
31	38.40	0.000	0.000	0.011	0.011	35	28.69	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	76.61	0.000	0.000	0.013	0.013	87	34.87	0.000	0.000	0.002	0.002	7	29.05	0.000	0.000	0.001	0.001	3
Ten Daily II	60.86	0.000	0.000	0.008	0.008	43	20.99	0.000	0.000	0.001	0.001	1	39.92	0.000	0.000	0.003	0.003	9
Ten Daily III	40.13	0.000	0.000	0.010	0.010	34	25.64	0.000	0.000	0.002	0.002	6	42.86	0.000	0.000	0.001	0.001	5
Monthly						1677						140						166

Annual Sediment Load (Metric Tonnes) : 2121152

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

Day		Mar					Apr					May						
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	37.78	0.000	0.000	0.000	0.000	0	35.97	0.000	0.000	0.000	0.000	0	77.01	0.000	0.000	0.011	0.011	73
2	35.83	0.000	0.000	0.000	0.000	0	35.48	0.000	0.000	0.000	0.000	0	74.90	0.000	0.000	0.000	0.000	0
3	35.93	0.000	0.000	0.000	0.000	0	55.81	0.000	0.000	0.011	0.011	52	74.21	0.000	0.000	0.000	0.000	0
4	36.01	0.000	0.000	0.000	0.000	0	55.37	0.000	0.000	0.000	0.000	0	56.71	0.000	0.000	0.000	0.000	0
5	37.67	0.000	0.000	0.000	0.000	0	53.53	0.000	0.000	0.000	0.000	0	55.63	0.000	0.000	0.000	0.000	0
6	35.19	0.000	0.000	0.011	0.011	33	30.47	0.000	0.000	0.000	0.000	0	53.85	0.000	0.000	0.000	0.000	0
7	35.42	0.000	0.000	0.000	0.000	0	30.12	0.000	0.000	0.000	0.000	0	72.50	0.000	0.000	0.000	0.000	0
8	35.52	0.000	0.000	0.000	0.000	0	30.01	0.000	0.000	0.000	0.000	0	75.56	0.000	0.000	0.011	0.011	72
9	39.27	0.000	0.000	0.000	0.000	0	28.90	0.000	0.000	0.000	0.000	0	71.81	0.000	0.000	0.000	0.000	0
10	44.77	0.000	0.000	0.000	0.000	0	70.94	0.000	0.000	0.011	0.011	67	64.30	0.000	0.000	0.000	0.000	0
11	62.68	0.000	0.000	0.000	0.000	0	67.64	0.000	0.000	0.000	0.000	0	58.73	0.000	0.000	0.000	0.000	0
12	55.10	0.000	0.000	0.000	0.000	0	67.56	0.000	0.000	0.000	0.000	0	58.23	0.000	0.000	0.000	0.000	0
13	50.71	0.000	0.000	0.000	0.000	0	45.23	0.000	0.000	0.000	0.000	0	55.04	0.000	0.000	0.000	0.000	0
14	62.88	0.000	0.000	0.011	0.011	61	45.22	0.000	0.000	0.000	0.000	0	55.05	0.000	0.000	0.000	0.000	0
15	62.34	0.000	0.000	0.000	0.000	0	43.69	0.000	0.000	0.000	0.000	0	51.36	0.000	0.000	0.010	0.010	43
16	49.04	0.000	0.000	0.000	0.000	0	43.71	0.000	0.000	0.000	0.000	0	50.92	0.000	0.000	0.000	0.000	0
17	44.51	0.000	0.000	0.000	0.000	0	65.86	0.000	0.000	0.011	0.011	61	48.59	0.000	0.000	0.000	0.000	0
18	44.36	0.000	0.000	0.000	0.000	0	75.79	0.000	0.000	0.000	0.000	0	31.93	0.000	0.000	0.000	0.000	0
20	33.01	0.000	0.000	0.010	0.010	27	50.70	0.000	0.000	0.000	0.000	0	30.73	0.000	0.000	0.000	0.000	0
21	32.93	0.000	0.000	0.000	0.000	0	50.32	0.000	0.000	0.000	0.000	0	30.73	0.000	0.000	0.000	0.000	0
22	30.99	0.000	0.000	0.000	0.000	0	75.69	0.000	0.000	0.000	0.000	0	60.66	0.000	0.000	0.011	0.011	57
23	30.25	0.000	0.000	0.000	0.000	0	75.49	0.000	0.000	0.000	0.000	0	59.37	0.000	0.000	0.000	0.000	0
24	30.80	0.000	0.000	0.000	0.000	0	54.71	0.000	0.000	0.010	0.010	48	56.36	0.000	0.000	0.000	0.000	0
25	30.64	0.000	0.000	0.000	0.000	0	53.77	0.000	0.000	0.000	0.000	0	88.90	0.000	0.000	0.000	0.000	0
26	30.64	0.000	0.000	0.000	0.000	0	52.93	0.000	0.000	0.000	0.000	0	85.29	0.000	0.000	0.000	0.000	0
27	74.12	0.000	0.000	0.012	0.012	74	54.23	0.000	0.000	0.000	0.000	0	93.83	0.000	0.000	0.000	0.000	0
28	73.17	0.000	0.000	0.000	0.000	0	42.33	0.000	0.000	0.000	0.000	0	98.72	0.000	0.000	0.000	0.000	0
29	70.20	0.000	0.000	0.000	0.000	0	44.32	0.000	0.000	0.000	0.000	0	89.33	0.000	0.000	0.011	0.011	88
30	36.35	0.000	0.000	0.000	0.000	0	44.24	0.000	0.000	0.000	0.000	0	86.05	0.000	0.000	0.000	0.000	0
31	36.08	0.000	0.000	0.000	0.000	0							86.55	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I		37.34	0.000	0.000	0.001	3	42.66	0.000	0.000	0.002	0.002	12	67.65	0.000	0.000	0.002	0.002	15
Ten Daily II		50.90	0.000	0.000	0.002	9	56.68	0.000	0.000	0.001	0.001	6	47.18	0.000	0.000	0.001	0.001	4
Ten Daily III		43.29	0.000	0.000	0.001	7	54.80	0.000	0.000	0.001	0.001	5	75.98	0.000	0.000	0.002	0.002	13
Monthly																		
Total						195						229						333

Annual Sediment Load (Metric Tonnes) : 2121152

Annual Sediment Load for period : 1977-2017

Station Name : KANTAMAL (EMF00C3)

Division : MD,CWC,Burla

Local River : Tel

Sub-Division : MMSD II,CWC,Burla

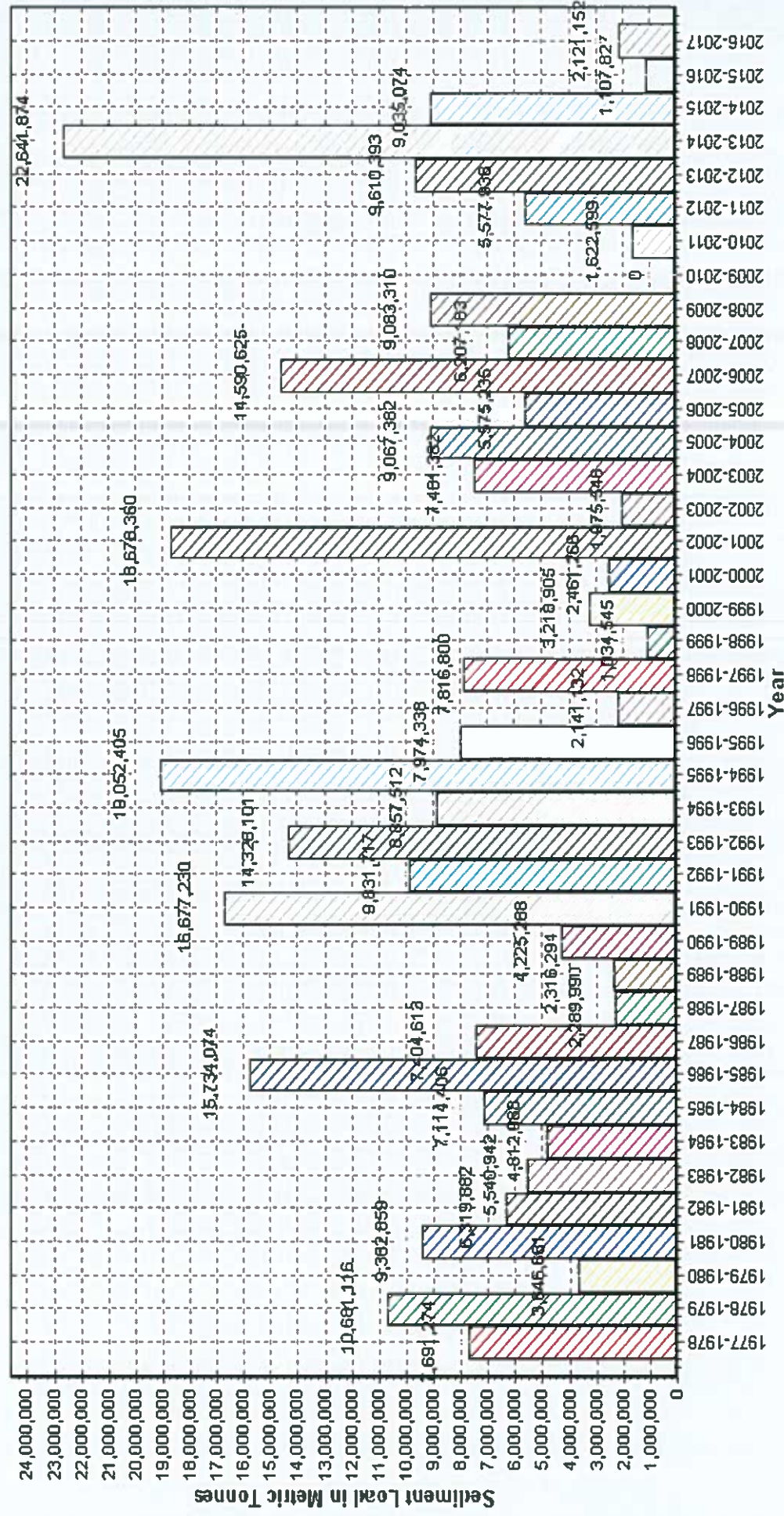
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1977-1978	7688659	2616	7691274	10617
1978-1979	10680564	552	10681116	14509
1979-1980	3646665	16	3646681	5686
1980-1981	9359525	3334	9362859	12573
1981-1982	6317537	2345	6319882	6916
1982-1983	5535619	5322	5540942	5528
1983-1984	4809949	3039	4812988	6242
1984-1985	7112051	2355	7114406	8562
1985-1986	15726715	7359	15734074	17571
1986-1987	7400785	3827	7404613	10610
1987-1988	2287331	2659	2289990	3356
1988-1989	2316294	0	2316294	3579
1989-1990	4209577	15711	4225288	5996
1990-1991	16675696	1535	16677230	21454
1991-1992	9831491	226	9831717	14737
1992-1993	14327597	504	14328101	13157
1993-1994	8856944	568	8857512	8427
1994-1995	19045780	6625	19052405	21286
1995-1996	7973723	614	7974338	9940
1997-1998	7806928	9872	7816800	9977
1998-1999	1032385	2160	1034545	3626
1999-2000	3214193	4711	3218905	6874
2000-2001	2364610	96656	2461266	6409
2001-2002	18660295	18065	18678360	22637
2002-2003	1972036	3511	1975546	4025
2003-2004	7471829	9552	7481382	15322
2004-2005	9015856	51526	9067382	12558
2005-2006	5515776	59459	5575235	9319
2006-2007	14585765	4860	14590625	21072
2007-2008	6186226	20937	6207163	16753
2008-2009	9083310	0	9083310	17939
2009-2010	0	0	0	11442
2010-2011	1615614	6985	1622599	10276
2011-2012	5577823	115	5577938	6623
2012-2013	9593904	16489	9610393	9255
2013-2014	22634481	7393	22641874	12547
2014-2015	9013038	22035	9035074	14464
2015-2016	1098654	9172	1107827	6851
2016-2017	2118412	2740	2121152	9587

Annual Sediment Load for the period: 1977-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

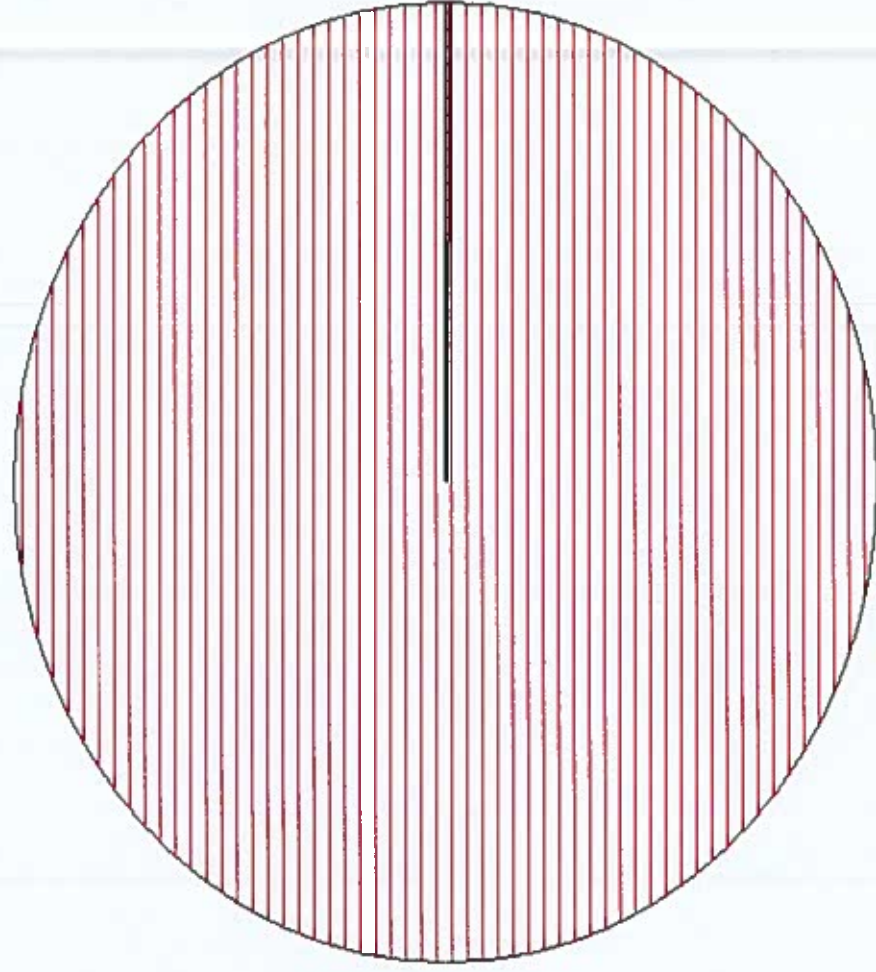
Division : MD, CWC, Burla
Sub-Division : MMSD II, CWC, Burla



Seasonal Sediment Load for the period : 1977-2016

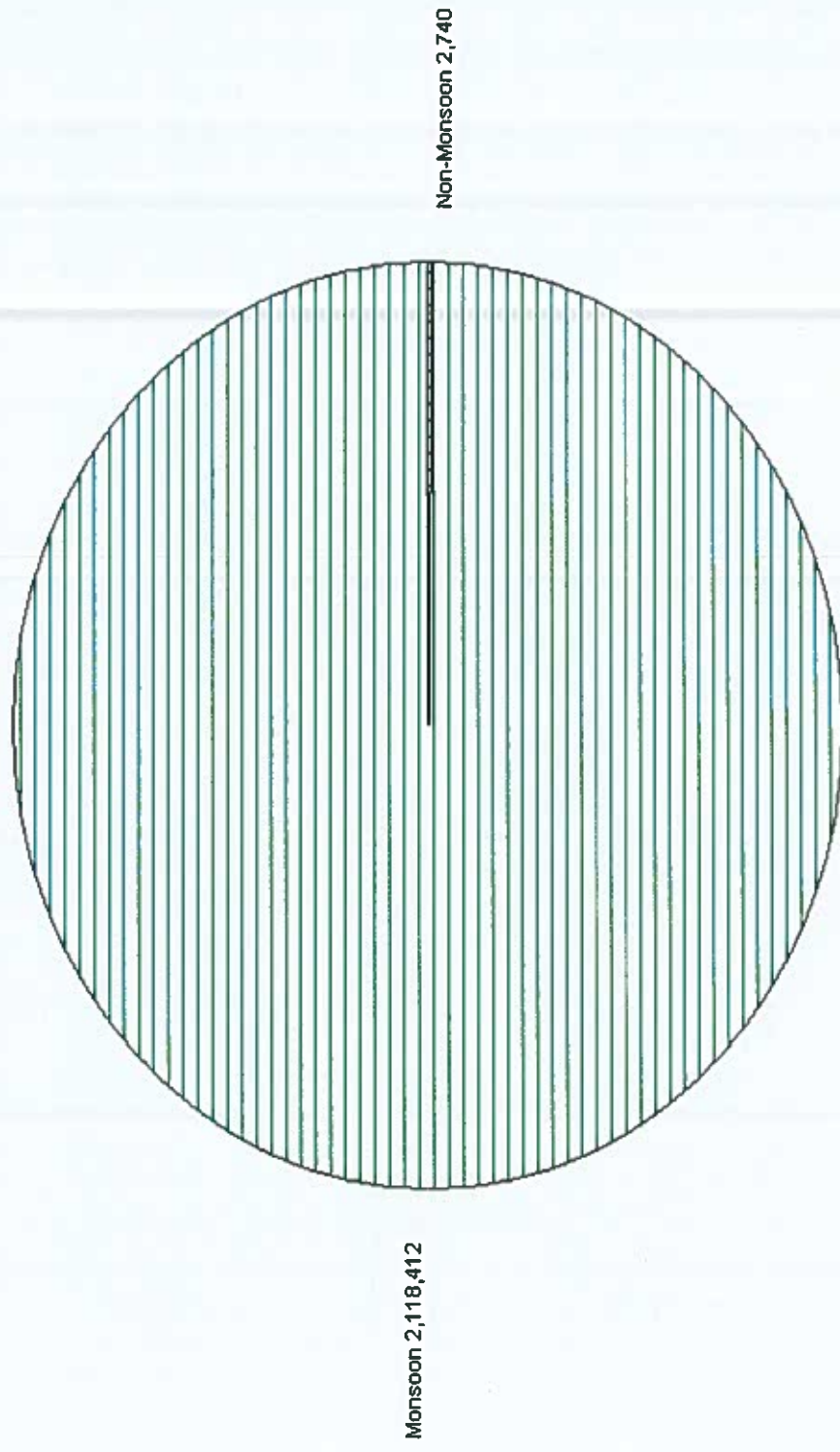
Station Name : KANTAMAL (EMF00C3)
Local River : Tel

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla



Seasonal Sediment Load for the Year: 2016-2017

Station Name : KANTAMAL (EMF00C3)
Local River : Tel



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

River Water Analysis

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	01-06-2016	01-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	153.7	164.2	334.3	359.8	1254	213.7	96.57	36.13	28.81	37.78	35.97	77.01
2	Colour_Cod (-)												
3	EC_FLD (µmho/cm)												
4	EC_GEN (µmho/cm)	99	67	109	135	173	161	229	154	305	175	165	180
5	Odour_Code (-)												
6	pH_FLD (pH units)	8.1	8.1		7.6	7.3	7.3	7.4	7.3	7.4	8.0	7.9	
7	pH_GEN (pH units)	8.5	8.0	7.2	7.7	7.6	8.4	7.6	8.7	8.4	8.4	8.1	7.5
8	Temp (deg C)	31.0	29.0	29.0	30.0	30.0	28.0	24.0	22.0	26.0	28.5	32.6	31.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Alk-TOT (mgCaCO3/L)	184	128	68	160	180	132	152	156	108	184	208	208
3	Ca (mg/L)	24	22	40	38	46	53	43	51	43	30	37	51
4	Cl (mg/L)	15.0	8.0	25.0	15.0	37.0	35.0	34.0	30.0	42.0	48.0	44.0	32.0
5	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	HCO3 (mg/L)	112	78	42	98	110	81	93	95	66	112	127	127
7	K (mg/L)	14.9	10.7	8.7	17.4	3.3	12.1	8.5	7.1	7.9	8.4	10.1	7.9
8	Mg (mg/L)	6.8	15.6	3.9	6.8	12.6	5.8	12.6	7.8	15.6	15.6	6.8	2.9
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	0.8	0.9	0.4	0.8	1.8	0.5	0.8	0.5	0.5	1.8	1.0	0.8
2	DO (mg/L)	6.1	5.1	6.4	6.0	6.8	6.1	6.8	7.4	7.7	7.6	7.3	5.6
3	DO_SAT% (%)	82	66	83	79	90	78	81	85	95	97	100	75
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	60	56	100	96	116	132	108	128	108	76	92	128
2	HAR_Total (mgCaCO3/L)	88	121	116	125	169	157	161	161	173	141	121	140
3	Na% (%)	44	19	19	32	23	24	20	21	22	23	30	22
4	RSC (-)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.8	0.6	0.6	1.3	0.8	0.9	0.7	0.7	0.8	0.8	1.0	0.7
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : KANTAMAL (EMF00C3)

Division : MD,CWC,Burla

Local River : Tel

Sub-Division : MMSD II,CWC,Burla

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	2488	15.27	304.0
2	EC_FLD (µmho/cm)	8	398	135	214
3	EC_GEN (µmho/cm)	12	305	67	163
4	pH_FLD (pH units)	10	8.1	7.3	7.6
5	pH_GEN (pH units)	12	8.7	7.2	8
6	Temp (deg C)	12	32.6	22.0	28.4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	208	68	156
3	Ca (mg/L)	12	53	22	40
4	Cl (mg/L)	12	48.0	8.0	30.4
5	CO3 (mg/L)	12	0.0	0.0	0
6	HCO3 (mg/L)	12	127	42	95
7	K (mg/L)	12	17.4	3.3	9.7
8	Mg (mg/L)	12	15.6	2.9	9.4
9	Na (mg/L)	12	39.4	13.7	23.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	1.8	0.4	0.9
3	DO_SAT% (%)	12	100	66	84
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	132	56	100
2	HAR_Total (mgCaCO3/L)	12	173	88	139
3	Na% (%)	12	44	19	25
4	RSC (-)	12	0.1	0.0	0
5	SAR (-)	12	1.8	0.6	0.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	388.1	942.7	333.6	462.5	2348	1536	838.4	427.6	228.0	645.2	377.0	1814	820.3	401.4	453.2
2	EC_FLD (µmho/cm)	185	161	145	159	144	122							70		321
3	EC_GEN (µmho/cm)	185	161	145	159	144	147	201	159	145	129	135	134	124	145	117
4	pH_FLD (pH units)	8.0	7.9		7.7	7.5	8.0	8.3	7.7	7.2	7.9	8.1	7.6	7.4	7.2	7.8
5	pH_GEN (pH units)	8.0	7.9		7.8	7.5	7.9	7.8	8.0	7.7	7.6	7.8	8.1	8.0	8.2	7.8
6	Temp (deg C)	27.9	28.0	30.0	29.4	26.5	30.0	28.6	29.2	30.4	30.0	29.4	28.9	28.3	29.2	29.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	4.8	0.0
2	ALK-TOT (mgCaCO3/L)	123	156	151	92		86	66	115	100	92	100	146	145	158	144
3	B (mg/L)				0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	16	17	14	11		10	17	13	11	11	13	16	17	20	34
5	Cl (mg/L)	6.7	49.5		23.4		5.1	6.7	5.4	3.2	5.2	11.3	15.8	11.4	14.0	20.0
6	CO3 (mg/L)	0.5	0.0		0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	5.8	0.0
7	F (mg/L)		0.22		0.20		0.08	0.10	0.10	0.35	0.16	0.14				
8	Fe (mg/L)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10	K (mg/L)	4.8			3.6		1.1	0.9	1.4	1.5	1.7	1.3	3.5	2.8	4.9	11.0
11	Mg (mg/L)	6.2	4.5	9.1	3.2		5.9	7.5	6.9	5.7	6.6	7.3	5.8	5.6	9.1	9.1
12	Na (mg/L)	11.8			13.0		12.9	4.3	4.6	7.1	5.7	6.1	10.0	17.0	15.7	24.7
13	NO2+NO3 (mg N/L)				0.06	0.05	0.07	0.31								
14	NO2-N (mgN/L)				0.01	0.00	0.01	0.04	0.02	0.01	0.02	0.04				
15	NO3-N (mgN/L)				0.05	0.04	0.06	0.27								
16	o-PO4-P (mg P/L)							0.024								
17	P-Tot (mgP/L)				0.003	0.027	0.010	0.019	0.016	0.010	0.032	0.056				
18	SiO2 (mg/L)				5.7		8.6	17.9	14.6	11.0	16.6	15.4				
19	SO4 (mg/L)	4.9	9.5		13.8		8.7	9.1	16.0	13.4	16.6	15.8				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KANTAMAL (EMFD00C3)

Division : MD, CWC, Burla

Local River : Tel

River Water

Sub-Division : MMSD II, CWC, Burla

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	1.2	0.7	0.6	0.5	0.6	0.6	0.9	0.9	1.2	0.9	0.6	0.2	0.6	0.9
2	COD (mg/L)					25.8	11.2	14.4	16.0	16.8	16.8	16.0				
3	DO (mg/L)	8.2	3.5	4.4	6.2	6.0	6.8	6.6	6.6	6.1	6.1	7.0	6.7	6.1	6.6	6.1
4	DO_SAT% (%)	105	72	58	81	75	90	85	86	81	80	90	86	78	86	80
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	41	44	35	27		25	43	32	28	27	32	40	43	49	86
2	HAR_Total (mgCaCO3/L)	75	62	73	40		49	74	60	51	54	63	64	66	87	124
3	Na% (%)	24			38		36	14	14	22	18	17	23	35	27	28
4	RSC (-)	0.4	0.3		0.1		0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.0
5	SAR (-)	0.6			1.0		0.8	0.2	0.3	0.4	0.3	0.3	0.6	0.9	0.7	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Winter																	
		Nov - Feb																	
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017			
	PHYSICAL																		
1	Q (cumec)	36.35	240.9	198.6	122.7	135.4	162.5	103.1	69.25	133.3	46.84	80.26	236.1	138.9	53.83	93.79			
2	EC_FLD (µmho/cm)	188	147		152	157							57			165			
3	EC_GEN (µmho/cm)	188	147		152	157	214	150	204	240	181	213	193	151	163	212			
4	pH_FLD (pH units)	8.2	8.1		7.7	8.0		8.2	8.0	7.8	8.0	8.4	7.7	7.4	8.3	7.4			
5	pH_GEN (pH units)	8.2	8.1		7.7	8.0	8.1	8.3	8.1	7.8	8.2	8.0	8.4	8.5	8.4	8.3			
6	Temp (deg C)	23.5			24.7	24.3	21.3	22.9	23.0	23.0	23.6	22.3	21.9	20.9	23.1	25.0			
	CHEMICAL																		
1	Alk-Phen (mgCaCO3/L)	1.9	0.0		0.0	0.0	1.8	6.4	0.0	0.0	1.7	0.0	0.0	0.0	1.5	0.0			
2	ALK-TOT (mgCaCO3/L)	112	134		104		82	107	151	167	125	192	341	230	169	137			
3	B (mg/L)				0.03		0.01	0.00	0.00	0.01	0.00	0.00							
4	Ca (mg/L)	20	20		14		13	11	16	17	13	23	30	25	27	48			
5	Cl (mg/L)	5.1	64.3		23.5		18.7	16.9	6.0	13.9	10.5	15.2	15.3	16.5	11.5	35.3			
6	CO3 (mg/L)	2.3	0.0		0.0	0.0	2.2	7.8	0.0	0.0	2.0	0.0	0.0	0.0	1.8	0.0			
7	F (mg/L)		0.54		0.14		0.09	0.10	0.13	0.11	0.14	0.20							
8	Fe (mg/L)				0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.1					
10	K (mg/L)	2.6			4.8		1.7	0.9	1.3	1.4	1.5	0.8	8.4	3.3	5.3	8.9			
11	Mg (mg/L)	3.8	10.5		6.1		11.4	5.3	9.1	10.1	7.6	10.5	9.9	14.3	10.5	10.5			
12	Na (mg/L)	4.6			12.2		16.2	7.2	6.0	8.4	10.3	20.1	19.1	11.8	18.7	22.2			
13	NO2+NO3 (mg N/L)				0.05	0.02	0.10	0.29						0.14					
14	NO2-N (mgN/L)				0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.03		0.03					
15	NO3-N (mgN/L)				0.05	0.02	0.09	0.29						0.11					
16	o-PO4-P (mg P/L)																		
17	P-Tot (mgP/L)				0.054	0.338	0.022	0.015	0.017	0.027	0.042	0.052		0.060					
18	SiO2 (mg/L)				22.7		19.3	12.4	13.0	12.3	13.8	18.4		16.5					
19	SO4 (mg/L)		12.9		9.6		13.0	14.6	16.0	24.2	20.8	20.8		18.6					

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Water Quality Seasonal Average for the period: 2002-2017

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Winter														
		Now - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	0.5		0.6	0.5	0.7	1.6	0.8	0.6	0.5	1.1	0.6	0.4	0.4	0.6
2	COD (mg/L)					22.3	17.5	16.0	19.0	19.0	20.0	20.0				
3	DO (mg/L)	8.1	5.7		8.1	8.1	8.5	8.1	7.8	8.0	8.1	8.8	8.4	8.5	7.8	7.0
4	DO_SAT% (%)	94			97	96	95	94	91	94	95	100	96	95	90	85
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	51	51		34		33	27	41	44	34	57	76	62	67	119
2	HAR_Total (mgCaCO3/L)	67	94		60		80	50	78	86	65	101	118	122	111	163
3	Na% (%)	9			29		34	24	14	17	25	27	24	17	26	22
4	RSC (-)	0.2	0.2		0.0		0.0	0.2	0.0	0.0	0.1	0.2	1.4	0.2	0.1	0.0
5	SAR (-)	0.1			0.7		0.9	0.5	0.3	0.4	0.6	0.9	0.8	0.5	0.8	0.8
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

River Water

Division : MD,CWC,Burla

Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Summer														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	34.08	87.72	61.29	83.89	48.93	45.98	56.75	75.24	75.98	15.31	60.49	94.19	54.08	23.50	50.26
2	EC_FLD (µmho/cm)	198	201	175	148	199							83			207
3	EC_GEN (µmho/cm)	198	201	175	148	199	156	156	183	320	210	202	153	168	181	173
4	pH_FLD (pH units)	8.0	7.7	8.1	8.0	8.4	8.3	8.2	7.8	7.6	7.6	8.2	8.2	7.3	8.9	7.9
5	pH_GEN (pH units)	8.0	7.8	8.1	8.0	8.4	8.2	8.2	8.3	7.6	7.5	8.6	8.4	8.4	8.4	8.0
6	Temp (deg C)	26.5		30.5	33.0	32.0	24.8	26.2	28.8	26.9	28.9	28.4	29.8	26.5	28.0	30.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	1.4	0.0	0.0	0.0	0.0	2.5	3.1	8.6	0.0	0.0	0.7	0.0	4.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	63	188	120	111		120	110	135	310	151	225	163	200	239	200
3	B (mg/L)				0.02		0.01	0.00	0.00	0.00	0.00	0.00				
4	Ca (mg/L)	6	13	15	11		13	11	14	27	17	28	23	26	25	40
5	Cl (mg/L)		9.0	52.0	11.5		12.5	6.3	11.1	16.6	14.6	38.3	15.7	17.3	18.7	41.3
6	CO3 (mg/L)	1.7	0.0	0.0	0.0	0.0	3.0	3.7	10.3	0.0	0.0	0.8	0.0	4.8	0.0	0.0
7	F (mg/L)			0.71	0.07		0.08	0.13	0.15	0.25	0.17	0.19				
8	Fe (mg/L)				0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.1		0.1		
10	K (mg/L)			5.2	1.2		1.3	1.6	2.3	1.9	1.4	3.5	2.9	4.1	12.3	8.8
11	Mg (mg/L)	2.6	3.7	5.1	5.6		6.0	5.8	8.6	16.8	9.5	9.7	11.0	14.9	10.5	8.4
12	Na (mg/L)			9.2	8.2		13.7	4.7	15.6	12.1	8.5	35.7	25.8	17.2	35.6	22.3
13	NO2+NO3 (mg N/L)			0.07	0.03	0.08	0.30	1.09						0.17		
14	NO2-N (mgN/L)				0.00	0.00	0.02	0.02	0.01	0.42	0.10	0.07		0.05		
15	NO3-N (mgN/L)				0.02	0.08	0.28	1.07						0.12		
16	o-PO4-P (mg P/L)															
17	P-Tot (mgP/L)			0.015	0.021	0.030	0.017	0.013	0.023	0.080	0.060	0.050		0.060		
18	SiO2 (mg/L)				11.0		13.4	26.9	9.8	21.3	16.5	16.2		12.2		
19	SO4 (mg/L)		2.0	6.1	3.6		9.1	13.6	14.0	34.7	17.8	19.3		17.0		

Station Name : KANTAMAL (EMF00C3)

Local River : Tel

Water Quality Seasonal Average for the period: 2002-2017

River Water

Division : MD,CWC,Burla
Sub-Division : MMSD II,CWC,Burla

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.4	1.2	0.7	0.9	0.9	0.6	0.6	1.0	1.7	0.7	0.4	0.5	0.5	0.9	1.2
2	COD (mg/L)					21.2	17.3	21.3	20.0	20.0	18.7	18.7				
3	DO (mg/L)	7.6	7.9	8.0	6.3	7.9	6.7	7.0	6.2	7.1	7.1	6.7	7.8	6.9	6.7	6.8
4	DO_SAT% (%)	93		102	88	108	80	86	80	89	92	86	101	85	85	91
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	16	34	37	28		33	27	36	67	41	69	57	65	62	99
2	HAR_Total (mgCaCO3/L)	26	49	58	51		58	51	72	137	81	110	103	127	106	134
3	Na% (%)			24	26		34	16	27	19	18	40	34	21	37	25
4	RSC (-)	0.1	0.9	0.1	0.1		0.2	0.2	0.1	0.5	0.0	0.3	0.0	0.0	0.3	0.0
5	SAR (-)			0.5	0.5		0.8	0.3	0.8	0.5	0.4	1.6	1.2	0.7	1.5	0.8
	PESTICIDES															

LOWER MAHANADI SUB-BASIN

SITE TIKARPARA

HISTORY SHEET

Water Year : 2016-2017

Site : TIKARAPARA

Code : EM000G5

State : Orissa

District : Angul

Basin : Mahanadi

Independent River : Mahanadi

Tributary : Mahanadi

Sub Tributary :

Sub-Sub Tributary :

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar

Drainage Area : 124450 Sq. Km.

Bank : Left

Latitude : 20°38'00"

Longitude : 84°37'08"

Zero of Gauge (m) : 50 (m.s.l)
185 (m.s.l)19-02-1971 - 31-12-2020
21-03-1975

Opening Date

Closing Date

Gauge : 19-02-1971

01-01-2100

Discharge : 28-05-1972

01-01-2100

Sediment : 01-06-1973

01-01-2100

Water Quality : 01-12-1972

01-01-2100

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1972-1973	16660	64.515	13-09-1972	107.7	53.360	24-05-1973
1973-1974	23949	69.150	27-09-1973	82.46	54.075	02-06-1973
1974-1975	17400	66.825	19-08-1974	51.81	53.905	21-05-1975
1975-1976	22735	68.118	23-08-1975	56.90	53.955	03-06-1975
1976-1977	26324	69.480	14-08-1976	65.00	54.060	08-12-1976
1977-1978	28693	69.480	14-09-1977	100.0	54.145	05-06-1977
1978-1979	30863	69.390	29-08-1978	173.9	54.420	30-05-1979
1979-1980	14257	65.643	09-08-1979	26.98	53.590	31-12-1979
1980-1981	33800	72.150	21-09-1980	24.42	53.560	11-06-1980
1981-1982	15100	65.550	10-08-1981	159.3	54.698	17-06-1981
1982-1983	31050	73.000	30-08-1982	77.65	54.910	28-12-1982
1983-1984	30042	69.030	08-09-1983	51.41	54.550	09-06-1983
1984-1985	24727	68.860	17-08-1984	80.46	54.350	22-05-1985
1985-1986	23921	69.250	07-08-1985	72.40	54.320	03-06-1985
1986-1987	27030	69.730	29-06-1986	179.0	54.745	13-06-1986
1987-1988	10241	63.800	23-07-1987	132.8	54.420	29-06-1987
1988-1989	9593	63.895	09-08-1988	22.74	53.610	22-12-1988
1989-1990	6536	62.015	18-08-1989	189.2	54.490	09-06-1989
1990-1991	20068	68.013	05-09-1990	236.5	54.500	01-06-1990
1991-1992	30500	71.830	14-08-1991	154.3	54.750	01-05-1992
1992-1993	31500	72.470	29-07-1992	177.5	55.060	06-06-1992

B82

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
1993-1994	20435	68.095	20-08-1993	221.1	54.630	06-05-1994
1994-1995	31500	72.170	13-07-1994	202.1	54.450	08-06-1994
1995-1996	23121	70.540	24-07-1995	144.0	54.640	31-05-1996
1996-1997	11930	64.540	22-08-1996	121.8	54.620	01-06-1996
1997-1998	23000	69.630	05-08-1997	225.0	54.620	08-06-1997
1998-1999	25000	68.200	13-09-1998	208.3	54.400	01-04-1999
1999-2000	13249	66.710	10-08-1999	230.9	54.750	17-06-1999
2000-2001	4775	60.260	01-09-2000	149.3	54.120	04-05-2001
2001-2002	26700	73.200	19-07-2001	198.6	54.300	02-06-2001
2002-2003	12306	65.500	13-09-2002	156.4	54.550	01-03-2003
2003-2004	25062	73.070	29-08-2003	128.6	54.180	15-06-2003
2004-2005	17744	67.560	12-08-2004	163.4	54.540	13-01-2005
2005-2006	19000	68.950	31-07-2005	142.8	54.620	28-06-2005
2006-2007	29000	72.900	31-08-2006	200.0	54.650	06-05-2007
2007-2008	15789	66.690	24-09-2007	291.1	55.000	09-06-2007
2008-2009	20565	69.765	18-09-2008	271.0	54.380	30-05-2009
2009-2010	17750	68.250	22-07-2009	146.7	54.150	16-01-2010
2010-2011	13575	65.660	20-09-2010	234.3	54.390	19-06-2010
2011-2012	30400	74.570	10-09-2011	198.6	54.440	13-03-2012
2012-2013	11766	65.640	07-08-2012	170.2	54.230	07-01-2013
2013-2014	18895	66.960	01-08-2013	122.4	54.060	30-01-2014
2014-2015	29800	71.820	06-08-2014	190.0	54.470	05-04-2015
2015-2016	12086	63.720	18-09-2015	83.98	53.750	08-01-2016

Stage-Discharge Data for the period 2016 - 2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : LMSD,CWC,Bhubaneswar

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	54.990	461.4	54.265	211.0	56.080	736.1	56.210	1146	60.325	6163	55.310	494.0
2	55.140	539.1	54.230	200.7	56.375	1220	56.410	1282	61.300	6968 *	55.030	462.9
3	55.130	492.3	54.440	255.0 *	56.395	1185	56.610	1518	61.655	8388	54.790	359.9
4	55.060	459.2	55.100	368.3	57.490	2412	57.310	2549 *	60.300	6184	54.780	464.4
5	55.080	470.2 *	55.335	440.1	58.895	3585	62.875	11051	59.485	4849	54.850	388.6
6	54.635	257.8	55.350	446.9	60.985	6976	61.200	7589	57.975	2606	54.900	415.9 *
7	54.540	268.7	55.080	380.5 *	63.770	11881 *	59.695	5008	58.975	3606	54.970	454.0
8	54.620	295.5	54.800	349.7	62.980	10303	58.510	3782	59.040	3708	54.830	370.9
9	54.525	270.5	54.740	336.1	63.425	11521	59.500	5538	59.000	3650 *	54.820	364.9
10	54.600	289.8	55.030	393.5 *	63.625	12274	59.845	5406	58.970	3602 *	54.810	336.8
11	54.410	244.6	55.305	441.8	63.790	12760	59.150	4344 *	60.330	5586 *	54.040	396.0
12	54.260	193.2 *	55.410	448.0	61.760	8864	62.670	10439	60.730	6169 *	54.940	447.2
13	54.240	188.2	55.575	517.3	59.310	4774	60.620	6041 *	60.200	6065	54.900	428.3 *
14	54.200	164.0	55.890	613.2	58.360	3222 *	61.130	7340	59.460	4810	54.850	394.9 *
15	54.210	165.5	55.720	595.6	57.730	2543 *	61.820	8644	57.800	2778	54.830	381.4
16	54.990	461.6	55.375	481.2	57.835	2691	62.060	9370	58.150	2824 *	54.790	370.4
17	55.195	515.3	55.220	412.8 *	60.525	5881	59.195	4432	56.635	1414	54.840	401.4
18	54.840	355.4	55.430	492.3	58.660	3444	58.200	2943 *	57.030	1718	54.740	331.8
19	54.590	282.4 *	55.555	512.2	58.055	2583	57.890	2881	56.460	1305	54.600	302.0
20	54.540	250.0	55.915	594.1	57.395	2042	57.265	2250	55.895	1082	54.600	268.5 *
21	55.005	462.2	55.940	652.8	57.130	1818 *	57.095	2087	55.760	885.6	54.450	210.8
22	54.955	424.4	55.625	541.9	56.805	1543	57.075	1390	55.680	866.5	54.300	202.0
23	54.665	291.3	56.195	730.8	56.765	1558	56.900	1644	55.730	876.6 *	54.390	204.5
24	54.500	267.3	56.530	800.0 *	56.665	1362	57.055	1056	55.685	867.7	54.390	203.1
25	54.410	200.5	56.510	853.5	56.570	1449	57.100	1839 *	55.590	825.2	54.370	199.9
26	54.760	300.8 *	56.605	904.9	56.520	1343	56.805	962.2	55.485	712.1	54.370	197.5
27	54.470	243.8	56.450	809.0	56.585	1348	56.640	1481	55.270	682.4	54.390	211.3 *
28	54.340	213.7	56.450	826.6	56.820	1491 *	56.770	1494	55.135	506.4	54.440	241.0
29	54.395	223.4	56.810	1032	56.805	1467	56.995	1041	55.130	517.4	54.500	251.2
30	54.340	217.0	56.515	972.5	56.720	1449	61.735	8596	55.160	537.9 *	54.510	254.8
31			56.230	740.0 *	56.460	1267			55.300	633.3		
Ten-Daily Mean												
I Ten-Daily	54.832	380.5	54.837	338.2	60.002	6209	58.817	4487	59.703	4973	54.909	411.2
II Ten-Daily	54.547	282.0	55.539	510.8	59.342	4880	60.000	5868	58.269	3375	54.713	372.2
III Ten-Daily	54.584	284.4	56.351	805.8	56.713	1463	57.417	2159	55.448	719.2	54.411	217.6
Monthly												
Min.	54.200	164.0	54.230	200.7	56.080	736.1	56.210	962.2	55.130	506.4	54.040	197.5
Max.	55.195	539.1	56.810	1032	63.790	12760	62.875	11051	61.655	8388	55.310	494.0
Mean	54.654	315.6	55.601	559.8	58.622	4097	58.745	4171	57.730	2948	54.678	333.7

Annual Runoff in MCM = 36200 Annual Runoff in mm = 291

Peak Observed Discharge = 12760 cumecs on 11/08/2016 Corres. Water Level :63.79 m

Lowest Observed Discharge = 114.5 cumecs on 20/12/2016 Corres. Water Level :54.06 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : LMSD,CWC,Bhubaneswar

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	54.480	240.4	54.230	173.7 *	54.100	160.6	54.320	237.5	54.340	239.4	54.300	254.0
2	54.370	200.6	54.160	139.0	54.050	144.4	54.330	241.6 *	54.320	244.0 *	54.250	225.7
3	54.330	179.5	54.210	160.5	54.030	143.5	54.290	212.7	54.280	211.7	54.450	303.9
4	54.330	190.5 *	54.170	146.1	54.090	159.6	54.300	214.6	54.390	254.8	54.470	312.7
5	54.290	180.3	54.190	152.7	54.130	178.7 *	54.240	216.0 *	54.400	259.5	54.360	255.9
6	54.270	178.6	54.230	172.2	54.140	184.6	54.160	213.9	54.330	204.7	54.530	316.9
7	54.240	169.9	54.300	182.6	54.130	178.9	54.305	252.5	54.230	203.4	54.430	307.1 *
8	54.180	155.7	54.290	168.4 *	54.130	176.5	54.380	275.1	54.230	200.8	54.430	297.3
9	54.180	172.4	54.310	200.3	54.150	181.8	54.360	257.8	54.250	202.0 *	54.660	348.0
10	54.230	223.3	54.300	198.1	54.150	200.4	54.310	229.0	54.410	269.3	54.600	334.0 *
11	54.260	155.0 *	54.300	175.0	54.170	208.5	54.290	209.3	54.380	256.6	54.450	299.0
12	54.250	153.2 *	54.160	162.5	54.170	209.0 *	54.340	232.0 *	54.440	282.8	54.390	252.8
13	54.240	222.5	54.100	132.1	54.160	199.4	54.440	294.2 *	54.390	271.1	54.330	267.7
14	54.210	211.5	54.110	134.5	54.130	190.4	54.430	271.7	54.310	230.0 *	54.300	238.9 *
15	54.160	137.2	54.150	148.6 *	54.285	229.8	54.440	298.8	54.250	201.4	54.260	227.8
16	54.160	141.1	54.220	173.2	54.370	262.4	54.330	230.8	54.250	200.0 *	54.230	216.0
17	54.160	142.3	54.240	184.4	54.380	265.9	54.210	201.3	54.230	196.7	54.200	190.2
18	54.130	140.1 *	54.150	161.7	54.350	247.1	54.290	263.1	54.240	202.4	54.190	188.8
19	54.080	135.8	54.100	161.8	54.350	250.9 *	54.320	267.6 *	54.250	209.3	54.020	131.5
20	54.060	114.5	54.120	166.0	54.370	258.9	54.220	240.2	54.290	234.8	54.180	217.8
21	54.060	119.8	54.120	163.7	54.390	280.0	54.160	188.3	54.310	235.5	54.220	239.9 *
22	54.120	139.0	54.100	158.1 *	54.400	278.1	54.220	214.7	54.300	244.1	54.180	206.4
23	54.130	146.8	54.060	147.0	54.380	263.3	54.230	214.0	54.300	225.0 *	54.250	206.5
24	54.100	137.0	54.080	148.9	54.360	252.8 *	54.250	226.6	54.310	242.5	54.230	201.0
25	54.090	135.8 *	54.100	152.4	54.350	245.9	54.480	287.0	54.290	214.6	54.395	267.7
26	54.100	141.7	54.100	152.5 *	54.360	258.8 *	54.430	271.7 *	54.240	211.3	54.400	271.3
27	54.070	132.3	54.040	139.4	54.360	253.8	54.510	316.2	54.270	241.0	54.490	293.1
28	54.080	137.1	54.105	145.1	54.320	232.3	54.430	264.6	54.270	224.7	54.570	314.5 *
29	54.150	141.1	54.140	174.7 *			54.360	257.2	54.250	226.8	54.600	321.8
30	54.020	151.0	54.130	169.4			54.410	279.1	54.270	210.0 *	54.415	260.3
31	54.250	173.7	54.120	167.0			54.380	260.8			54.370	259.2
Ten-Daily Mean												
I Ten-Daily	54.290	189.1	54.239	169.4	54.110	170.9	54.299	235.1	54.318	229.0	54.448	295.6
II Ten-Daily	54.171	155.3	54.165	160.0	54.274	232.2	54.331	250.9	54.303	228.5	54.255	223.0
III Ten-Daily	54.106	141.4	54.100	156.2	54.365	258.1	54.351	252.8	54.281	227.5	54.375	258.3
Monthly												
Min.	54.020	114.5	54.040	132.1	54.030	143.5	54.160	188.3	54.230	196.7	54.020	131.5
Max.	54.480	240.4	54.310	200.3	54.400	280.0	54.510	316.2	54.440	282.8	54.660	348.0
Mean	54.186	161.3	54.166	161.7	54.241	217.7	54.328	246.5	54.301	228.3	54.360	259

Peak Computed Discharge = 11881 cumecs on 07/08/2016

Corres. Water Level :63.77 m

Lowest Computed Discharge = 135.8 cumecs on 25/12/2016

Corres. Water Level :54.09 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

662

540

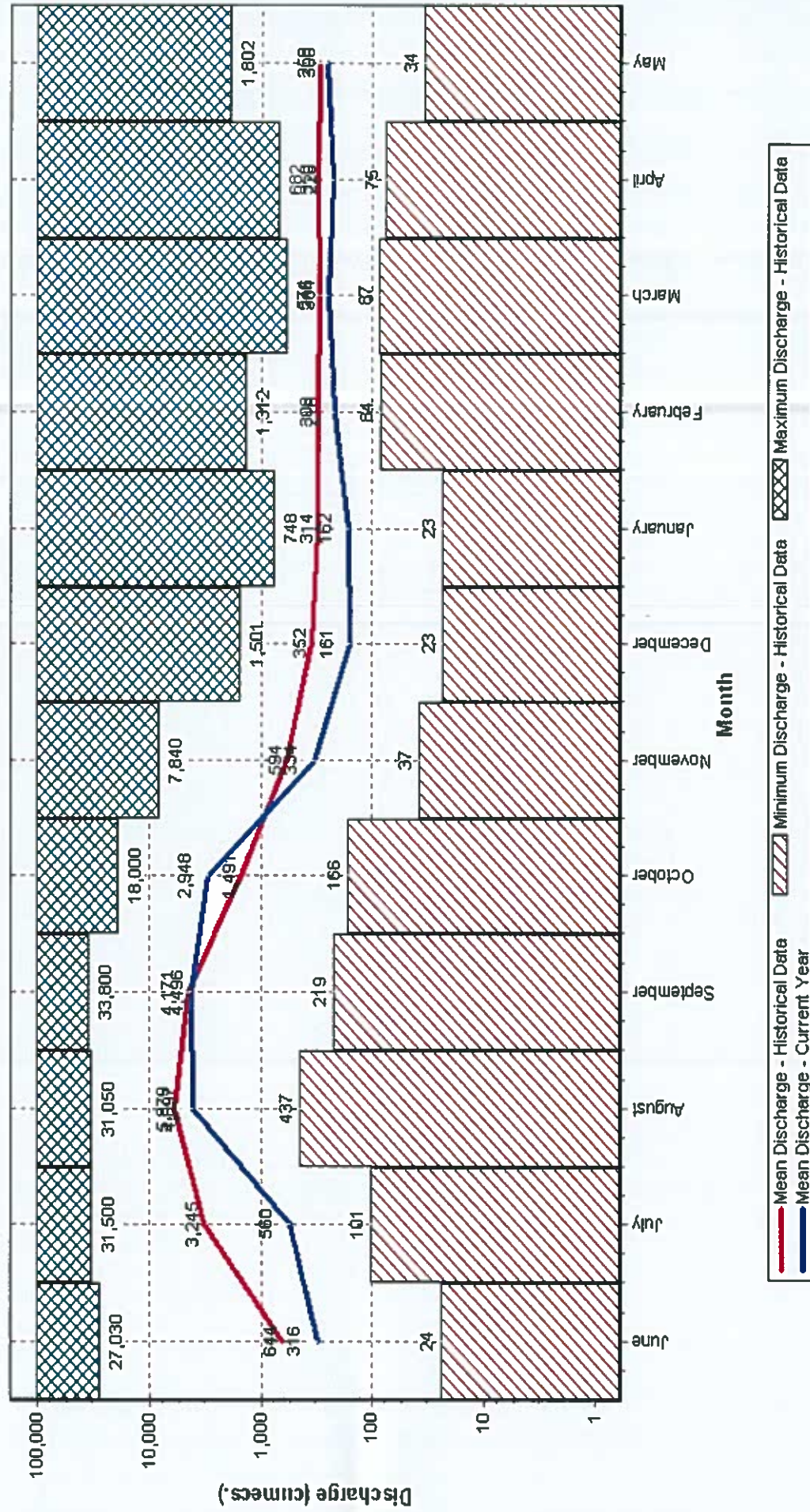
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

Data considered : 1972-2017

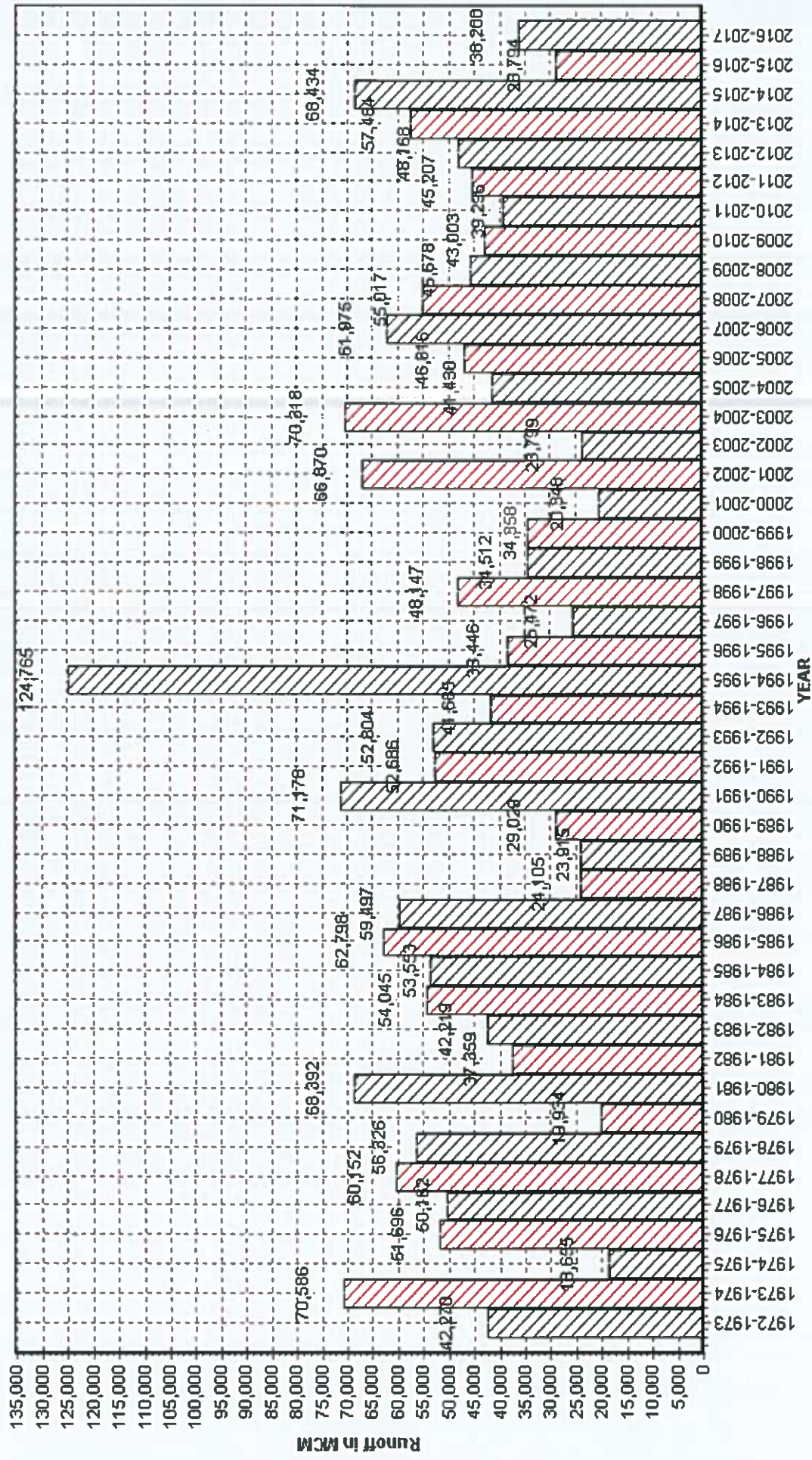
Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar



Annual Runoff Values for the period: 1972 - 2017

Station Name : TIKARAPARA (EM000G5)
Local River : Mahanadi

Division : MD, CWC, Burla
Sub-Division : LMSD, CWC, Bhubaneswar

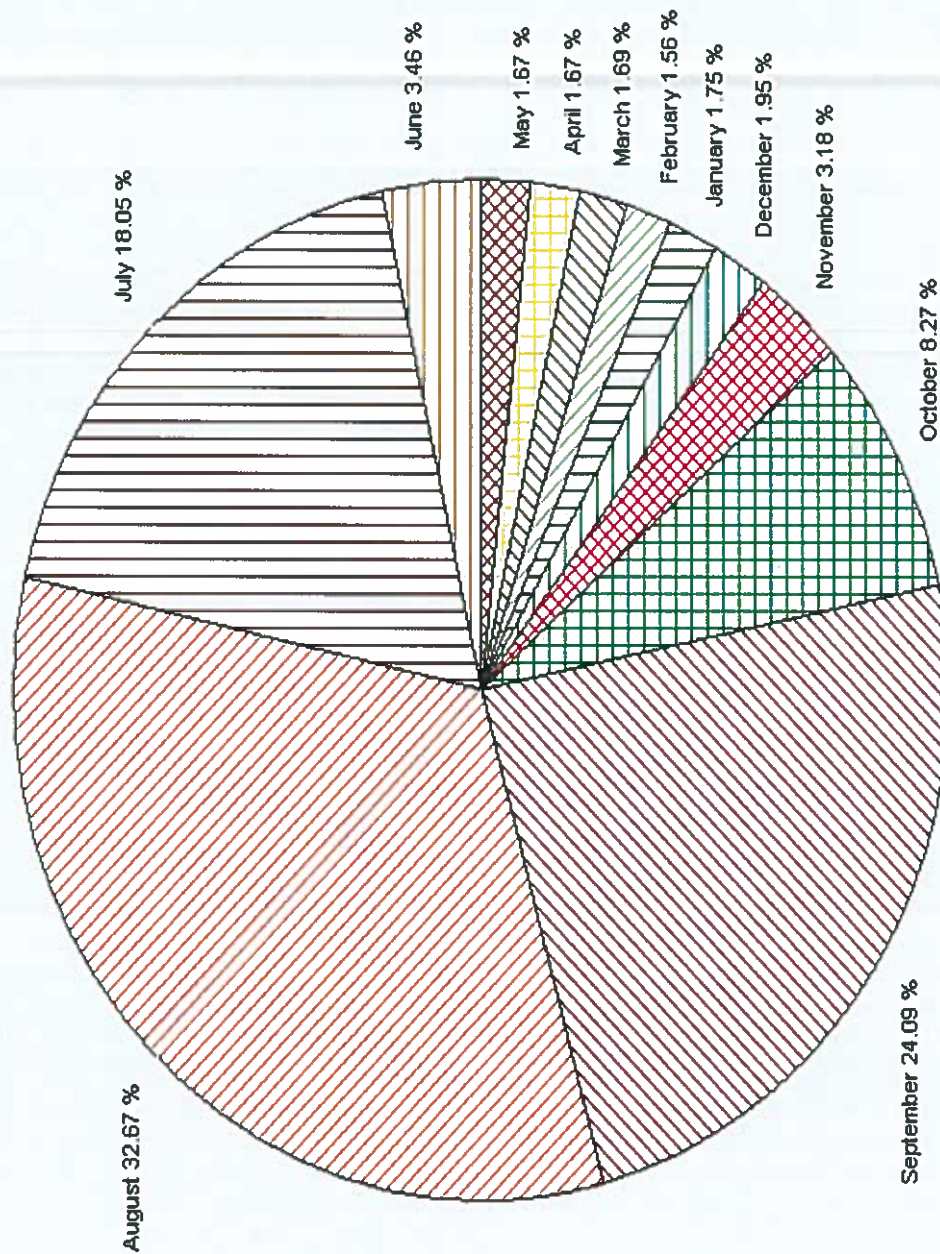


Monthly Average Runoff based on period : 1972-2016

Station Name : TIKARAPARA (EM0000G5)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar

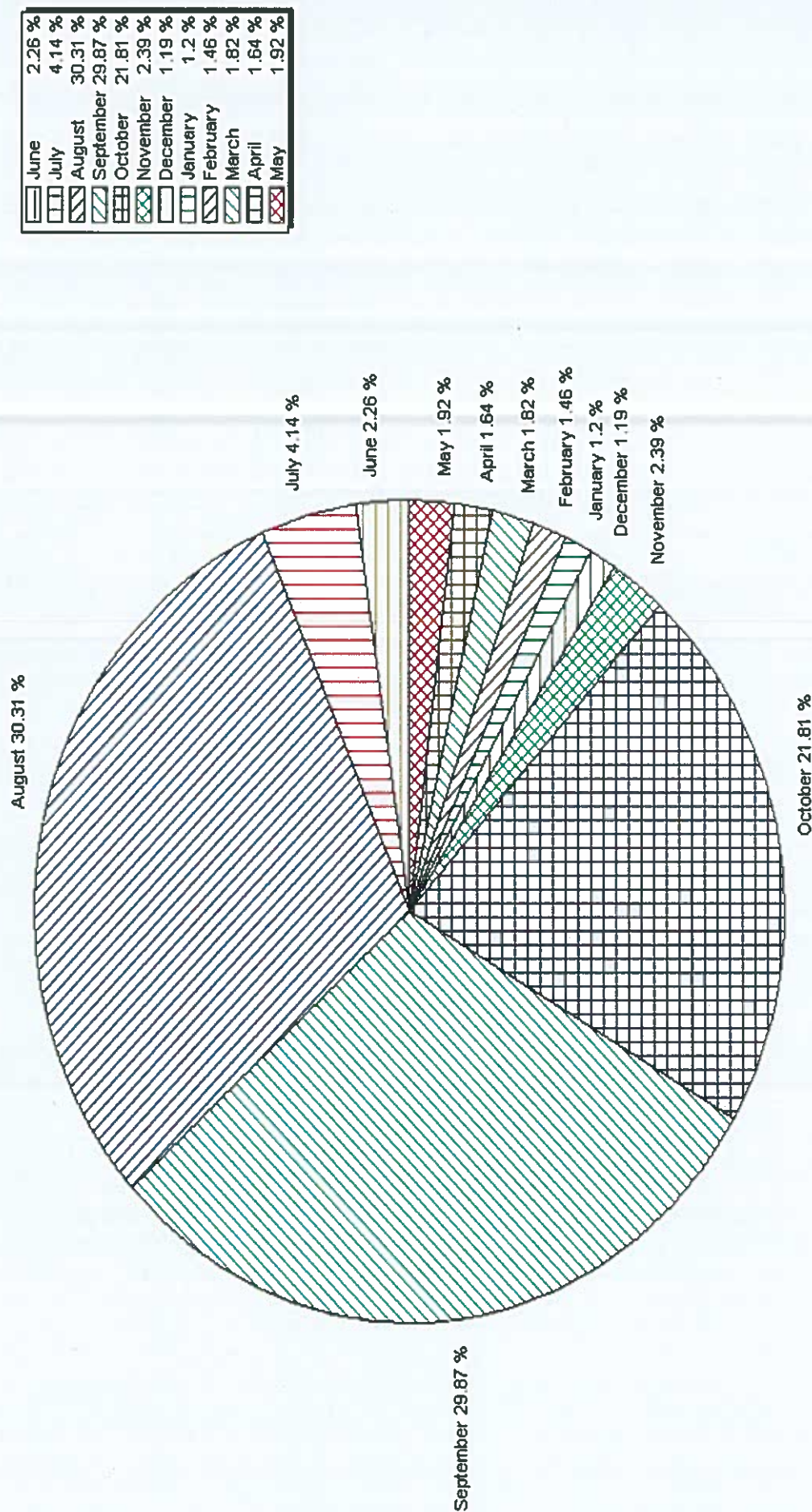
June	3.46 %
July	18.05 %
August	32.67 %
September	24.09 %
October	8.27 %
November	3.18 %
December	1.95 %
January	1.75 %
February	1.56 %
March	1.69 %
April	1.67 %
May	1.67 %



Monthly Runoff for the Year : 2016-2017

Station Name : TIKARAPARA (EM0000G5)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar

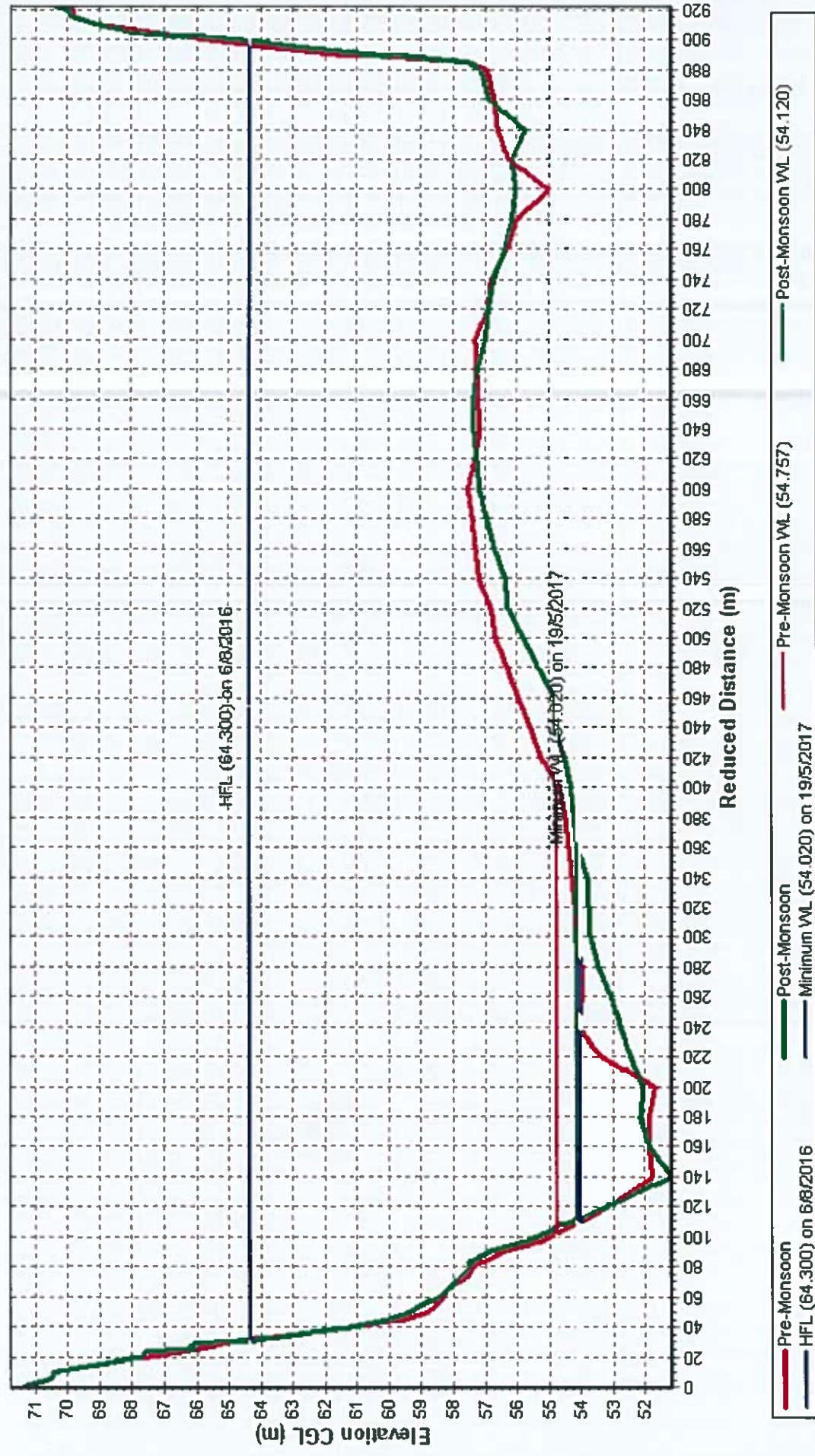


Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

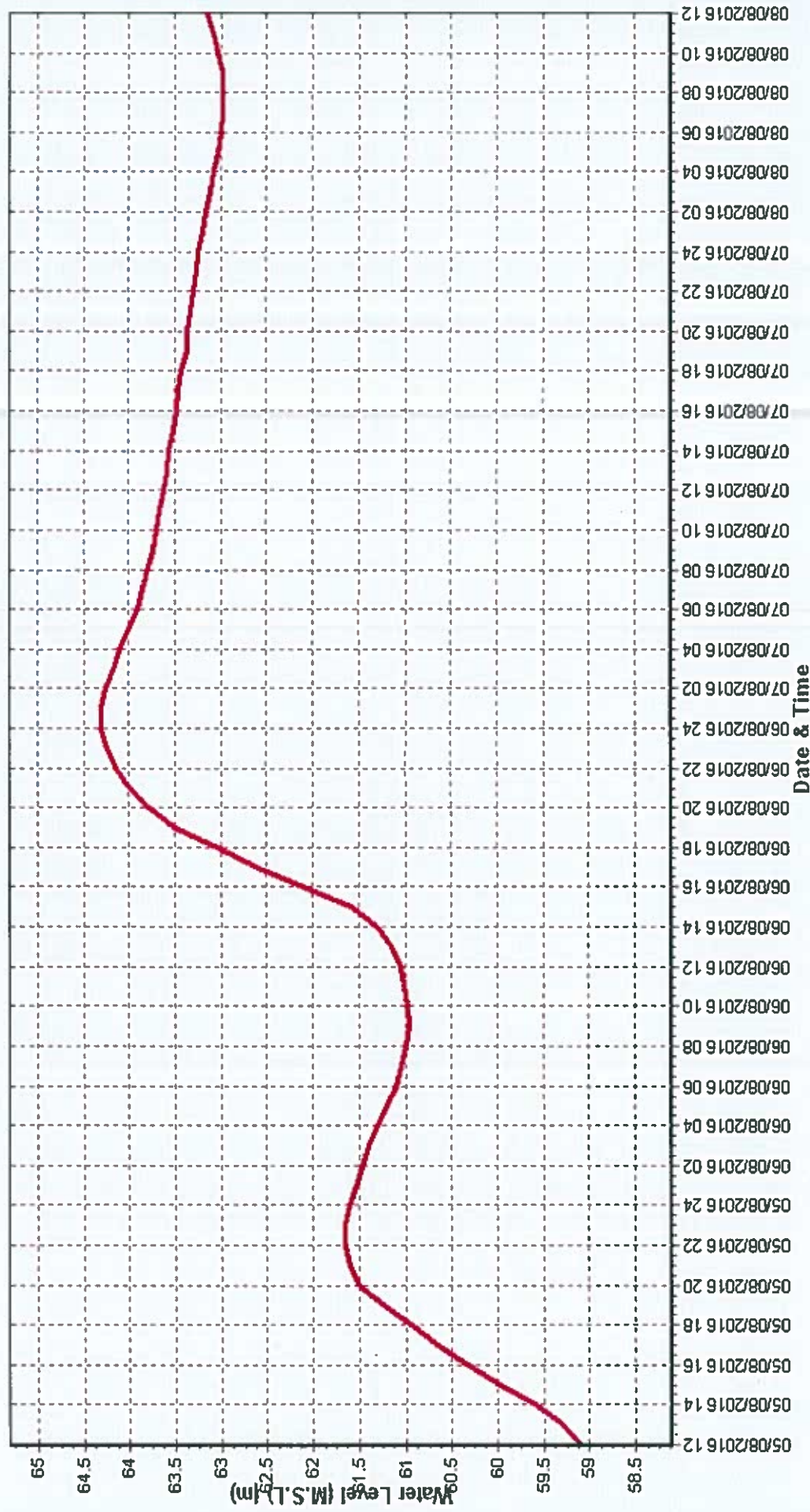
Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar



Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : TIKARAPARA (EM0000G5)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar

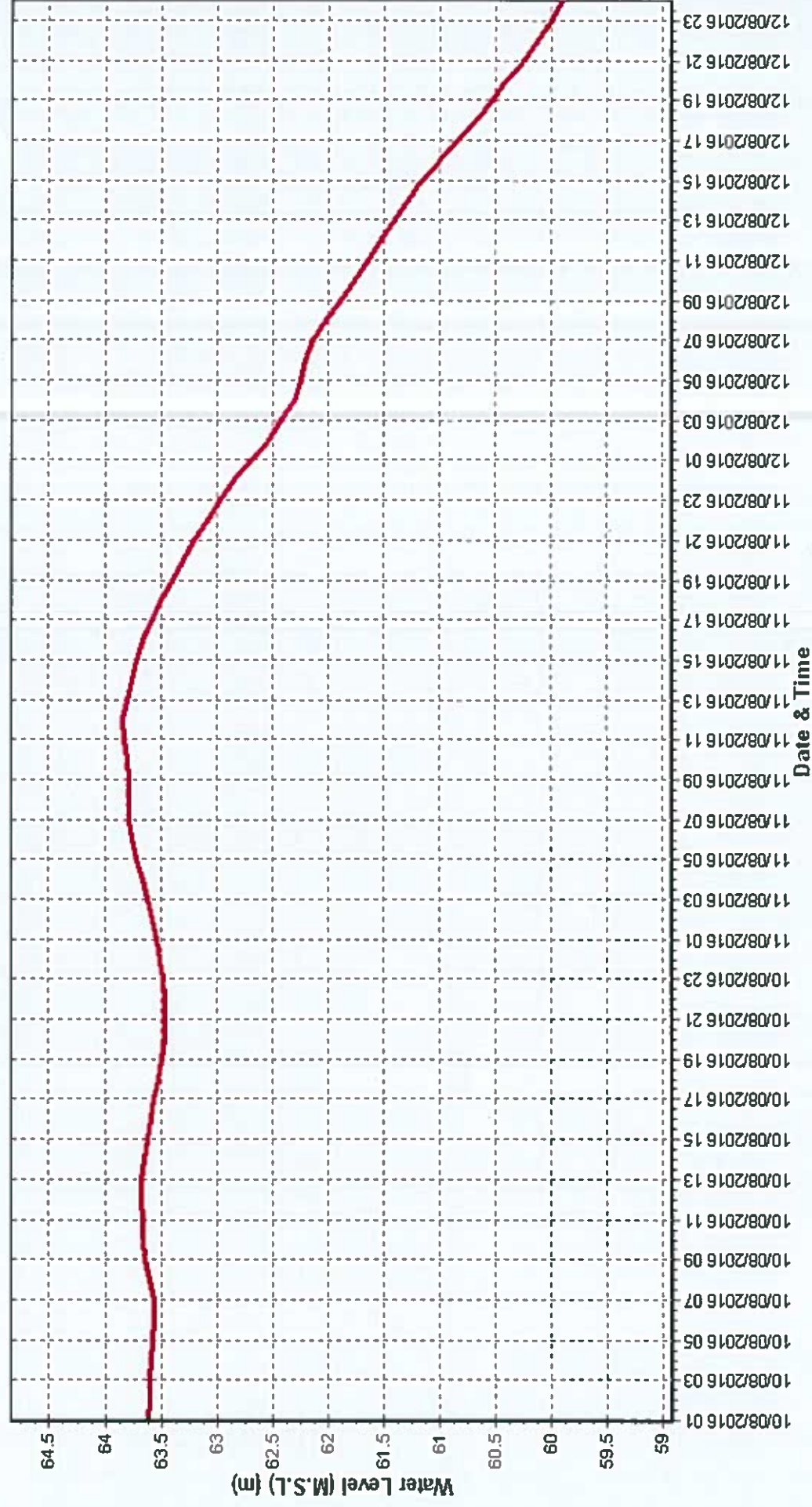


Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : TIKARAPARA (EM0000G5)

Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar



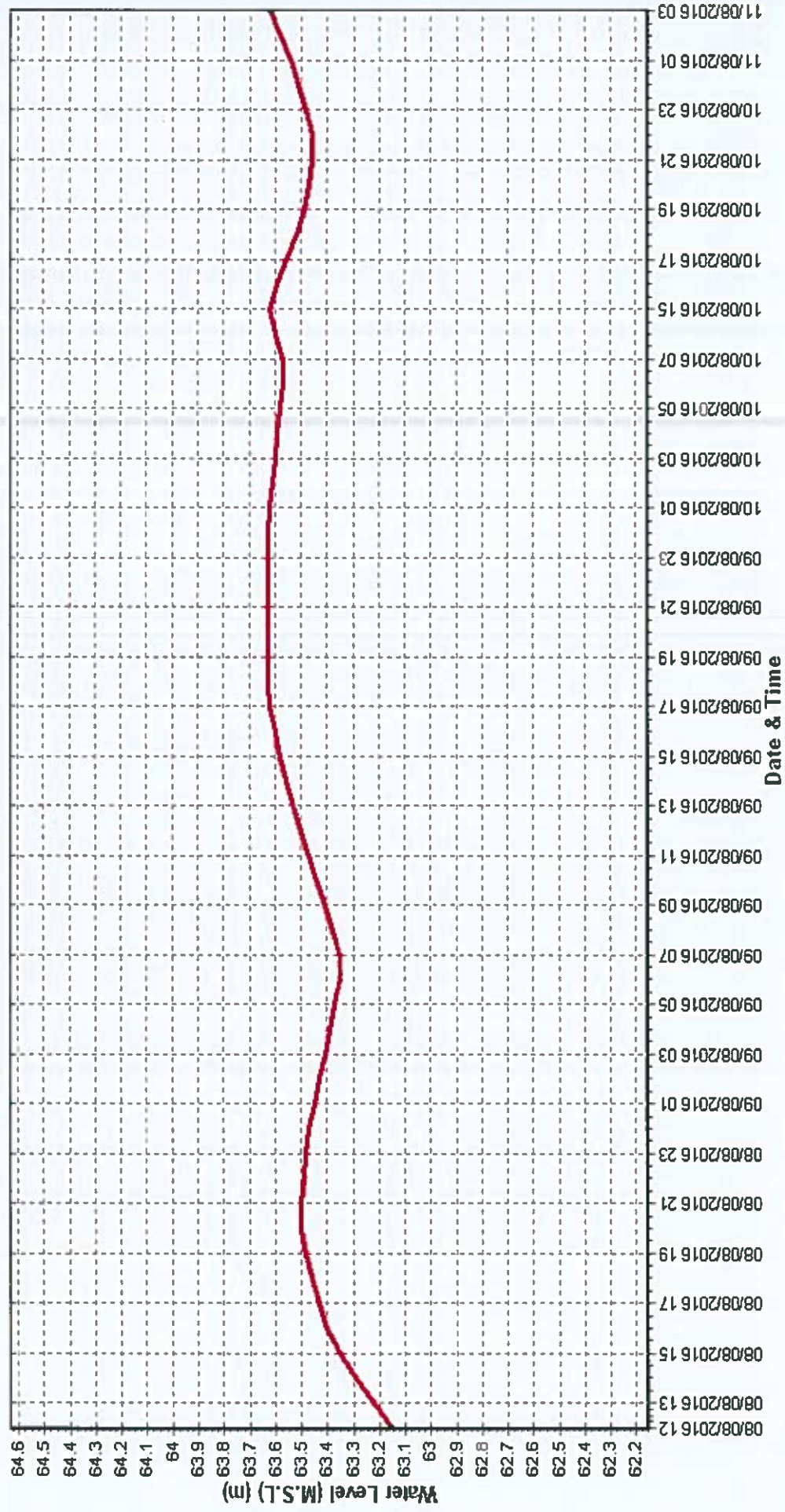
Time Span: 72 Hrs

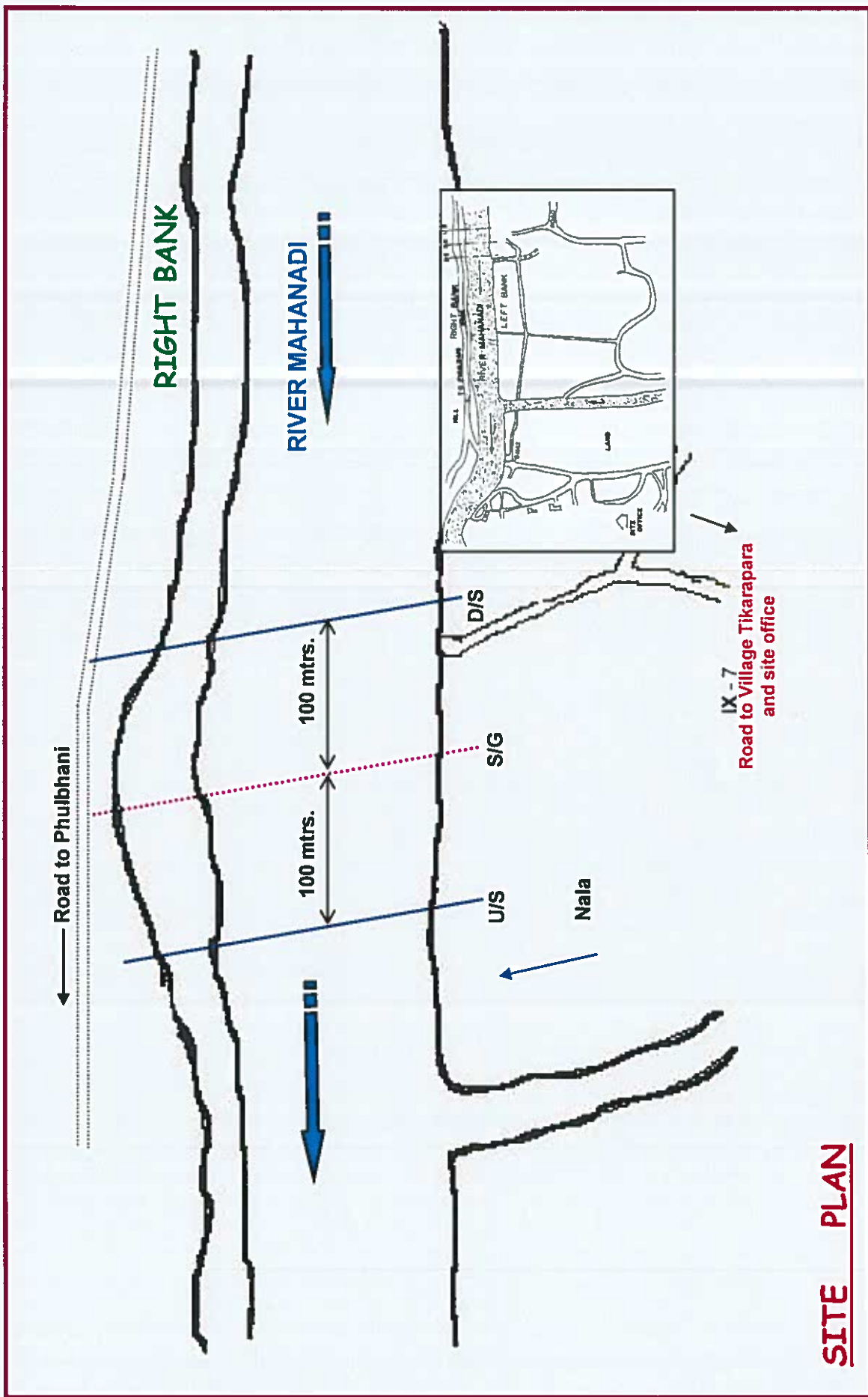
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar

Local River : Mahanadi





SECTION –II

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : TIKARAPARA (EM0000G5)

Local River : Mahanadi

Division : MD, CWC, Burla

Sub-Division : LMSD, CWC, Bhubaneswar

Day		Jun					Jul					Aug							
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	461.4	0.000	0.000	0.036	0.036	1435	211.0	0.000	0.000	0.048	0.048	875	736.1	0.000	0.000	0.000	0.079	0.079	5025
2	539.1	0.000	0.000	0.041	0.041	1910	200.7	0.000	0.000	0.065	0.065	1127	1220	0.000	0.000	0.000	0.078	0.078	8221
3	492.3	0.000	0.000	0.043	0.043	1829	255.0	0.000	0.000	0.064	0.064	1410	1185	0.000	0.000	0.000	0.089	0.089	9114
4	459.2	0.000	0.000	0.038	0.038	1508	368.3	0.000	0.000	0.063	0.063	2005	2412	0.000	0.000	0.000	0.092	0.092	19169
5	470.2	0.000	0.000	0.039	0.039	1584	440.1	0.000	0.000	0.058	0.058	2205	3585	0.000	0.000	0.000	0.094	0.094	29118
6	257.8	0.000	0.000	0.040	0.040	891	446.9	0.000	0.000	0.064	0.064	2471	6976	0.000	0.000	0.000	0.093	0.093	56053
7	268.7	0.000	0.000	0.038	0.038	882	380.5	0.000	0.000	0.062	0.062	2038	11881	0.000	0.000	0.000	0.092	0.092	94442
8	295.5	0.000	0.000	0.039	0.039	996	349.7	0.000	0.000	0.060	0.060	1813	10303	0.000	0.000	0.000	0.104	0.104	92577
9	270.5	0.000	0.000	0.038	0.038	888	336.1	0.000	0.000	0.062	0.062	1800	11521	0.000	0.000	0.000	0.102	0.102	101533
10	289.8	0.000	0.000	0.038	0.038	952	393.5	0.000	0.000	0.063	0.063	2142	12274	0.000	0.000	0.000	0.119	0.119	126200
11	244.6	0.000	0.000	0.048	0.048	1014	441.8	0.000	0.000	0.064	0.064	2443	12760	0.000	0.000	0.000	0.126	0.126	138913
12	193.2	0.000	0.000	0.040	0.040	668	448.0	0.000	0.000	0.071	0.071	2748	8864	0.000	0.000	0.000	0.092	0.092	70457
13	188.2	0.000	0.000	0.041	0.041	667	517.3	0.000	0.000	0.071	0.071	3173	4774	0.000	0.000	0.000	0.095	0.095	39186
14	164.0	0.000	0.000	0.046	0.046	652	613.2	0.000	0.000	0.079	0.079	4185	3222	0.000	0.000	0.000	0.094	0.094	26167
15	165.5	0.000	0.000	0.046	0.046	658	595.6	0.000	0.000	0.075	0.075	3859	2543	0.000	0.000	0.000	0.116	0.116	25484
16	461.6	0.000	0.000	0.046	0.046	1835	481.2	0.000	0.000	0.071	0.071	2952	2691	0.000	0.000	0.000	0.121	0.121	28133
17	515.3	0.000	0.000	0.051	0.051	2270	412.8	0.000	0.000	0.071	0.071	2532	5881	0.000	0.000	0.000	0.093	0.093	47254
18	355.4	0.000	0.000	0.052	0.052	1597	492.3	0.000	0.000	0.071	0.071	3020	3444	0.000	0.000	0.000	0.098	0.098	29160
19	282.4	0.000	0.000	0.054	0.054	1318	512.2	0.000	0.000	0.075	0.075	3319	2583	0.000	0.000	0.000	0.091	0.091	20308
20	250.0	0.000	0.000	0.057	0.057	1231	594.1	0.000	0.000	0.083	0.083	4260	2042	0.000	0.000	0.000	0.092	0.092	16235
21	462.2	0.000	0.000	0.060	0.060	2396	652.8	0.000	0.000	0.076	0.076	4287	1818	0.000	0.000	0.000	0.093	0.093	14609
22	424.4	0.000	0.000	0.058	0.058	2127	541.9	0.000	0.000	0.081	0.081	3793	1543	0.000	0.000	0.000	0.095	0.095	12664
23	291.3	0.000	0.000	0.054	0.054	1359	730.8	0.000	0.000	0.078	0.078	4925	1558	0.000	0.000	0.000	0.096	0.096	12924
24	267.3	0.000	0.000	0.053	0.053	1224	800.0	0.000	0.000	0.080	0.080	5530	1362	0.000	0.000	0.000	0.096	0.096	11293
25	200.5	0.000	0.000	0.054	0.054	935	853.5	0.000	0.000	0.082	0.082	6047	1449	0.000	0.000	0.000	0.096	0.096	12018
26	300.8	0.000	0.000	0.061	0.061	1585	904.9	0.000	0.000	0.081	0.081	6333	1343	0.000	0.000	0.000	0.111	0.111	12877
27	243.8	0.000	0.000	0.065	0.065	1369	809.0	0.000	0.000	0.079	0.079	5522	1348	0.000	0.000	0.000	0.117	0.117	13628
28	213.7	0.000	0.000	0.063	0.063	1163	826.6	0.000	0.000	0.084	0.084	5999	1491	0.000	0.000	0.000	0.122	0.122	15719
29	223.4	0.000	0.000	0.061	0.061	1177	1032	0.000	0.000	0.082	0.082	7308	1467	0.000	0.000	0.000	0.099	0.099	12545
30	217.0	0.000	0.000	0.620	0.620	11626	972.5	0.000	0.000	0.076	0.076	6386	1449	0.000	0.000	0.000	0.990	0.990	123965
31							740.0	0.000	0.000	0.079	0.079	5051	1267	0.000	0.000	0.000	0.104	0.104	11381
Ten Daily Mean																			
Ten Daily I		380.5	0.000	0.000	0.039	0.039	1287	338.2	0.000	0.000	0.061	0.061	1789	6209	0.000	0.000	0.094	0.094	54145
Ten Daily II		282.0	0.000	0.000	0.048	0.048	1191	510.8	0.000	0.000	0.073	0.073	3249	4880	0.000	0.000	0.102	0.102	44130
Ten Daily III		284.4	0.000	0.000	0.115	0.115	2496	805.8	0.000	0.000	0.080	0.080	5562	1463	0.000	0.000	0.184	0.184	23057
Monthly																			
Total						49746						111559							1236371

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : TIKARAPARA (EM0000G5)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar

Day	Sep					Oct					Nov								
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	
1	1146	0.000	0.000	0.078	0.078	7725	6163	0.000	0.000	0.000	0.131	0.131	69759	494.0	0.000	0.000	0.000	0.000	0
2	1282	0.000	0.000	0.092	0.092	10190	6968	0.000	0.000	0.000	0.125	0.125	75254	462.9	0.000	0.000	0.000	0.000	0
3	1518	0.000	0.000	0.095	0.095	12458	8388	0.000	0.000	0.000	0.122	0.122	88414	359.9	0.000	0.000	0.000	0.000	0
4	2549	0.000	0.000	0.980	0.980	215837	6184	0.000	0.000	0.000	0.119	0.119	63578	464.4	0.000	0.000	0.000	0.000	0
5	11051	0.000	0.000	0.102	0.102	97388	4849	0.000	0.000	0.000	0.110	0.110	46089	388.6	0.000	0.000	0.000	0.000	0
6	7589	0.000	0.000	0.109	0.109	71473	2606	0.000	0.000	0.000	0.096	0.096	21618	415.9	0.000	0.000	0.000	0.000	0
7	5008	0.000	0.000	0.091	0.091	39378	3606	0.000	0.000	0.000	0.099	0.099	30848	454.0	0.000	0.000	0.041	0.041	1608
8	3782	0.000	0.000	0.092	0.092	30064	3708	0.000	0.000	0.000	0.110	0.110	35242	370.9	0.000	0.000	0.000	0.000	0
9	5538	0.000	0.000	0.092	0.092	44022	3650	0.000	0.000	0.000	0.105	0.105	33112	364.9	0.000	0.000	0.000	0.000	0
10	5406	0.000	0.000	0.092	0.092	42971	3602	0.000	0.000	0.000	0.125	0.125	38904	336.8	0.000	0.000	0.000	0.000	0
11	4344	0.000	0.000	0.091	0.091	34153	5586	0.000	0.000	0.000	0.115	0.115	55505	396.0	0.000	0.000	0.000	0.000	0
12	10439	0.000	0.000	0.123	0.123	110937	6169	0.000	0.000	0.000	0.099	0.099	52765	447.2	0.000	0.000	0.000	0.000	0
13	6041	0.000	0.000	0.113	0.113	58975	6065	0.000	0.000	0.000	0.097	0.097	50827	428.3	0.000	0.000	0.000	0.000	0
14	7340	0.000	0.000	0.099	0.099	62787	4810	0.000	0.000	0.000	0.082	0.082	34075	394.9	0.000	0.000	0.000	0.000	0
15	8644	0.000	0.000	0.098	0.098	73191	2778	0.000	0.000	0.000	0.078	0.078	18719	381.4	0.000	0.000	0.000	0.000	0
16	9370	0.000	0.000	0.125	0.125	101191	2824	0.000	0.000	0.000	0.076	0.076	18542	370.4	0.000	0.000	0.000	0.000	0
17	4432	0.000	0.000	0.112	0.112	42885	1414	0.000	0.000	0.000	0.720	0.720	87984	401.4	0.000	0.000	0.000	0.000	0
18	2943	0.000	0.000	0.110	0.110	27972	1718	0.000	0.000	0.000	0.069	0.069	10240	331.8	0.000	0.000	0.000	0.000	0
19	2881	0.000	0.000	0.100	0.100	24890	1305	0.000	0.000	0.000	0.055	0.055	6200	302.0	0.000	0.000	0.000	0.000	0
20	2250	0.000	0.000	0.096	0.096	18665	1082	0.000	0.000	0.000	0.056	0.056	5238	268.5	0.000	0.000	0.000	0.000	0
21	2087	0.000	0.000	0.098	0.098	17671	885.6	0.000	0.000	0.000	0.052	0.052	3979	210.8	0.000	0.000	0.036	0.036	656
22	1390	0.000	0.000	0.113	0.113	13574	866.5	0.000	0.000	0.000	0.051	0.051	3818	202.0	0.000	0.000	0.000	0.000	0
23	1644	0.000	0.000	0.130	0.130	18466	876.6	0.000	0.000	0.000	0.050	0.050	3787	204.5	0.000	0.000	0.000	0.000	0
24	1056	0.000	0.000	0.125	0.125	11405	867.7	0.000	0.000	0.000	0.049	0.049	3673	203.1	0.000	0.000	0.000	0.000	0
25	1839	0.000	0.000	0.125	0.125	19862	825.2	0.000	0.000	0.000	0.051	0.051	3636	199.9	0.000	0.000	0.000	0.000	0
26	962.2	0.000	0.000	0.125	0.125	10392	712.1	0.000	0.000	0.000	0.051	0.051	3138	197.5	0.000	0.000	0.000	0.000	0
27	1481	0.000	0.000	0.134	0.134	17142	682.4	0.000	0.000	0.000	0.049	0.049	2889	211.3	0.000	0.000	0.000	0.000	0
28	1494	0.000	0.000	0.129	0.129	16654	506.4	0.000	0.000	0.000	0.048	0.048	2100	241.0	0.000	0.000	0.036	0.036	750
29	1041	0.000	0.000	0.109	0.109	9803	517.4	0.000	0.000	0.000	0.048	0.048	2146	251.2	0.000	0.000	0.000	0.000	0
30	8596	0.000	0.000	0.137	0.137	101744	537.9	0.000	0.000	0.000	0.044	0.044	2045	254.8	0.000	0.000	0.000	0.000	0
31							633.3	0.000	0.000	0.000	0.042	0.042	2298						
Ten Daily Mean																			
Ten Daily I	4487	0.000	0.000	0.182	0.182	57151	4973	0.000	0.000	0.000	0.114	0.114	50282	411.2	0.000	0.000	0.004	0.004	161
Ten Daily II	5868	0.000	0.000	0.107	0.107	55565	3375	0.000	0.000	0.000	0.145	0.145	34009	372.2	0.000	0.000	0.000	0.000	0
Ten Daily III	2159	0.000	0.000	0.123	0.123	23671	719.2	0.000	0.000	0.000	0.049	0.049	3046	217.6	0.000	0.000	0.007	0.007	141
Monthly																			
Total						1363865							876422						3014

Annual Sediment Load (Metric Tonnes) : 3656442

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar

Day	Dec					Jan					Feb				
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total M.T./day
1	240.4	0.000	0.000	0.000	0	173.7	0.000	0.000	0.000	0	160.6	0.000	0.000	0.000	0
2	200.6	0.000	0.000	0.000	0	139.0	0.000	0.000	0.033	396	144.4	0.000	0.000	0.000	0
3	179.5	0.000	0.000	0.000	0	160.5	0.000	0.000	0.000	0	143.5	0.000	0.000	0.000	0
4	190.5	0.000	0.000	0.000	0	146.1	0.000	0.000	0.000	0	159.6	0.000	0.000	0.000	0
5	180.3	0.000	0.000	0.035	545	152.7	0.000	0.000	0.000	0	178.7	0.000	0.000	0.000	0
6	178.6	0.000	0.000	0.000	0	172.2	0.000	0.000	0.000	0	184.6	0.000	0.000	0.033	526
7	169.9	0.000	0.000	0.000	0	182.6	0.000	0.000	0.000	0	178.9	0.000	0.000	0.000	0
8	155.7	0.000	0.000	0.000	0	168.4	0.000	0.000	0.000	0	176.5	0.000	0.000	0.000	0
9	172.4	0.000	0.000	0.000	0	200.3	0.000	0.000	0.034	588	181.8	0.000	0.000	0.000	0
10	223.3	0.000	0.000	0.000	0	198.1	0.000	0.000	0.000	0	200.4	0.000	0.000	0.000	0
11	155.0	0.000	0.000	0.000	0	175.0	0.000	0.000	0.000	0	208.5	0.000	0.000	0.000	0
12	153.2	0.000	0.000	0.000	0	162.5	0.000	0.000	0.000	0	209.0	0.000	0.000	0.000	0
13	222.5	0.000	0.000	0.000	0	132.1	0.000	0.000	0.000	0	199.4	0.000	0.000	0.034	586
14	211.5	0.000	0.000	0.000	0	134.5	0.000	0.000	0.000	0	190.4	0.000	0.000	0.000	0
15	137.2	0.000	0.000	0.000	0	148.6	0.000	0.000	0.000	0	229.8	0.000	0.000	0.000	0
16	141.1	0.000	0.000	0.000	0	173.2	0.000	0.000	0.035	524	262.4	0.000	0.000	0.000	0
17	142.3	0.000	0.000	0.000	0	184.4	0.000	0.000	0.000	0	265.9	0.000	0.000	0.000	0
18	140.1	0.000	0.000	0.000	0	161.7	0.000	0.000	0.000	0	247.1	0.000	0.000	0.000	0
19	135.8	0.000	0.000	0.033	387	161.8	0.000	0.000	0.000	0	250.9	0.000	0.000	0.000	0
20	114.5	0.000	0.000	0.000	0	166.0	0.000	0.000	0.000	0	258.9	0.000	0.000	0.033	738
21	119.8	0.000	0.000	0.000	0	163.7	0.000	0.000	0.000	0	280.0	0.000	0.000	0.000	0
22	139.0	0.000	0.000	0.000	0	158.1	0.000	0.000	0.000	0	278.1	0.000	0.000	0.000	0
23	146.8	0.000	0.000	0.000	0	147.0	0.000	0.000	0.034	432	263.3	0.000	0.000	0.000	0
24	137.0	0.000	0.000	0.000	0	148.9	0.000	0.000	0.000	0	252.8	0.000	0.000	0.000	0
25	135.8	0.000	0.000	0.000	0	152.4	0.000	0.000	0.000	0	245.9	0.000	0.000	0.000	0
26	141.7	0.000	0.000	0.023	282	152.5	0.000	0.000	0.000	0	258.8	0.000	0.000	0.000	0
27	132.3	0.000	0.000	0.000	0	139.4	0.000	0.000	0.000	0	253.8	0.000	0.000	0.034	745
28	137.1	0.000	0.000	0.000	0	145.1	0.000	0.000	0.000	0	232.3	0.000	0.000	0.000	0
29	141.1	0.000	0.000	0.000	0	174.7	0.000	0.000	0.000	0					
30	151.0	0.000	0.000	0.000	0	169.4	0.000	0.000	0.033	483					
31	173.7	0.000	0.000	0.000	0	167.0	0.000	0.000	0.000	0					
Ten Daily Mean															
Ten Daily I	189.1	0.000	0.000	0.004	55	169.4	0.000	0.000	0.007	98	170.9	0.000	0.000	0.003	53
Ten Daily II	155.3	0.000	0.000	0.003	39	160.0	0.000	0.000	0.004	52	232.2	0.000	0.000	0.007	132
Ten Daily III	141.4	0.000	0.000	0.002	26	156.2	0.000	0.000	0.006	83	258.1	0.000	0.000	0.004	93
Monthly															
Total					1214					2423					2596

Annual Sediment Load (Metric Tonnes) : 3656442

Daily Observed Sediment Datasheet for period : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : LMSD,CWC,Bhubaneswar

Day	Mar					Apr					May									
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day		
1	237.5	0.000	0.000	0.000	0.000	0	239.4	0.000	0.000	0.000	0.000	0.000	0	254.0	0.000	0.000	0.039	0.039	856	
2	241.6	0.000	0.000	0.000	0.000	0	244.0	0.000	0.000	0.000	0.000	0.000	0	225.7	0.000	0.000	0.000	0.000	0	
3	212.7	0.000	0.000	0.000	0.000	0	211.7	0.000	0.000	0.036	0.036	659	303.9	0.000	0.000	0.000	0.000	0.000	0	
4	214.6	0.000	0.000	0.000	0.000	0	254.8	0.000	0.000	0.000	0.000	0	312.7	0.000	0.000	0.000	0.000	0.000	0	
5	216.0	0.000	0.000	0.000	0.000	0	259.5	0.000	0.000	0.000	0.000	0	255.9	0.000	0.000	0.000	0.000	0.000	0	
6	213.9	0.000	0.000	0.035	0.035	647	204.7	0.000	0.000	0.000	0.000	0	316.9	0.000	0.000	0.000	0.000	0.000	0	
7	252.5	0.000	0.000	0.000	0.000	0	203.4	0.000	0.000	0.000	0.000	0	307.1	0.000	0.000	0.000	0.000	0.000	0	
8	275.1	0.000	0.000	0.000	0.000	0	200.8	0.000	0.000	0.000	0.000	0	297.3	0.000	0.000	0.035	0.035	899	899	
9	257.8	0.000	0.000	0.000	0.000	0	202.0	0.000	0.000	0.000	0.000	0	348.0	0.000	0.000	0.000	0.000	0.000	0	
10	229.0	0.000	0.000	0.000	0.000	0	269.3	0.000	0.000	0.032	0.032	745	334.0	0.000	0.000	0.000	0.000	0.000	0	
11	209.3	0.000	0.000	0.000	0.000	0	256.6	0.000	0.000	0.000	0.000	0	299.0	0.000	0.000	0.000	0.000	0.000	0	
12	232.0	0.000	0.000	0.000	0.000	0	282.8	0.000	0.000	0.000	0.000	0	252.8	0.000	0.000	0.000	0.000	0.000	0	
13	294.2	0.000	0.000	0.000	0.000	0	271.1	0.000	0.000	0.000	0.000	0	267.7	0.000	0.000	0.000	0.000	0.000	0	
14	271.7	0.000	0.000	0.000	0.000	0	230.0	0.000	0.000	0.000	0.000	0	238.9	0.000	0.000	0.000	0.000	0.000	0	
15	298.8	0.000	0.000	0.000	0.000	0	201.4	0.000	0.000	0.000	0.000	0	227.8	0.000	0.000	0.036	0.036	709	709	
16	230.8	0.000	0.000	0.000	0.000	0	200.0	0.000	0.000	0.000	0.000	0	216.0	0.000	0.000	0.000	0.000	0.000	0	
17	201.3	0.000	0.000	0.000	0.000	0	196.7	0.000	0.000	0.035	0.035	595	190.2	0.000	0.000	0.000	0.000	0.000	0	
18	263.1	0.000	0.000	0.000	0.000	0	202.4	0.000	0.000	0.000	0.000	0	188.8	0.000	0.000	0.000	0.000	0.000	0	
19	267.6	0.000	0.000	0.000	0.000	0	209.3	0.000	0.000	0.000	0.000	0	131.5	0.000	0.000	0.000	0.000	0.000	0	
20	240.2	0.000	0.000	0.000	0.000	0	234.8	0.000	0.000	0.000	0.000	0	217.8	0.000	0.000	0.000	0.000	0.000	0	
21	188.3	0.000	0.000	0.038	0.038	618	235.5	0.000	0.000	0.000	0.000	0	239.9	0.000	0.000	0.000	0.000	0.000	0	
22	214.7	0.000	0.000	0.000	0.000	0	244.1	0.000	0.000	0.000	0.000	0	206.4	0.000	0.000	0.038	0.038	678	678	
23	214.0	0.000	0.000	0.000	0.000	0	225.0	0.000	0.000	0.000	0.000	0	206.5	0.000	0.000	0.000	0.000	0.000	0	
24	226.6	0.000	0.000	0.000	0.000	0	242.5	0.000	0.000	0.035	0.035	733	201.0	0.000	0.000	0.000	0.000	0.000	0	
25	287.0	0.000	0.000	0.000	0.000	0	214.6	0.000	0.000	0.000	0.000	0	267.7	0.000	0.000	0.000	0.000	0.000	0	
26	271.7	0.000	0.000	0.000	0.000	0	211.3	0.000	0.000	0.000	0.000	0	271.3	0.000	0.000	0.000	0.000	0.000	0	
27	316.2	0.000	0.000	0.037	0.037	1011	241.0	0.000	0.000	0.000	0.000	0	293.1	0.000	0.000	0.000	0.000	0.000	0	
28	264.6	0.000	0.000	0.000	0.000	0	224.7	0.000	0.000	0.000	0.000	0	314.5	0.000	0.000	0.000	0.000	0.000	0	
29	257.2	0.000	0.000	0.000	0.000	0	226.8	0.000	0.000	0.000	0.000	0	321.8	0.000	0.000	0.039	0.039	1084	1084	
30	279.1	0.000	0.000	0.000	0.000	0	210.0	0.000	0.000	0.000	0.000	0	260.3	0.000	0.000	0.000	0.000	0.000	0	
31	260.8	0.000	0.000	0.000	0.000	0							259.2	0.000	0.000	0.000	0.000	0.000	0	
Ten Daily Mean																				
Ten Daily I	235.1	0.000	0.000	0.004	0.004	65	229.0	0.000	0.000	0.008	0.008	156	295.6	0.000	0.000	0.000	0.007	0.007	175	175
Ten Daily II	250.9	0.000	0.000	0.000	0.000	0	228.5	0.000	0.000	0.004	0.004	59	223.0	0.000	0.000	0.000	0.004	0.004	71	71
Ten Daily III	252.8	0.000	0.000	0.007	0.007	148	227.5	0.000	0.000	0.004	0.004	92	258.3	0.000	0.000	0.007	0.007	160	160	
Monthly																				
Total						2276						2731							4225	4225

Annual Sediment Load for period : 1973-2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : LMSD,CWC,Bhubaneswar

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)
1973-1974	24222873	84752	24307625	70586
1974-1975	10324047	17140	10341187	18655
1975-1976	39350017	38003	39388020	51696
1976-1977	21706303	95217	21801520	50150
1977-1978	30137685	55339	30193024	60152
1978-1979	44332450	108477	44440927	56326
1979-1980	14536343	110290	14646633	19934
1980-1981	44034457	52560	44087017	68392
1981-1982	18936230	67130	19003360	37359
1982-1983	42140504	51764	42192268	42219
1983-1984	22358581	71670	22430252	54045
1984-1985	13102320	51441	13153760	53553
1985-1986	22150587	40903	22191489	62798
1986-1987	23609194	9219	23618412	59497
1987-1988	5824883	37083	5861966	24105
1988-1989	7701291	123159	7824450	23915
1989-1990	6007311	51713	6059024	29029
1990-1991	17849485	100787	17950271	71176
1991-1992	20361794	59253	20421047	52686
1992-1993	18327294	146087	18473381	52804
1993-1994	10241883	469433	10711316	41685
1994-1995	49549782	715707	50265488	124765
1995-1996	12183397	702758	12886155	38446
1996-1997	5773141	511289	6284430	25472
1997-1998	10270975	734027	11005002	48147
1998-1999	6241357	576601	6817958	34512
1999-2000	3557297	559680	4116977	34358
2000-2001	2742903	47490	2790393	20348
2001-2002	15224146	191861	15416007	66870
2002-2003	2051185	119557	2170742	23799
2003-2004	17666184	294509	17960693	70318
2004-2005	7734910	184116	7919025	41430
2005-2006	11569825	96730	11666554	46816
2006-2007	15982868	127895	16110763	61944
2007-2008	9500059	240455	9740514	55017
2008-2009	8363999	364298	8728296	45678
2009-2010	22751	21201	43952	43003
2010-2011	5711187	60487	5771674	39296
2011-2012	5818319	52040	5870358	45207
2012-2013	7468865	12827	7481692	48136
2013-2014	7526057	49475	7575532	57449
2014-2015	8756678	21963	8778641	68434
2015-2016	2957126	15023	2972149	28794
2016-2017	3640976	15466	3656442	36200

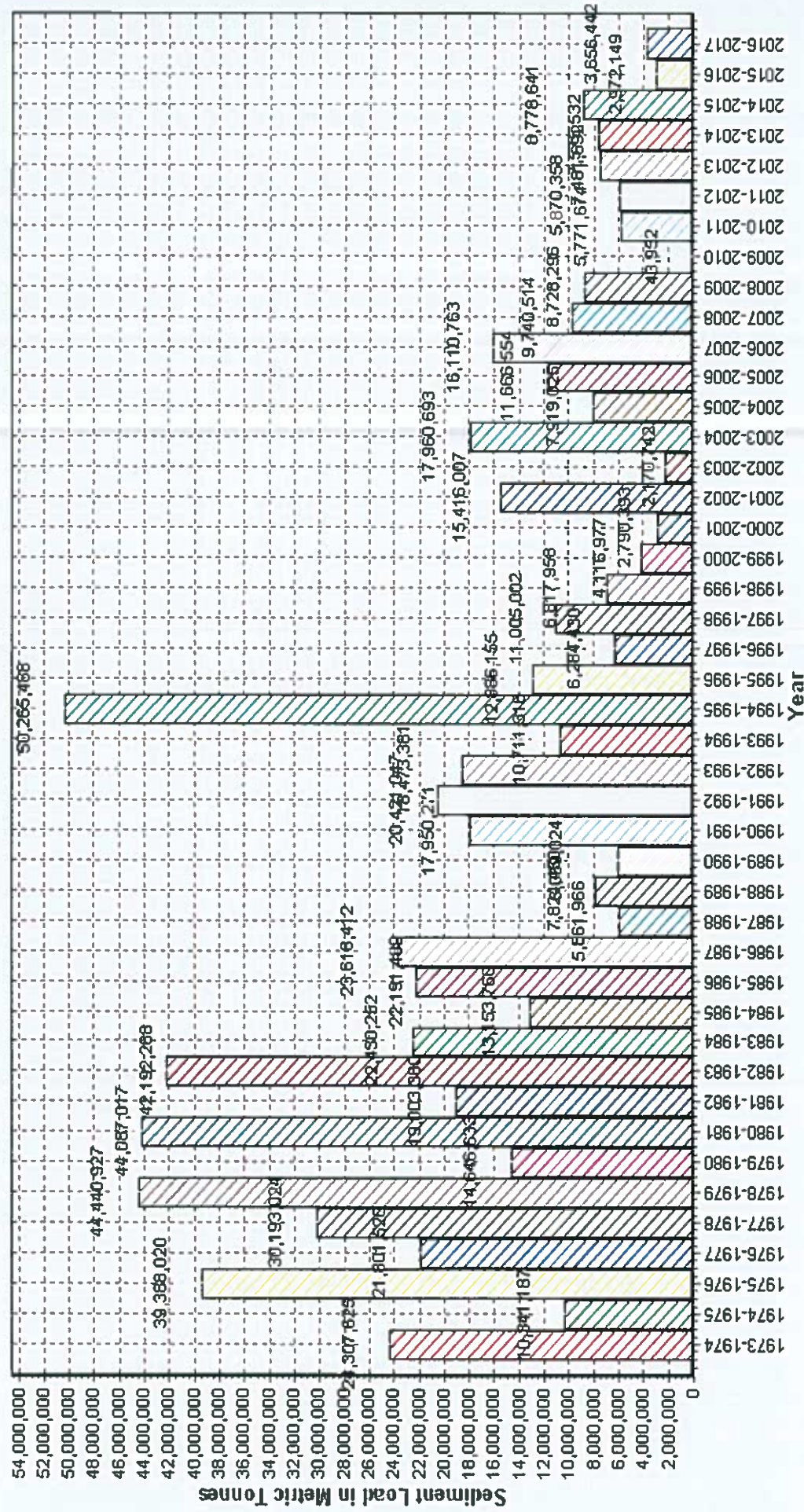
Annual Sediment Load for the period: 1973-2017

Station Name : TIKARAPARA (EM0000G5)

Local River : Mahanadi

Division : MD,CWC,Burla

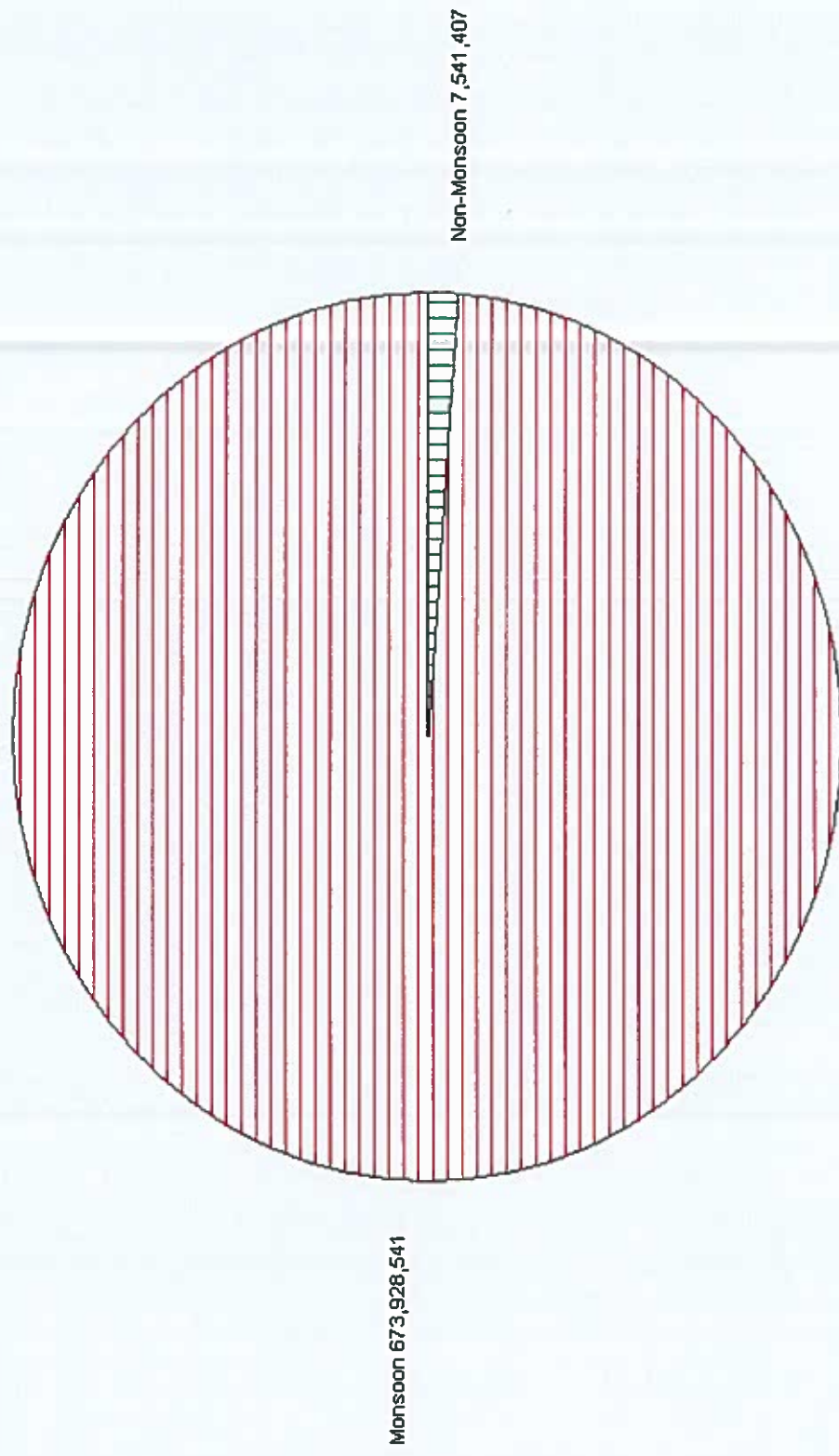
Sub-Division : LMSD,CWC,Bhubaneswar



Seasonal Sediment Load for the period : 1973-2016

Station Name : TIKARAPARA (EM0000G5)
Local River : Mahanadi

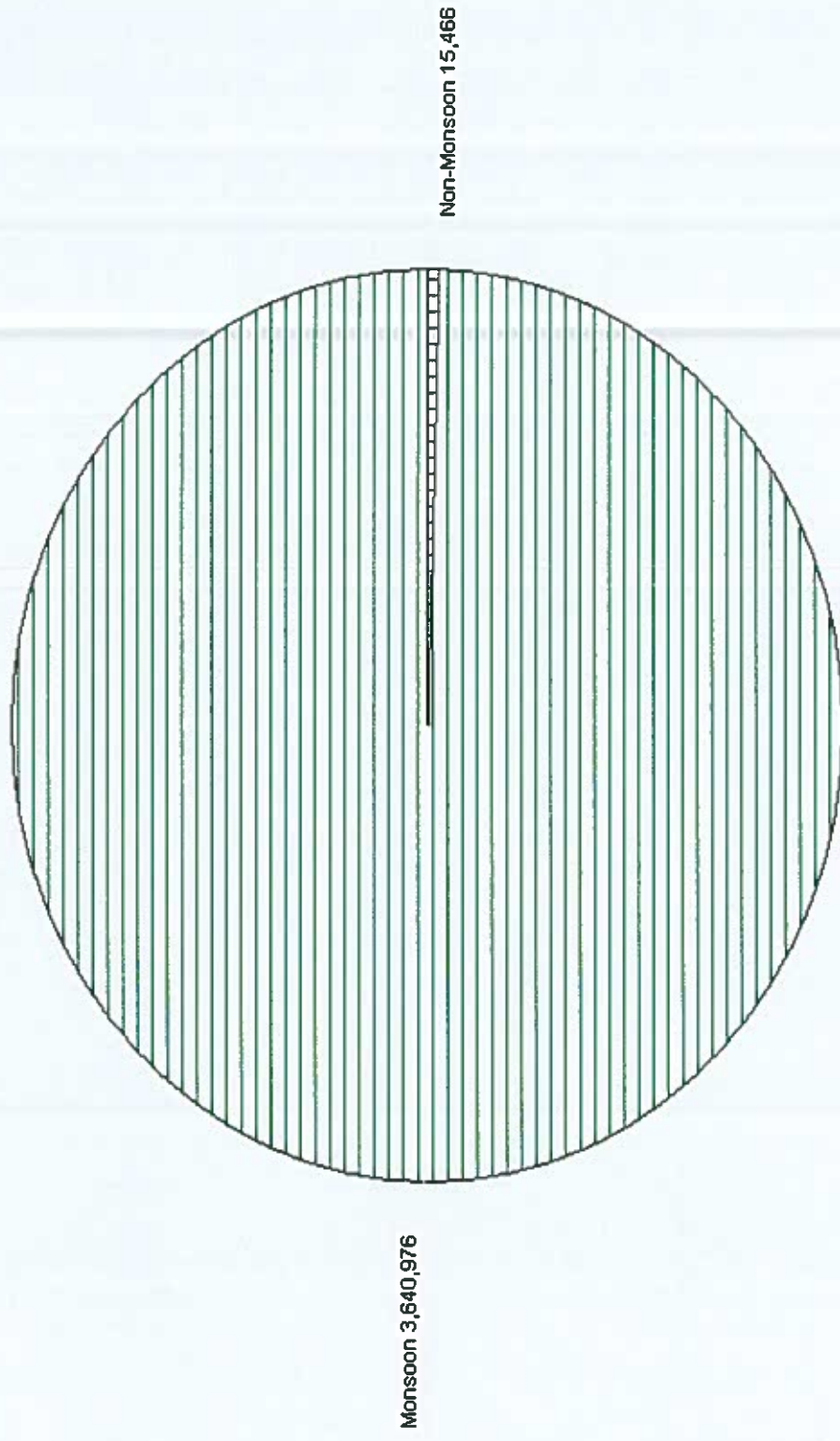
Division : MD, CWC, Burla
Sub-Division : LMSD, CWC, Bhubaneswar



Seasonal Sediment Load for the Year: 2016-2017

Station Name : TIKARAPARA (EM000G5)
Local River : Mahanadi

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar



SECTION-III

Water Quality Datasheet for the period : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

River Water Analysis

Division : MD,CWC,Burla

Sub-Division : LMSD,CWC,Bhubaneswar

S.No	Parameters	01-06-2016	02-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	461.4	200.7	736.1	1146	6163	494.0	240.4	139.0	160.6	237.5	239.4	254.0
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	198	159	225	168	156	541	482	210	234	270	248	215
4	EC_GEN (µmho/cm)	202	163	229	170	158	543	486	212	236	271	252	225
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.1	7.9	7.6	7.9	7.5	8.1	8.1	8.1	7.9	8.1	7.7	7.4
7	pH_GEN (pH units)	8.1	8.0	7.7	8.1	7.6	8.2	8.2	8.1	8.0	8.1	7.7	7.7
8	Temp (deg C)	31.0	30.2	30.4	30.4	27.0	26.5	21.0	19.0	20.5	22.5	28.0	29.5
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	83	60	60	65	55	60	51	69	55	88	92	92
3	B (mg/L)	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.02	0.02
4	Ca (mg/L)	42	43	42	43	43	45	45	95	47	48	50	67
5	Cl (mg/L)	49.0	9.4	50.9	15.1	24.5	26.4	24.5	78.9	28.3	13.2	11.3	15.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.4	0.3	0.3	0.2	0.6	0.3	0.6	0.4	0.3	0.5	0.7	0.5
9	HCO3 (mg/L)	101	73	73	79	68	73	62	85	68	107	113	113
10	K (mg/L)	1.6	6.7	10.6	10.7	6.8	35.2	20.0	25.6	13.6	14.1	14.6	15.1
11	Mg (mg/L)	18.5	19.4	18.5	17.5	18.5	19.4	19.4	40.8	19.4	19.4	17.5	28.2
12	Na (mg/L)	7.0	18.9	35.0	35.2	18.0	38.1	43.4	65.2	78.5	79.6	79.0	80.1
13	NO2+NO3 (mg N/L)	0.95	0.76	1.05	0.81	0.99	1.01	1.26	1.32	1.15	0.98	1.16	1.12
14	NO2-N (mgN/L)	0.00	0.03	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.03	0.03	0.00
15	NO3-N (mgN/L)	0.95	0.73	1.05	0.78	0.97	1.01	1.26	1.32	1.15	0.95	1.13	1.12
16	P-Tot (mgP/L)	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
17	SiO2 (mg/L)	6.0	6.0	7.0	6.0	6.0	6.0	6.0	6.0	7.0	7.5	8.0	8.5
18	SO4 (mg/L)	11.4	11.6	12.1	13.7	7.5	7.8	7.8	8.0	8.4	9.0	9.2	7.9

Water Quality Datasheet for the period : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

River Water Analysis

Division : MD, CWC, Burla
Sub-Division : LMSD, CWC, Bhubaneswar

S.No	Parameters	01-06-2016	02-07-2016	01-08-2016	01-09-2016	01-10-2016	01-11-2016	01-12-2016	02-01-2017	01-02-2017	01-03-2017	01-04-2017	01-05-2017
		A	A	A	A	A	A	A	A	A	A	A	A
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	0.4	2.2	1.0	1.6	0.8	1.0	0.4	0.8	1.8	1.0	1.0	0.8
2	DO (mg/L)	7.7	12.3	5.2	7.2	6.8	6.2	8.3	8.7	11.1	6.8	5.0	6.8
3	DO_SAT% (%)	104	163	68	95	85	76	94	94	122	77	63	88
4	FCol-MPN (MPN/100mL)						20	70	110	60	40	110	130
5	Tcol-MPN (MPN/100mL)						40	90	260	90	90	260	270
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	104	108	104	108	108	112	112	236	116	120	124	168
2	HAR_Total (mgCaCO3/L)	181	189	181	181	185	193	193	407	197	201	197	286
3	Na% (%)	8	17	28	28	17	26	30	25	44	44	44	36
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.2	0.6	1.1	1.1	0.6	1.2	1.4	1.4	2.4	2.4	2.5	2.1
	PESTICIDES												

Water Quality Summary for the period : 2016-2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

Sub-Division : LMSD,CWC,Bhubaneswar

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	12760	114.5	1148
2	EC_FLD (μmho/cm)	12	541	156	259
3	EC_GEN (μmho/cm)	12	543	158	262
4	pH_FLD (pH units)	12	8.1	7.4	7.9
5	pH_GEN (pH units)	12	8.2	7.6	7.9
6	Temp (deg C)	12	31.0	19.0	26.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	92	51	69
3	B (mg/L)	12	0.02	0.01	0.01
4	Ca (mg/L)	12	95	42	51
5	Cl (mg/L)	12	78.9	9.4	28.9
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.05	0.05	0.05
8	Fe (mg/L)	12	0.7	0.2	0.4
9	HCO3 (mg/L)	12	113	62	85
10	K (mg/L)	12	35.2	1.6	14.6
11	Mg (mg/L)	12	40.8	17.5	21.4
12	Na (mg/L)	12	80.1	7.0	48.2
13	NO2+NO3 (mg N/L)	12	1.32	0.76	1.05
14	NO2-N (mgN/L)	12	0.03	0.00	0.01
15	NO3-N (mgN/L)	12	1.32	0.73	1.04
16	P-Tot (mgP/L)	12	0.010	0.010	0.01
17	SiO2 (mg/L)	12	8.5	6.0	6.7
18	SO4 (mg/L)	12	13.7	7.5	9.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	2.2	0.4	1.1
2	DO (mg/L)	12	12.3	5.0	7.7
3	DO_SAT% (%)	12	163	63	94
4	FCol-MPN (MPN/100mL)	7	130	20	77
5	Tcol-MPN (MPN/100mL)	7	270	40	157
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	236	104	127
2	HAR_Total (mgCaCO3/L)	12	407	181	216
3	Na% (%)	12	44	8	29
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	2.5	0.2	1.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2002-2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

River Water

Sub-Division : LMSD,CWC,Bhubaneswar

S.No	Parameters	Flood														
		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	1200	5240	1866	2942	6134	4002	3592	1782	2436	2181	1945	6289	4306	1411	1742
2	EC_FLD (µmho/cm)	175	153	152	164	162	155	171	173	198	188	182	162	183	339	181
3	EC_GEN (µmho/cm)	175	153	152	165	157	154	171	173	198	188	182	162	183	333	184
4	pH_FLD (pH units)	8.1	7.4	7.9	7.8	7.9	7.9	7.7	7.9	7.9	8.3	7.8	7.7	7.8	7.3	7.8
5	pH_GEN (pH units)	8.1	7.4	7.9	7.8	7.9	7.9	7.7	7.9	7.9	8.3	7.8	7.7	7.8	7.5	7.9
6	TDS (mg/L)								117	127						
7	Temp (deg C)	28.3	29.3	29.3	28.7	28.2	29.0	29.5	28.6	29.7	29.4	28.7	25.0	28.3	30.3	29.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)						0.0	0.0	2.4	6.4	13.5	0.0		0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)						45	59	51	66	90	93		72	70	65
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01
4	Ca (mg/L)	17	16	15	19	19	14	17	17	21	18	21	23	18	20	43
5	Cl (mg/L)	11.0	11.4	9.8	12.4	11.5	14.4	10.6	9.3	11.9	12.8	17.5	24.3	15.6	12.1	29.8
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	7.7	16.3	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.00	0.00	0.19	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.0	2.7	0.0	0.3	0.4	0.4
9	HCO3 (mg/L)	75	66	69	70	73	55	68	57	65	77	110	65	88	86	79
10	K (mg/L)	2.2	1.6	1.9	2.2	2.2	2.1	2.3	1.9	2.5	2.1	4.4	1.5	2.1	3.0	7.3
11	Mg (mg/L)	5.7	3.2	4.9	2.9	4.6	5.1	6.4	5.4	7.0	7.2	7.0	6.2	6.6	11.9	18.5
12	Na (mg/L)	7.7	8.1	6.6	8.3	7.3	9.8	7.0	5.9	7.2	7.4	10.0	12.4	7.4	7.0	22.8
13	NO2+NO3 (mg N/L)	1.01	0.21	0.88	0.34	0.74	1.73	0.37	1.00	0.52	0.39	1.07	0.95	1.03	1.02	0.91
14	NO2-N (mgN/L)	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.07	0.00	0.00	0.01	0.02	0.02
15	NO3-N (mgN/L)	1.01	0.21	0.88	0.32	0.72	1.73	0.37	1.00	0.52	0.32	1.07	0.95	1.02	1.00	0.90
16	o-PO4-P (mg P/L)			0.000	0.017	0.008	0.000		0.014							
17	P-Tot (mgP/L)	0.029	0.001	0.001	0.001	0.009	0.001	0.002	0.002	0.001	0.010	0.001	0.001	0.001	0.005	0.010
18	SiO2 (mg/L)	10.0	10.0	15.3	18.6	11.7	9.5	10.1	8.6	8.0	15.6	21.2	10.2	9.4	7.6	6.2
19	SO4 (mg/L)	6.5	1.1	4.2	1.7	6.2	7.0	9.4	10.7	12.1	9.4	45.6	18.4	15.4	10.3	11.2

Water Quality Seasonal Average for the period: 2002-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

River Water

Division : MD, CWC, Burla

Sub-Division : LMSD, CWC, Bhubaneswar

Parameters		Flood														
S.No		Jun - Oct														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.8	0.7	0.6	0.7	0.9	0.9	0.9	1.3	1.1	1.2	0.7	0.8	0.4	0.9	1.2
2	DO (mg/L)	7.3	6.2	7.0	6.6	6.9	7.1	6.4	7.1	7.1	6.4	6.3	6.3	6.3	6.1	7.8
3	DO_SAT% (%)	93	81	90	85	88	92	84	92	93	83	81	77	81	80	103
4	FCol-MPN (MPN/100mL)						20	10	9	205		11				
5	Tcol-MPN (MPN/100mL)						29	12	17	230		21				
	TRACE & TOXIC															
1	Al (mg/L)				2.70		0.00									
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	42	41	38	48	47	36	42	43	51	44	54	57	44	50	107
2	HAR_Total (mgCaCO3/L)	66	54	57	60	66	57	68	66	80	74	83	83	71	99	184
3	Na% (%)	20	24	19	24	19	28	18	16	16	17	19	24	18	13	20
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.1	0.0	0.0
5	SAR (-)	0.4	0.5	0.4	0.5	0.4	0.6	0.4	0.3	0.4	0.4	0.5	0.6	0.4	0.3	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : TIKARAPARA (EM000G5)

Division : MD,CWC,Burla

Local River : Mahanadi

River Water

Sub-Division : LMSD,CWC,Bhubaneswar

S.No	Parameters	Winter															
		Nov - Feb															
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	
	PHYSICAL																
1	Q (cumec)	394.1	751.5	491.6	559.6	571.0	859.1	741.8	406.4	448.2	491.1	312.7	1063	421.7	228.3	258.5	
2	EC_FLD (µmho/cm)	161	173	165	196	240	154	168	205	231	169	210	188	253	475	367	
3	EC_GEN (µmho/cm)	161	173	165	191	236	153	168	205	231	169	210	188	253	475	369	
4	pH_FLD (pH units)	7.8	7.6	7.9	8.1	8.1	8.0	7.9	7.8	7.9	7.8	7.2	8.2	7.9	7.5	8.1	
5	pH_GEN (pH units)	7.8	7.6	7.9	8.1	8.1	8.0	8.0	7.8	7.9	7.8	7.2	8.2	7.9	7.8	8.1	
6	TDS (mg/L)								133	151							
7	Temp (deg C)	23.1	23.6	22.0	21.8	22.5	21.8	23.0	22.3	24.8	23.1	23.0	23.4	24.4	24.0	21.8	
	CHEMICAL																
1	Alk-Phen (mgCaCO3/L)						0.0	0.0	0.0	0.0	4.6	0.0		0.0	11.5	0.0	
2	Alk-TOT (mgCaCO3/L)						55	48	69	82	79	71		69	105	59	
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	
4	Ca (mg/L)	16	20	17	22	28	11	15	18	20	20	18	19	20	19	58	
5	Cl (mg/L)	12.1	10.6	9.6	12.5	13.9	12.6	12.7	14.6	13.2	10.4	21.8	19.5	13.3	14.6	39.5	
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	13.9	0.0	
7	F (mg/L)	0.00	0.00	0.28	0.00	0.11	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
8	Fe (mg/L)	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.0	2.4	0.1	0.4	0.4	0.4	
9	HCO3 (mg/L)	62	80	82	100	110	68	58	84	104	96	86	98	86	100	72	
10	K (mg/L)	1.9	1.6	1.7	2.3	2.0	2.4	1.7	1.7	2.0	1.7	4.0	1.3	1.8	2.0	23.6	
11	Mg (mg/L)	4.6	4.6	6.8	5.7	5.8	7.3	5.1	8.0	10.2	3.6	7.8	3.7	5.3	12.1	24.8	
12	Na (mg/L)	7.7	8.1	6.6	8.8	9.9	7.5	8.1	10.0	8.8	7.0	10.8	10.2	6.7	6.2	56.3	
13	NO2+NO3 (mg N/L)	0.92	0.81	0.40	0.48	0.58	0.27	0.31	0.34	0.92	0.41	0.99	0.81	1.22	1.10	1.18	
14	NO2-N (mgN/L)	0.01	0.02	0.00	0.03	0.02	0.04	0.00	0.00	0.08	0.07	0.00	0.00	0.01	0.00	0.00	
15	NO3-N (mgN/L)	0.90	0.78	0.40	0.45	0.56	0.23	0.31	0.34	0.84	0.34	0.99	0.81	1.21	1.09	1.18	
16	o-PO4-P (mg P/L)				0.000	0.021	0.000		0.017								
17	P-Tot (mgP/L)	0.021	0.001	0.001	0.001	0.007	0.001	0.002	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010	
18	SiO2 (mg/L)	9.8	7.9	16.1	23.4	12.7	10.1	9.5	8.9	8.1	16.0	23.8	9.8	9.4	5.5	6.3	
19	SO4 (mg/L)	7.2	2.4	4.1	2.2	1.9	5.7	8.1	11.3	8.2	4.4	15.6	19.7	13.1	5.5	8.0	

Water Quality Seasonal Average for the period: 2002-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

River Water

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar

S.No	Parameters	Winter														
		Now - Feb														
		2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	0.6	0.5	0.9	0.7	0.8	0.8	1.3	1.3	1.0	1.5	0.3	0.5	0.2	0.9	1.0
2	DO (mg/L)	7.7	8.0	7.7	8.4	7.3	7.3	8.3	7.7	7.8	7.3	7.5	7.6	8.3	8.1	8.6
3	DO_SAT% (%)	90	94	87	95	84	82	96	88	93	84	87	90	100	96	97
4	FCol-MPN (MPN/100mL)						7	7	12	34		16				65
5	Tcol-MPN (MPN/100mL)						9	8	16	230		25				120
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	41	50	42	56	70	29	38	45	49	51	46	49	51	48	144
2	HAR_Total (mgCaCO3/L)	60	69	61	80	94	59	59	78	92	66	78	64	73	99	248
3	Na% (%)	22	21	17	19	19	21	23	21	17	18	22	26	16	11	31
4	RSC (-)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.3	0.0	0.4	0.0
5	SAR (-)	0.4	0.4	0.3	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.6	0.3	0.3	1.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2002-2017

Station Name : TIKARAPARA (EM0000G5)

Local River : Mahanadi

River Water

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar

S.No	Parameters	Summer														
		Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	PHYSICAL															
1	Q (cumec)	198.1	436.4	313.1	313.7	220.9	498.7	405.1	268.6	381.5	261.8	399.4	364.8	268.5	231.9	243.6
2	EC_FLD (µmho/cm)	197	348	217	208	215	213	243	194	297	220	233	203	293	367	244
3	EC_GEN (µmho/cm)	197	348	209	205	215	213	243	194	297	220	233	203	293	369	249
4	pH_FLD (pH units)	7.9	7.3	8.0	8.2	8.1	8.1	8.1	8.0	8.4	8.0	7.9	7.9	7.9	8.0	7.7
5	pH_GEN (pH units)	7.9	7.3	8.1	8.3	8.1	8.2	8.1	8.0	7.9	8.0	7.8	7.9	7.9	8.2	7.8
6	TDS (mg/L)								130	195						
7	Temp (deg C)	27.7	26.0	26.2	27.5	29.5	26.2	29.0	27.7	26.7	27.7	27.7	28.1	28.2	28.4	26.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)					0.0		0.0	0.0	14.6	0.0	0.0		0.0	23.0	0.0
2	ALK-TOT (mgCaCO3/L)					162		76	66	106	86	76		83	120	91
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02
4	Ca (mg/L)	17	37	20	26	27	19	23	18	31	28	22	18	24	38	55
5	Cl (mg/L)	13.6	19.7	13.6	11.9	10.9	18.2	14.9	14.2	17.0	16.3	23.7	17.5	13.9	15.7	13.2
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	27.7	0.0
7	F (mg/L)	0.00	0.00	0.13	0.00	0.14	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8	Fe (mg/L)	0.3	0.1	0.1	0.2	0.3	0.2	0.3	0.2	0.1	0.0	2.8	0.1	0.4	0.4	0.5
9	HCO3 (mg/L)	97	167	97	107	113	82	93	81	108	105	100	76	99	90	111
10	K (mg/L)	2.2	2.2	1.6	2.3	3.0	1.3	1.9	1.7	2.2	2.1	2.6	1.0	2.1	1.2	14.6
11	Mg (mg/L)	6.8	12.6	7.3	5.2	6.8	7.0	8.4	8.1	11.0	3.2	8.9	4.2	4.5	15.2	21.7
12	Na (mg/L)	10.0	14.5	9.0	8.9	8.0	12.5	10.1	8.2	9.6	8.6	9.5	9.9	11.1	5.3	79.6
13	NO2+NO3 (mg N/L)	0.71	0.53	0.57	0.77	0.54	0.83	1.06	0.68	1.17	0.41	0.90	0.69	0.97	0.96	1.09
14	NO2-N (mgN/L)	0.00	0.01	0.00	0.05	0.01	0.03	0.00	0.00	0.37	0.07	0.00	0.00	0.00	0.00	0.02
15	NO3-N (mgN/L)	0.71	0.51	0.57	0.73	0.53	0.80	1.06	0.68	0.80	0.35	0.90	0.69	0.97	0.96	1.07
16	o-PO4-P (mg P/L)			0.000	0.028	0.000			0.003							
17	P-Tot (mgP/L)	0.001	0.001	0.001	0.014	0.001	0.050	0.002	0.001	0.001	0.010	0.001	0.001	0.001	0.010	0.010
18	SiO2 (mg/L)	9.3	14.3	14.9	20.2	15.4	8.7	10.5	8.8	11.7	16.3	21.7	14.4	10.0	5.3	8.0
19	SO4 (mg/L)	3.9	3.9	2.1	2.0	4.3	10.4	11.2	6.5	4.1	5.3	20.2	16.7	13.7	9.6	8.7

Water Quality Seasonal Average for the period: 2002-2017

Station Name : TIKARAPARA (EM000G5)

Local River : Mahanadi

River Water

Division : MD,CWC,Burla
Sub-Division : LMSD,CWC,Bhubaneswar

S.No	Parameters	Summer Mar - May														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	0.7	0.6	0.8	0.8	0.8	1.2	1.1	1.3	1.5	1.1	0.3	0.8	0.9	0.9
2	DO (mg/L)	6.8	7.6	6.9	7.7	6.2	6.9	7.4	7.5	7.3	6.7	6.2	6.6	5.8	6.7	6.2
3	DO_SAT% (%)	87	93	84	96	80	85	96	95	91	84	79	84	75	85	76
4	FCol-MPN (MPN/100mL)					9	4	8	10	8		13				93
5	Tcol-MPN (MPN/100mL)					350	4	10	13	10		16				207
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	43	93	49	64	68	48	57	45	76	69	55	45	60	96	138
2	HAR_Total (mgCaCO3/L)	71	146	78	86	96	77	93	79	122	83	92	62	78	160	228
3	Na% (%)	23	18	19	18	15	26	19	18	14	18	18	25	24	6	42
4	RSC (-)	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0
5	SAR (-)	0.5	0.5	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.2	2.3
	PESTICIDES															

SITE BOUDH

HISTORY SHEET

Water Year : 2016-2017

Site : BOUDH

Code : BOUDH

State : Orissa

District : Angul

Basin : Mahanadi

Independent River : Mahanadi

Tributary :

Sub Tributary :

Sub-Sub Tributary :

Local River :

Division : MD,CWC,BURLA

Sub-Division : MMSD-II,CWC,BURLA

Drainage Area : Sq. Km.

Bank : Left

Latitude : 20°51'56"

Longitude : 84°18'48"

Zero of Gauge (m) : 74 (m.s.l)

31-03-2015

Opening Date

Closing Date

Gauge : 31-03-2015

Discharge : 31-03-2015

Sediment :

Water Quality :

Annual Maximum / Minimum discharge with corresponding Water Level (m.s.l)

Year	Maximum			Minimum		
	Q (cumecs)	WL (m)	Date	Q (cumecs)	WL (m)	Date
2015-2016	15080	85.220	18-09-2015	0.000	79.460	05-06-2015

Stage-Discharge Data for the period 2016 - 2017

Station Name : BOUDH (BOUDH)

Division : MD,CWC,BURLA

Local River :

Sub-Division : MMSD-II,CWC,BURLA

Day	Jun		Jul		Aug		Sep		Oct		Nov	
	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q	W.L	Q
1	79.895	680.8 *	80.600	204.6	81.560	1183	81.685	1335	83.835	6721	81.145	575.9
2	79.845	590.7 *	80.715	302.2	81.805	1511	81.765	1441	83.720	6325 *	80.960	471.1
3	79.795	530.8 *	80.990	482.6 *	81.705	1407	82.135	1988	83.875	6877	80.940	361.0
4	79.695	489.7 *	81.270	734.8	82.800	4119	83.110	4300 *	83.315	4371	81.040	508.4
5	79.500	327.6 *	81.260	727.2	84.020	9059	84.830	10373	82.935	3739	81.090	593.9
6	79.480	310.4 *	81.080	574.4 *	84.620	9015	83.700	7211	82.885	3412	81.110	600.0 *
7	79.470	306.5 *	80.880	403.7	85.090	12000 *	83.170	4773	82.975	3546	81.020	447.9
8	79.490	307.5	80.865	427.3	85.060	13674	82.605	3844	83.230	5708	80.990	443.4
9	79.510	338.4	81.045	545.0	85.185	13127	83.880	8130	83.100	5622 *	80.990	428.5
10	79.470	264.2	81.160	639.6 *	85.160	13015	83.215	4299	83.180	5675 *	81.080	542.7
11	79.430	207.9	81.250	735.2	85.015	13656	84.000	7124 *	83.700	6016 *	81.095	560.0
12	79.420	205.0 *	81.380	857.0	83.735	9103	84.630	9389	83.760	6055 *	81.050	536.2
13	79.430	212.0	81.485	1009	82.985	3995	83.590	4940 *	83.470	5838	81.020	472.7 *
14	79.430	216.1	81.480	1054	82.590	2500 *	84.265	7827	82.950	3759	80.990	408.8 *
15	79.815	560.4	81.230	719.6	82.340	2000 *	84.370	8275	82.930	3633	80.990	408.0
16	79.890	672.5	81.135	614.6	83.155	4784	84.290	8498	82.240	2410 *	81.015	472.9
17	79.595	384.3	81.120	596.7 *	83.545	6450	82.770	3467	82.240	2374	80.990	425.5
18	79.485	310.5	81.315	829.6	82.765	3254	83.050	4167 *	82.025	1937	80.940	380.8
19	79.490	313.1 *	81.495	1019	82.395	2464	82.430	2617	81.600	1094	80.870	334.2
20	81.055	525.0	81.540	1242	82.235	2090	82.100	2132	81.545	982.8	80.760	305.3 *
21	81.035	525.5	81.345	876.7	82.070	1800 *	82.155	2258	81.450	885.8	80.730	297.0
22	80.835	359.9	81.485	1027	81.940	1667	82.070	1932	81.490	940.3	80.730	305.9
23	80.735	279.7	81.780	1539	82.035	1825	82.080	2097	81.500	951.2 *	80.720	287.7
24	80.710	273.2	81.700	1469 *	81.710	1252	82.175	2296	81.440	885.1	80.710	267.4
25	80.955	459.1	81.740	1504	81.885	1712	82.090	2139 *	81.395	874.7	80.720	273.7
26	80.690	242.0 *	81.810	1642	81.940	1864	81.925	1832	81.275	724.0	80.720	265.0
27	80.690	242.1	81.725	1472	81.855	1604	81.910	1728	81.165	625.2	80.840	326.1 *
28	80.690	267.0	81.885	1666	82.060	1750 *	82.125	2117	81.165	650.7	80.850	331.1
29	80.630	194.2	81.815	1548	81.905	1621	82.720	3313	81.175	702.3	80.840	316.9
30	80.595	206.0	81.660	1331	81.890	1724	84.435	8501	81.300	754.4 *	80.830	294.2
31			81.520	1125 *	81.725	1369			81.335	779.1		
Ten-Daily Mean												
I Ten-Daily	79.615	414.7	80.986	504.1	83.701	7811	83.009	4769	83.305	5200	81.036	497.3
II Ten-Daily	79.704	360.7	81.343	867.7	83.076	5030	83.549	5844	82.646	3410	80.972	430.4
III Ten-Daily	80.757	304.9	81.679	1382	81.910	1654	82.368	2821	81.335	797.5	80.769	296.5
Monthly												
Min.	79.420	194.2	80.600	204.6	81.560	1183	81.685	1335	81.165	625.2	80.710	265.0
Max.	81.055	680.8	81.885	1666	85.185	13674	84.830	10373	83.875	6877	81.145	600.0
Mean	80.025	360.1	81.347	932.8	82.864	4729	82.976	4478	82.394	3060	80.926	408.1

Annual Runoff in MCM = 40765 Annual Runoff in mm =

Peak Observed Discharge = 13674 cumecs on 08/08/2016 Corres. Water Level :85.06 m

Lowest Observed Discharge = 133.8 cumecs on 26/12/2016 Corres. Water Level :80.65 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

Stage-Discharge Data for the period 2016 - 2017

Station Name : BOUDH (BOUDH)

Division : MD,CWC,BURLA

Local River :

Sub-Division : MMSD-II,CWC,BURLA

Day	Dec		Jan		Feb		Mar		Apr		May	
	W.L	Q	WL	Q	WL	Q	WL	Q	WL	Q	WL	Q
1	80.730	258.9	80.680	195.0 *	80.660	169.2	80.780	266.2	80.760	249.1	80.750	249.9
2	80.710	219.5	80.670	169.0	80.650	152.2	80.740	224.1	80.750	235.2 *	80.865	387.2
3	80.720	243.3	80.670	172.5	80.670	174.4	80.780	273.6	80.815	325.6	80.845	337.4
4	80.700	242.4 *	80.680	194.7	80.670	181.0	80.780	268.5	80.800	307.5	80.790	295.4
5	80.690	241.5	80.680	197.4	80.680	187.0 *	80.780	268.6 *	80.780	271.9	80.900	374.8
6	80.690	209.1	80.680	195.2	80.680	186.9	80.790	281.1	80.775	267.9	80.860	357.8
7	80.680	194.3	80.680	186.2	80.690	197.3	80.810	304.5	80.760	260.8	80.850	353.6 *
8	80.700	208.9	80.680	195.0 *	80.690	196.3	80.790	280.4	80.770	267.5	81.000	416.3
9	80.710	219.4	80.690	211.9	80.690	193.7	80.780	263.3	80.770	267.6 *	80.810	339.9
10	80.720	225.4	80.700	225.3	80.690	200.3	80.770	252.1	80.800	309.5	80.790	286.2 *
11	80.700	201.1 *	80.700	224.1	80.690	199.0	80.770	246.7	80.800	313.5	80.780	259.4
12	80.680	176.8 *	80.690	212.0	80.680	188.0 *	80.790	265.6 *	80.810	314.9	80.760	253.2
13	80.680	176.8	80.680	187.2	80.680	188.7	80.850	322.4 *	80.780	282.0	80.740	239.4
14	80.680	163.2	80.680	183.0	80.800	282.3	80.860	332.0	80.780	282.0 *	80.730	224.3 *
15	80.680	177.5	80.680	195.0 *	80.845	315.6	80.800	300.6	80.770	248.2	80.720	209.2
16	80.680	182.4	80.680	196.4	80.810	288.2	80.770	241.4	80.760	255.5 *	80.700	226.9
17	80.670	161.8	80.670	172.8	80.800	274.4	80.780	267.7	80.770	262.8	80.690	219.1
18	80.660	153.3 *	80.660	161.6	80.800	285.2	80.790	275.6	80.770	266.5	80.500	176.0
19	80.650	144.7	80.660	161.4	80.810	296.4 *	80.780	262.6 *	80.770	263.3	80.775	268.6
20	80.660	160.3	80.670	170.2	80.810	296.3	80.760	236.2	80.770	267.2	80.790	286.8
21	80.680	173.8	80.670	172.4	80.810	295.0	80.770	252.8	80.770	265.5	80.600	190.0 *
22	80.680	163.7 *	80.660	165.0 *	80.800	280.4	80.770	259.8	80.770	266.1	80.700	223.8
23	80.670	164.1	80.650	149.4	80.800	279.0	80.780	265.6	80.780	279.0 *	80.700	225.9
24	80.670	157.2	80.660	158.1	80.800	277.9 *	80.880	344.9	80.780	278.3	80.840	305.2
25	80.670	160.8 *	80.660	166.8	80.800	276.7	80.880	341.4	80.770	266.1	80.785	276.4
26	80.650	133.8	80.670	173.0 *	80.790	273.1 *	80.880	341.4 *	80.780	278.7	80.835	321.4
27	80.660	137.4	80.680	195.3	80.740	240.3	80.810	327.0	80.780	280.9	80.900	373.9
28	80.680	188.5	80.660	158.5	80.780	264.9	80.790	301.2	80.780	279.6	80.900	373.9 *
29	80.690	213.5	80.660	165.0 *			80.820	324.6	80.760	259.6	80.775	292.1
30	80.690	222.7	80.670	171.3			80.800	308.1	80.760	259.6 *	80.770	279.7
31	80.680	197.7	80.660	162.4			80.790	298.9			80.740	243.5
Ten-Daily Mean												
I Ten-Daily	80.705	226.3	80.681	194.2	80.677	183.8	80.780	268.3	80.778	276.3	80.846	339.8
II Ten-Daily	80.674	169.8	80.677	186.4	80.772	261.4	80.795	275.1	80.778	275.6	80.718	236.3
III Ten-Daily	80.675	173.9	80.664	167.0	80.790	273.4	80.815	306.0	80.773	271.3	80.777	282.3
Monthly												
Min.	80.650	133.8	80.650	149.4	80.650	152.2	80.740	224.1	80.750	235.2	80.500	176.0
Max.	80.730	258.9	80.700	225.3	80.845	315.6	80.880	344.9	80.815	325.6	81.000	416.3
Mean	80.684	189.5	80.674	182	80.743	237.1	80.797	283.8	80.776	274.4	80.780	286

Peak Computed Discharge = 12000 cumecs on 07/08/2016

Corres. Water Level :85.09 m

Lowest Computed Discharge = 153.3 cumecs on 18/12/2016

Corres. Water Level :80.66 m

Q: Observed/Computed Discharge in cumecs WL:Corresponding Mean Water Level(m.s.l) in m *:Computed Discharge

Note:Missing values ignored while arriving at Annual Runoff

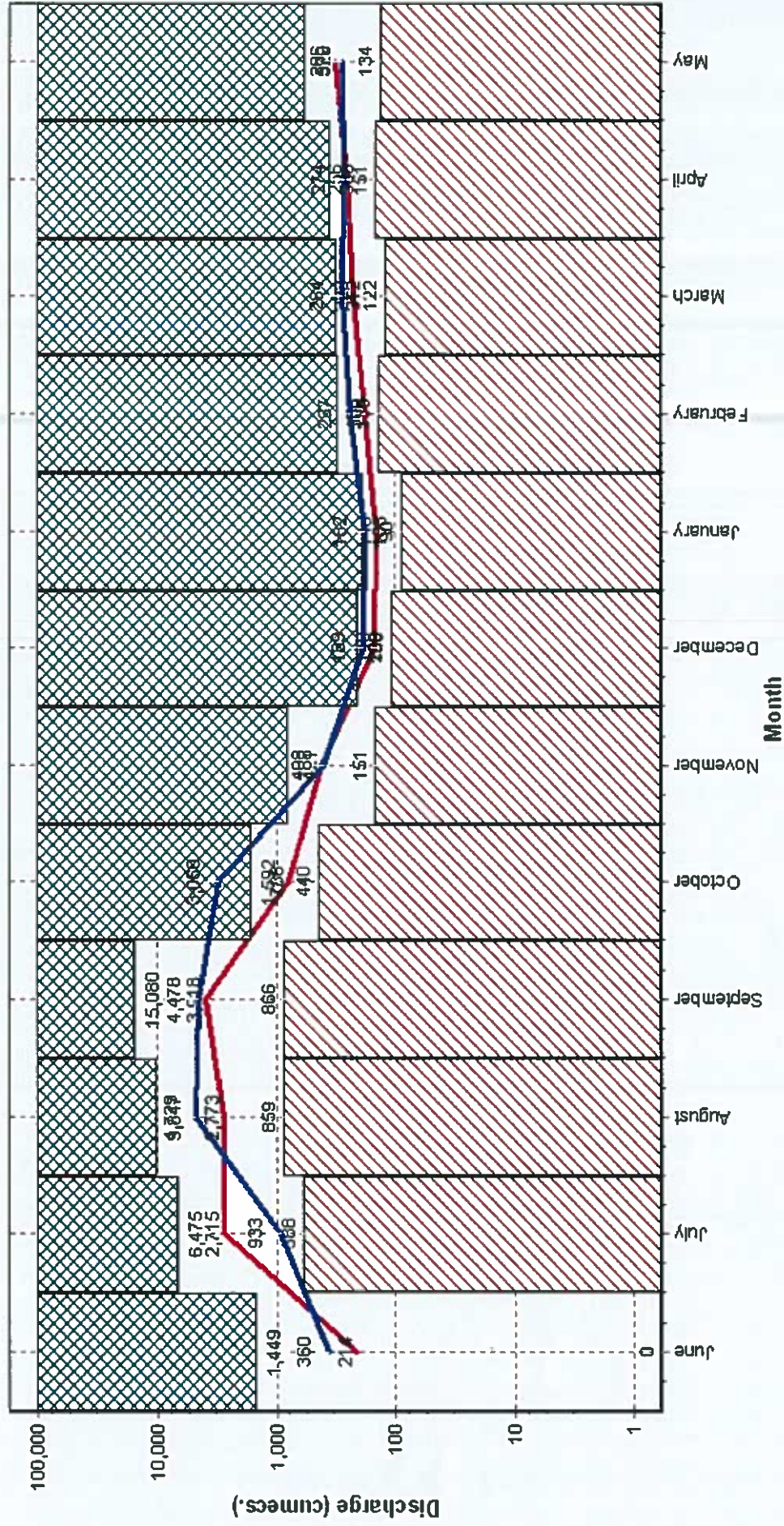
HISTOGRAM - HYDROGRAPH for Water Year : 2016-2017

Station Name : BOUDH (BOUDH)

Data considered : 2015-2017

Division : MD,CWC,BURLA
Sub-Division : MMSD-II,CWC,BURLA

Local River :

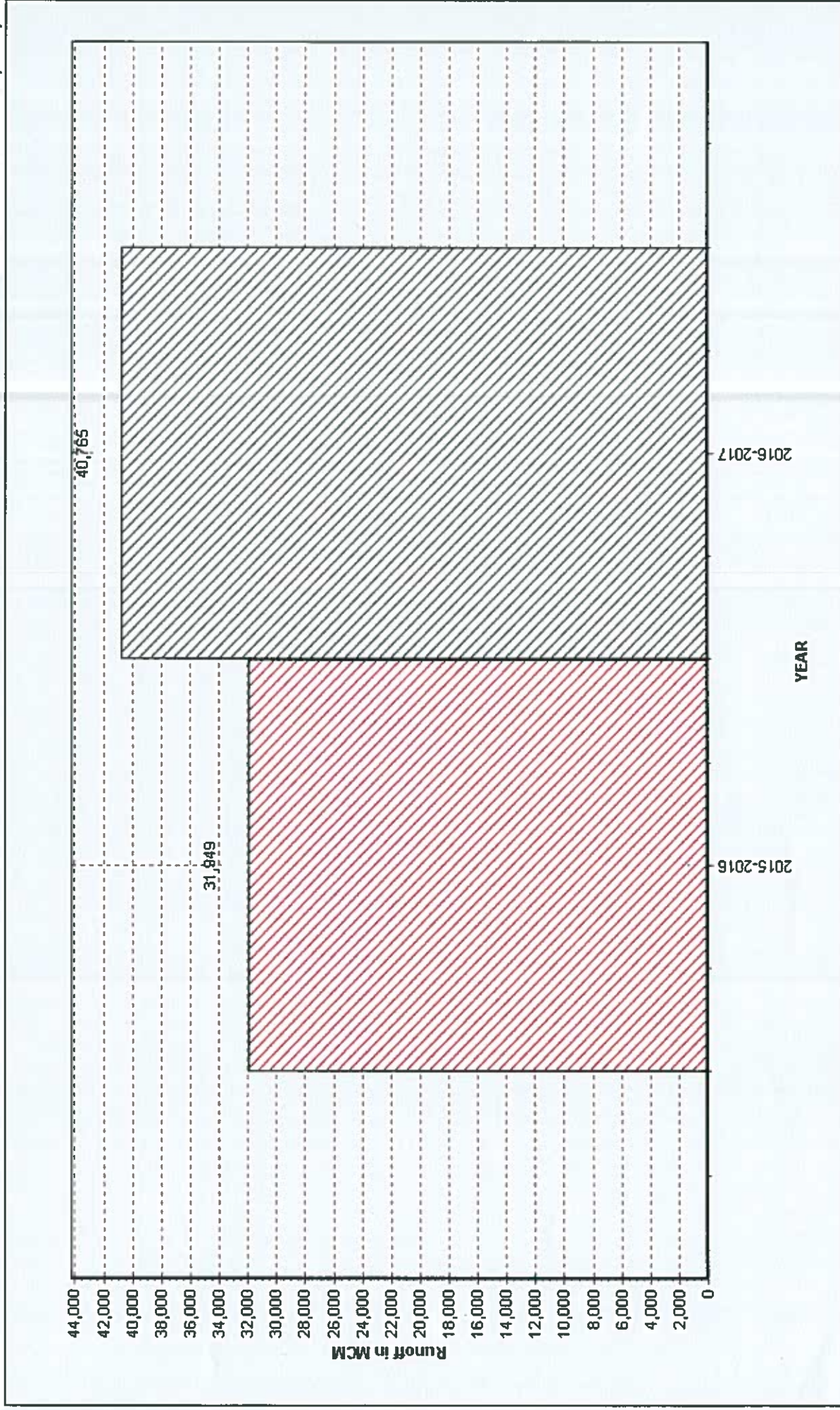


Annual Runoff Values for the period: 2015 - 2017

Station Name : BOUDH (BOUDH)

Division : MD,CWC,BURLA
Sub-Division : MMSD-II,CWC,BURLA

Local River :



Monthly Average Runoff based on period : 2015-2016

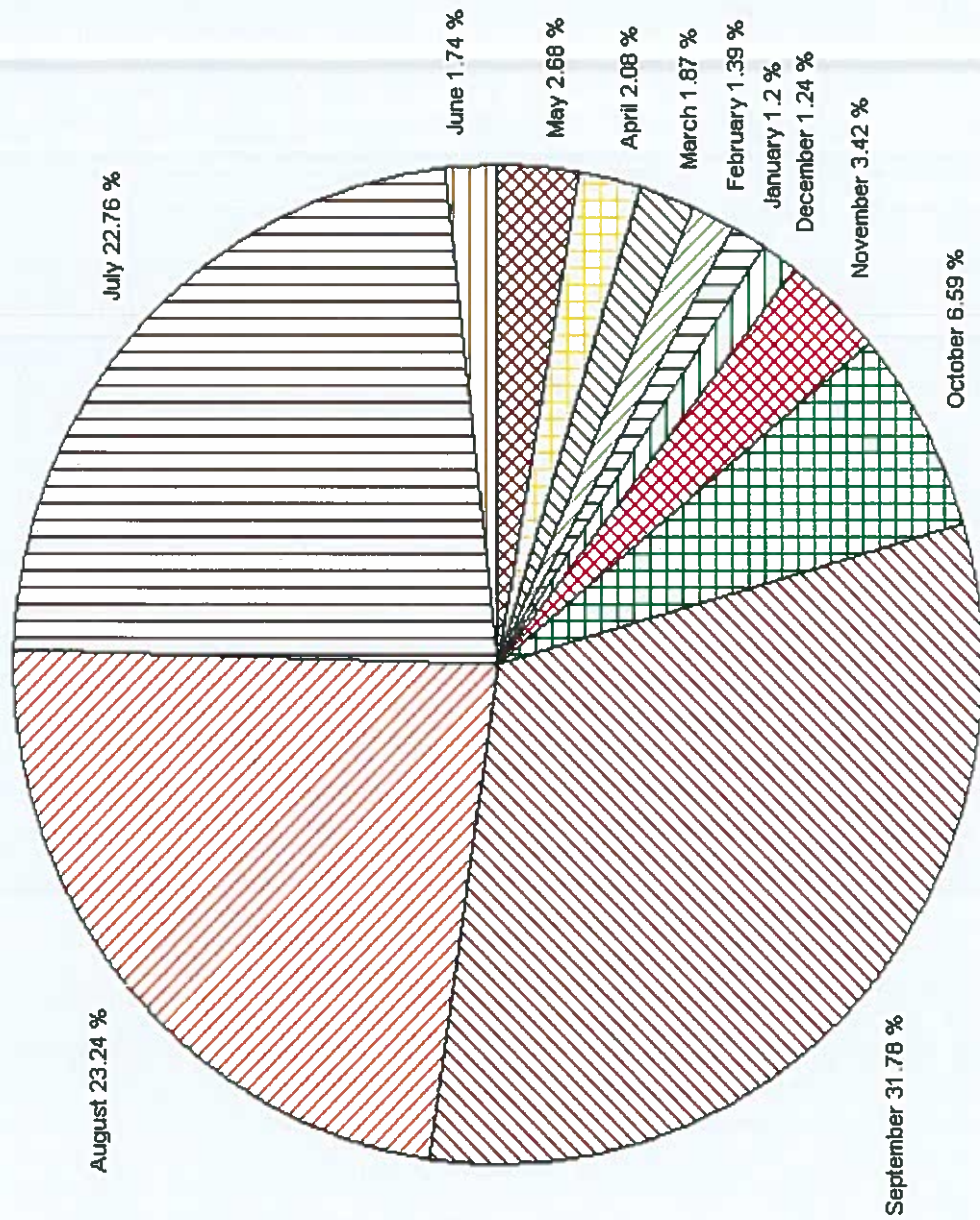
Station Name : BOUDH (BOUDH)

Local River :

Division : MD,CWC,BURLA

Sub-Division : MMSD-II,CWC,BURLA

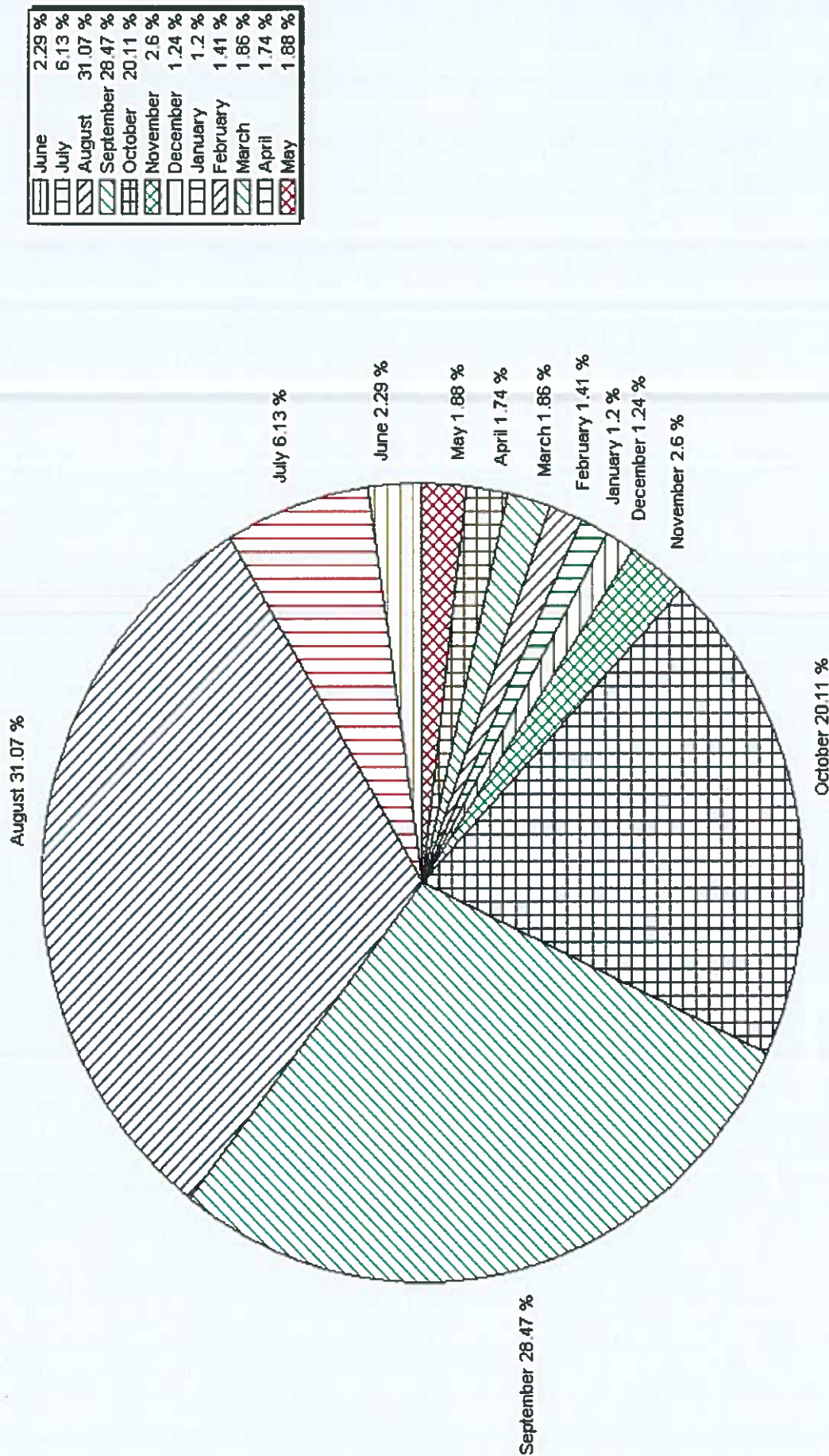
June	1.74 %
July	22.76 %
August	23.24 %
September	31.78 %
October	6.59 %
November	3.42 %
December	1.24 %
January	1.2 %
February	1.39 %
March	1.87 %
April	2.08 %
May	2.68 %



Monthly Runoff for the Year : 2016-2017

Station Name : BOUDH (BOUDH)
Local River :

Division : MD,CWC,BURLA
Sub-Division : MIMSD-II,CWC,BURLA



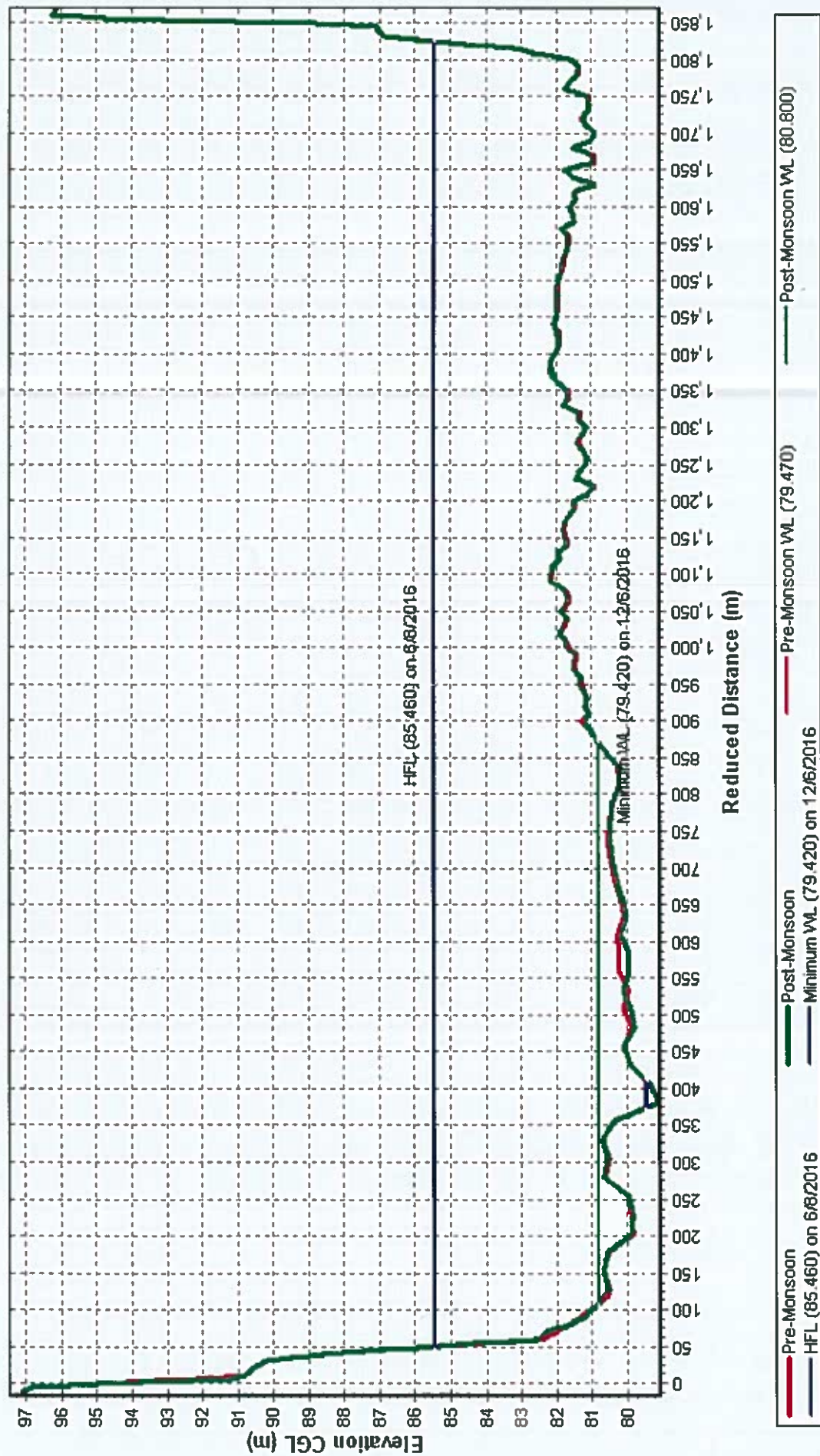
Pre-Monsoon & Post-Monsoon X-Section for Water Year : 2016-2017

Station Name : BOUDH (BOUDH)

Division : MD,CWC,BURLA

Local River :

Sub-Division : MMSD-II,CWC,BURLA



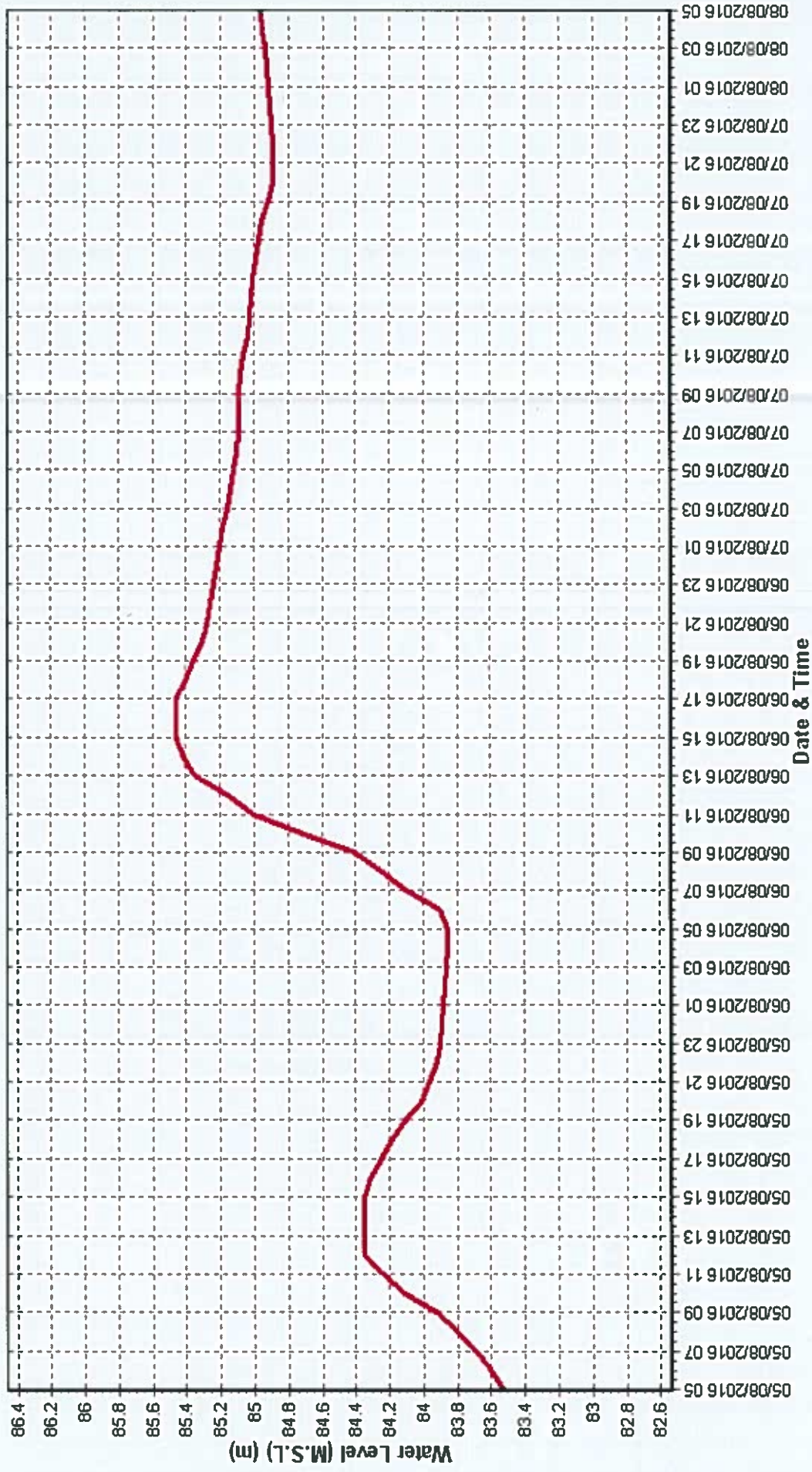
Water Level vs. Time - Graph of Highest Flood Peak during the Year : 2016-2017

Station Name : BOUDH (BOUDH)

Local River :

Division : MD, CWC, BURLA

Sub-Division : MMSD-II, CWC, BURLA



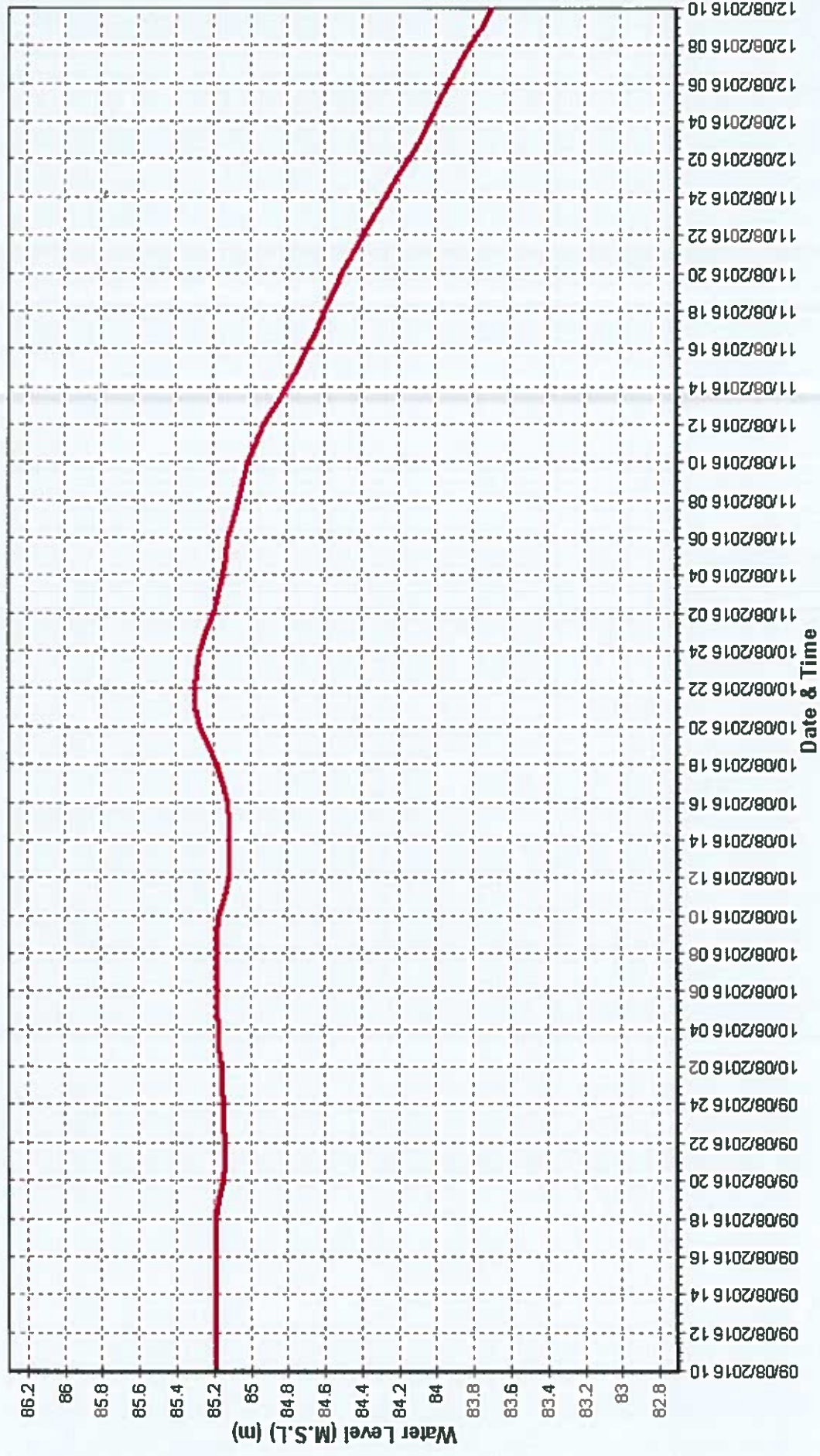
Water Level vs. Time - Graph of 2nd Highest Flood Peak during the Year : 2016-2017

Station Name : BOUDH (BOUDH)

Local River :

Division : MD,CWC,BURLA

Sub-Division : MMSD-II,CWC,BURLA



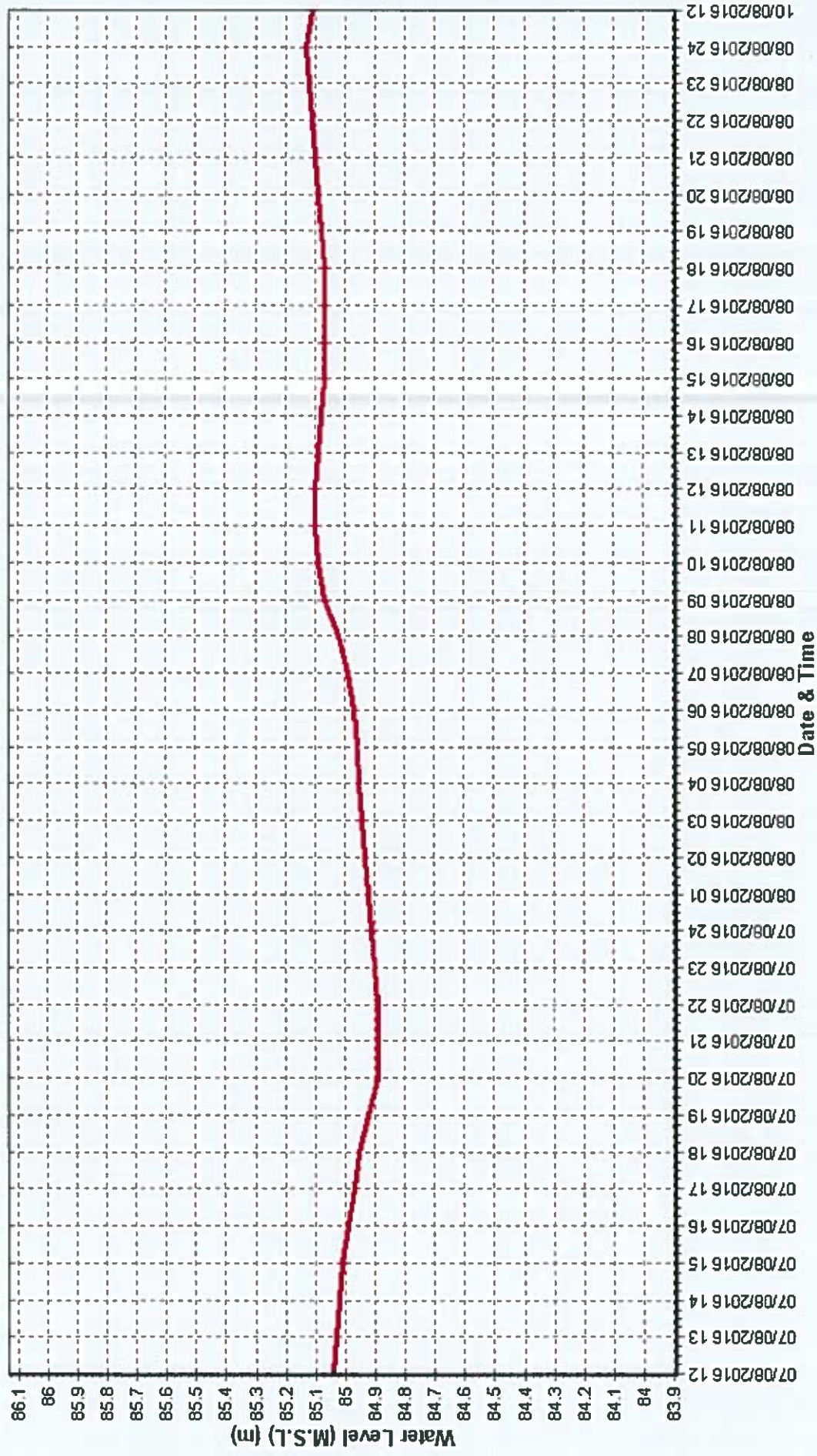
Water Level vs. Time - Graph of 3rd Highest Flood Peak during the Year : 2016-2017

Station Name : BOUDH (BOUDH)

Local River :

Division : MD,CWC,BURLA

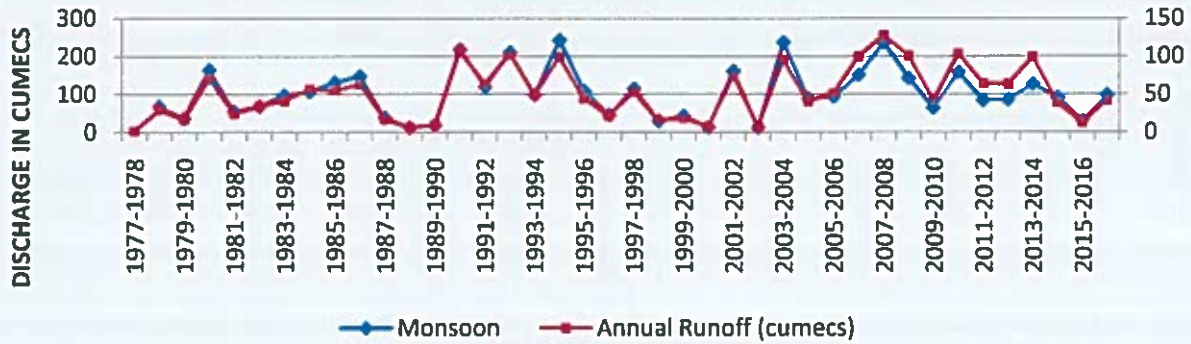
Sub-Division : MMSD-II,CWC,BURLA



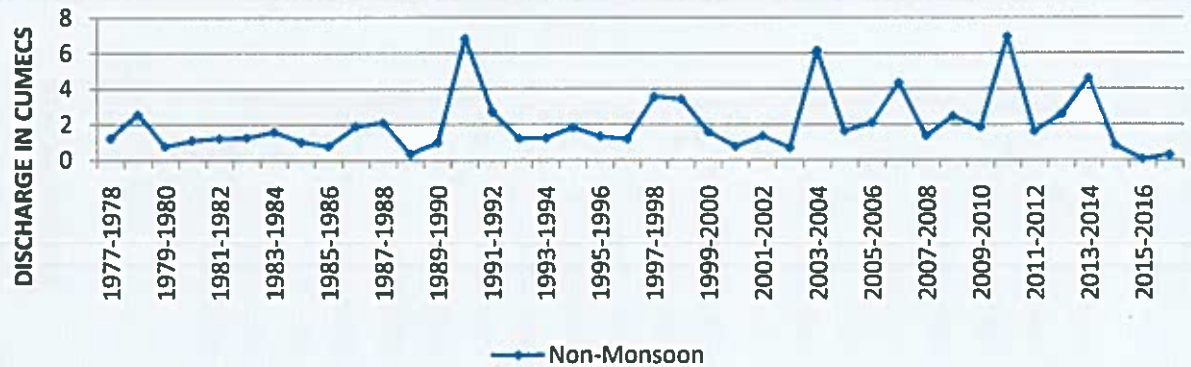
YEAR WISE TREND ANALYSIS

YEAR WISE TREND OF SITE BARONDA

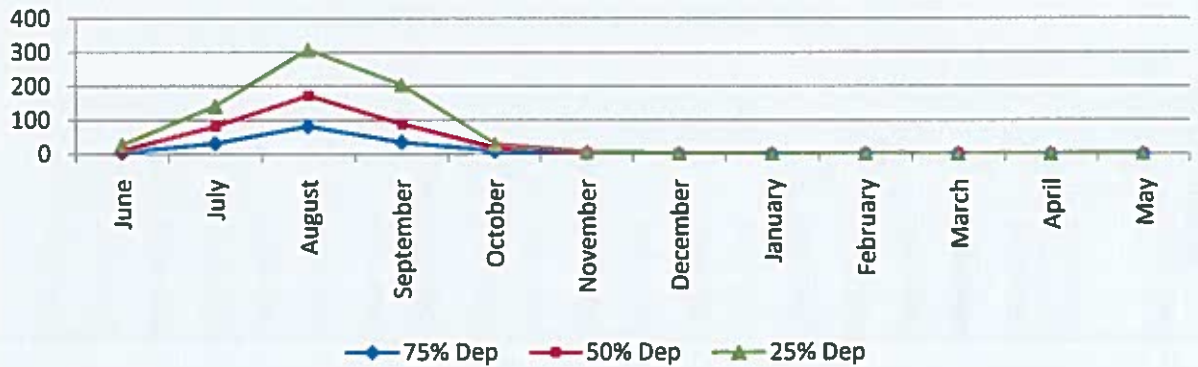
ANNUAL AVERAGE DISCHARGE SITE BARONDA, TRIBUTARY:PAIRI



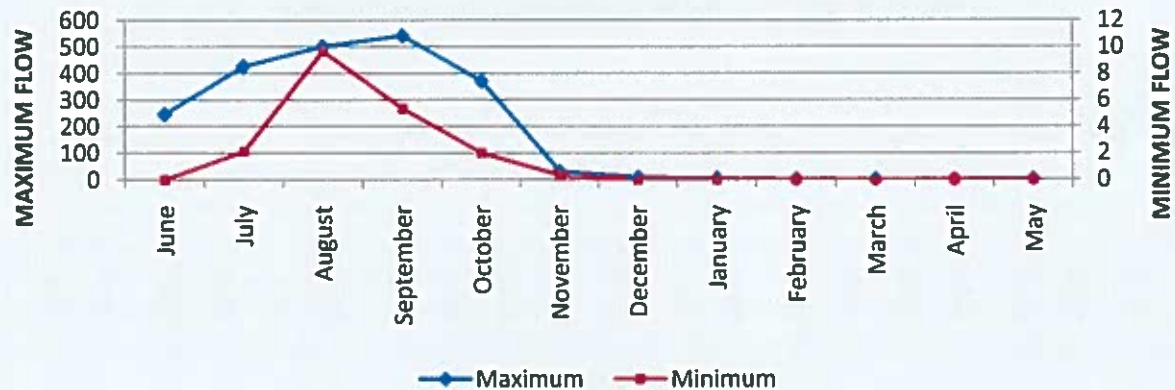
TOTAL ANNUAL DISCHARGE, SITE BARONDA, TRIBUTARY:PAIRI



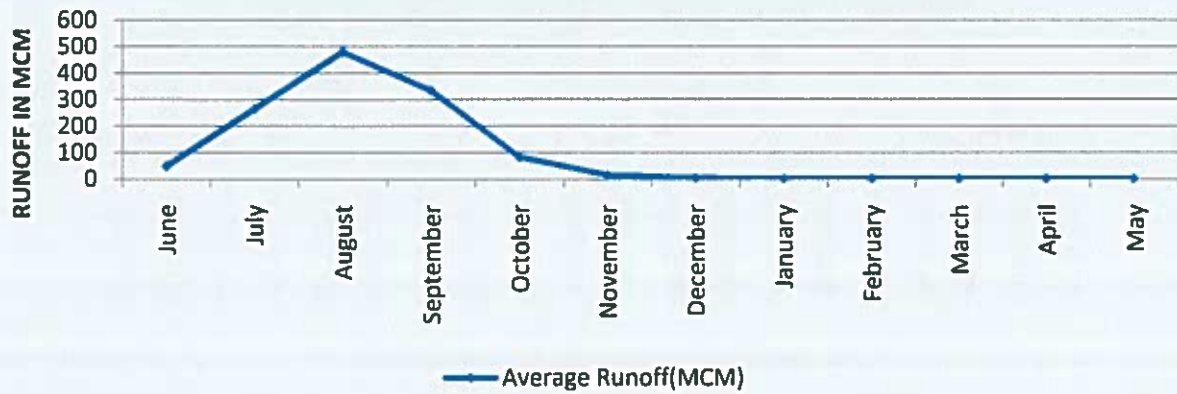
DEPENDABILITY FLOW FROM JUNE TO MAY SITE BARONDA, TRIBUTARY: PAIRI



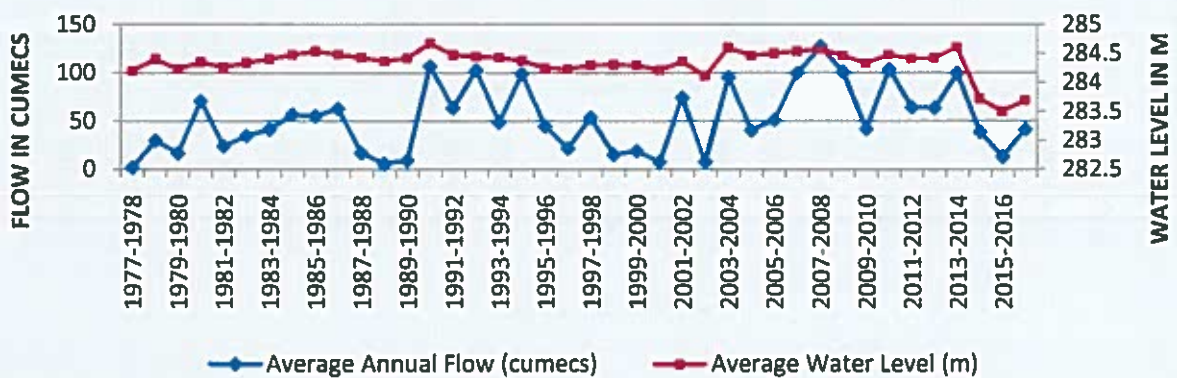
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE BARONDA, TRIBUTARY:PAIRI



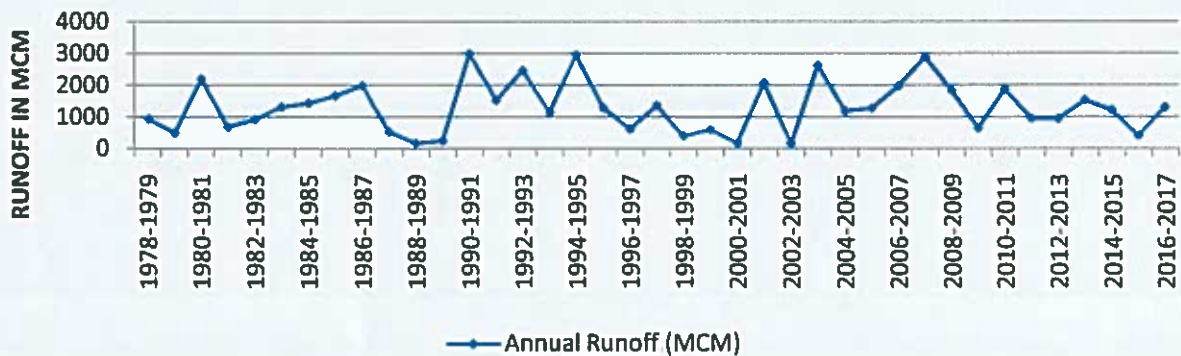
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:BARONDA,TRIBUTARY:PAIRI



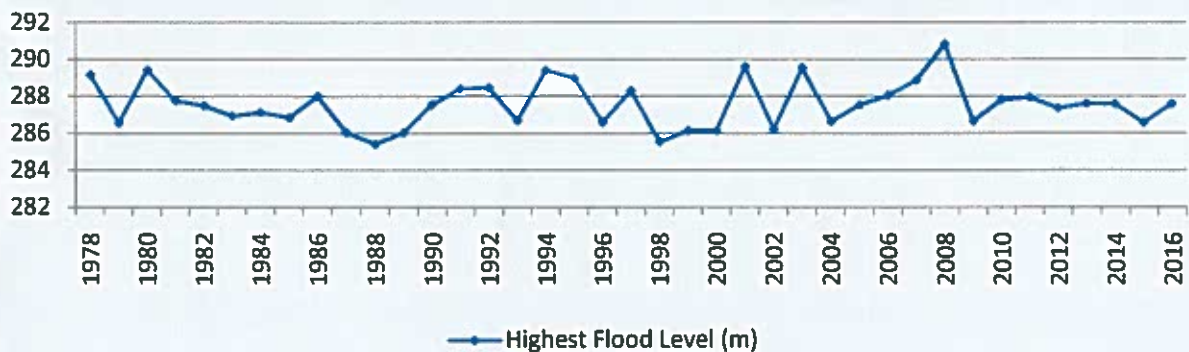
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE BARONDA, TRIBUTARY: PAIRI



ANNUAL RUNOFF(MCM) SITE BARONDA,TRIBUTARY:PAIRI



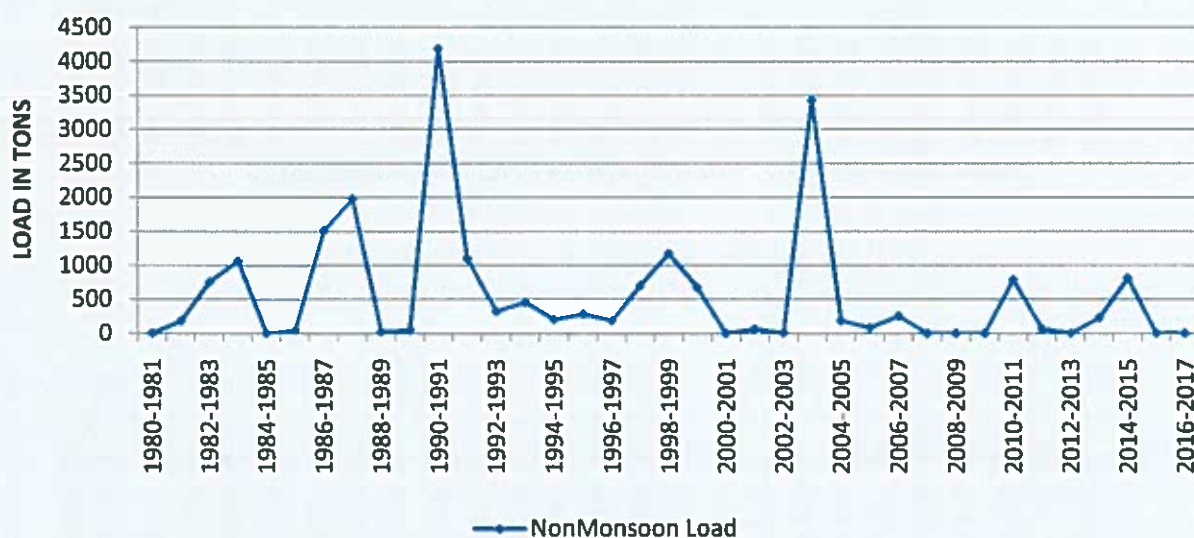
HIGHEST FLOOD LEVEL (m) AT SITE BARONDA,TRIBUTARY: PAIRI



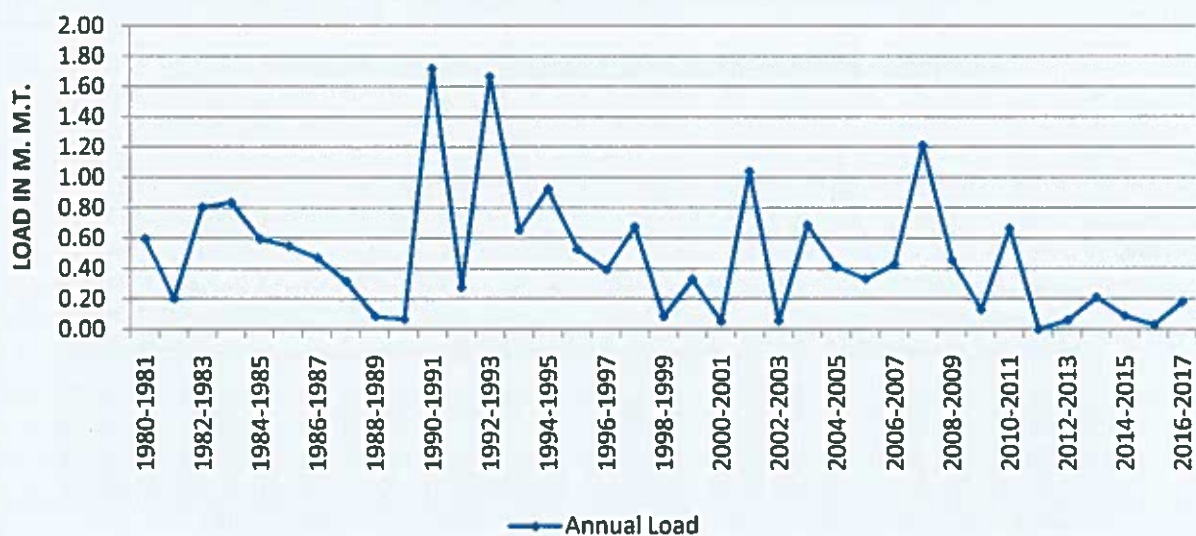
MONSOON LOAD AT SITE BARONDA, TRIBUTARY: PAIRI



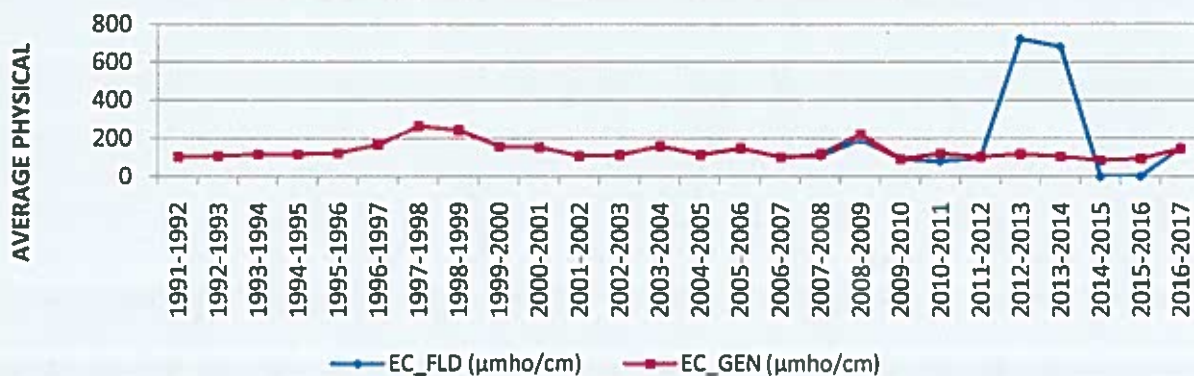
NON MONSOON LOAD AT SITE BARONDA, TRIBUTARY: PAIRI



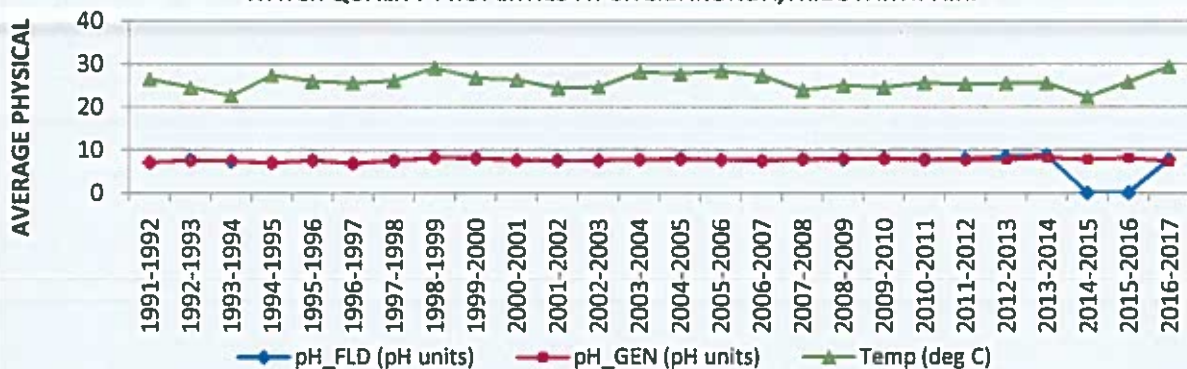
ANNUAL LOAD (MILLION M.T.) AT SITE BARONDA, TRIBUTARY: PAIRI



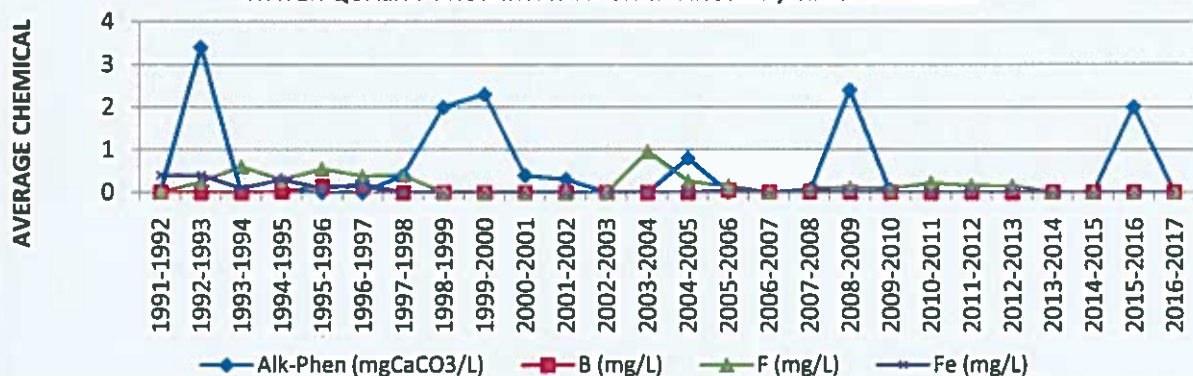
WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI



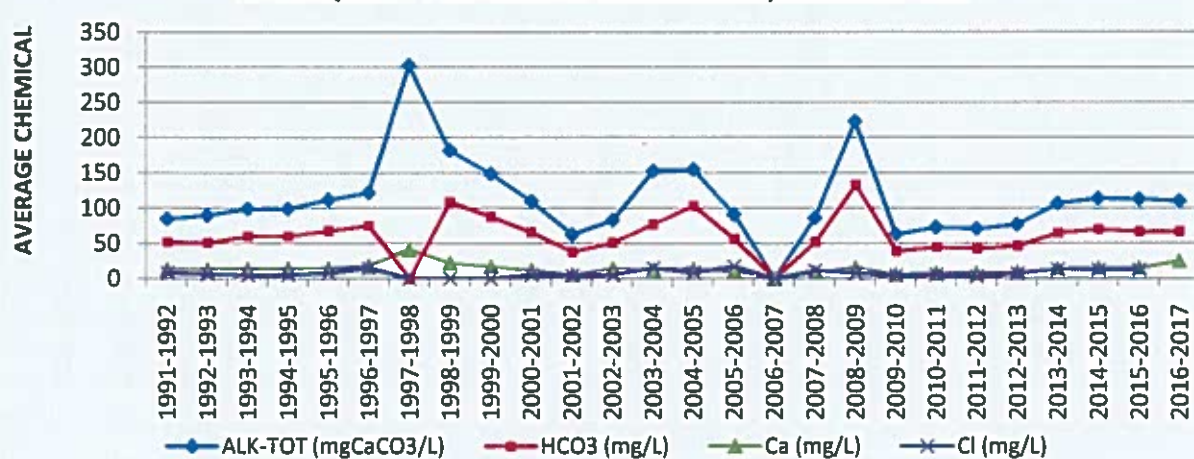
WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI



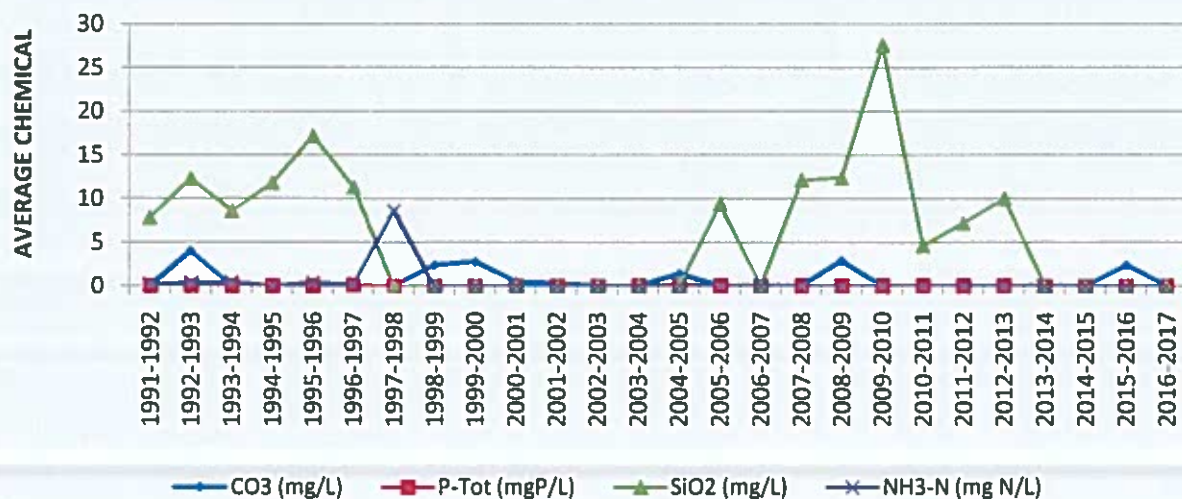
WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI



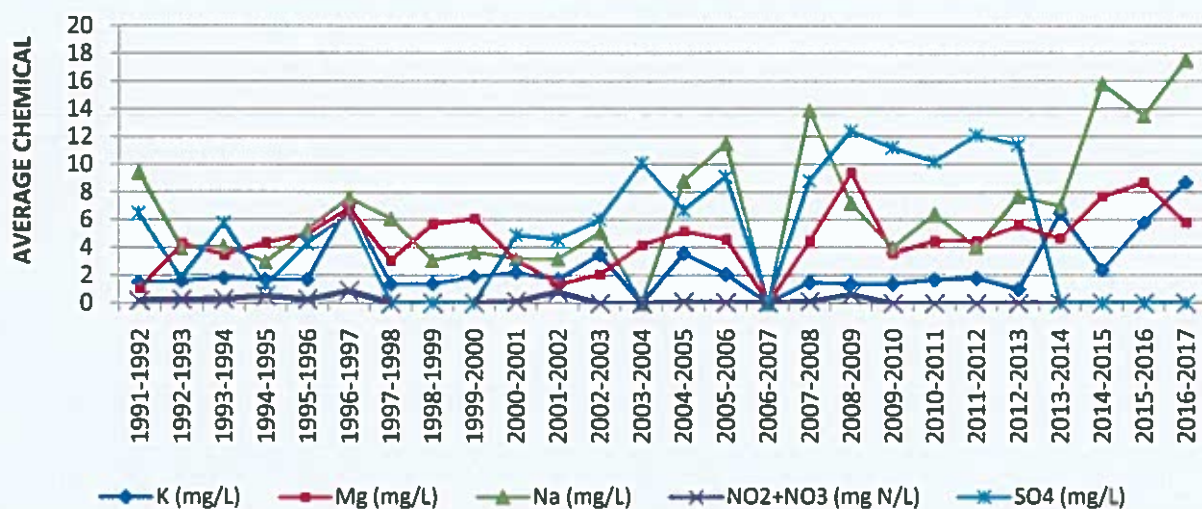
WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI



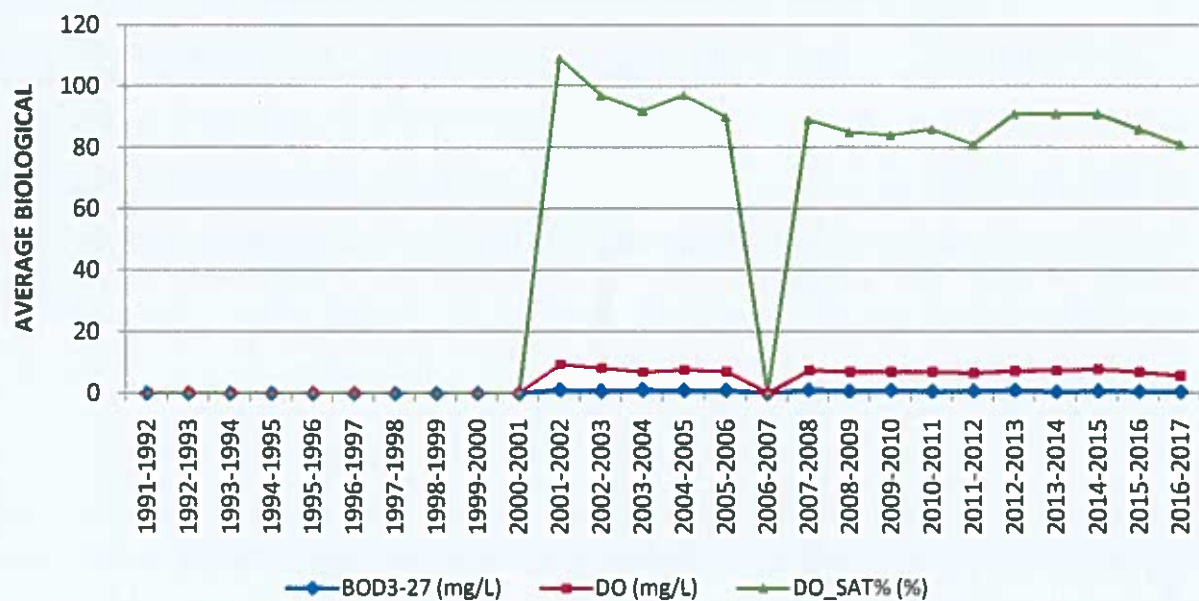
WATER QUALITY PROPERTIES AT SITE:BARONDA,TRIBUTARY:PAIRI



WATER QUALITY PROPERTIES AT SITE BARONDA,TRIBUTARY:PAIRI

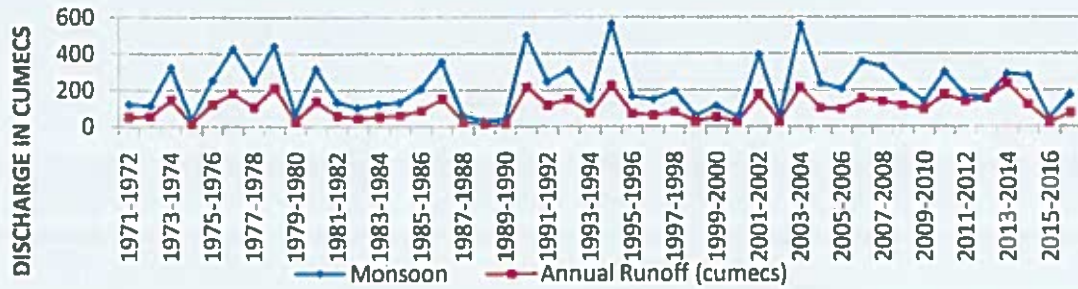


WATER QUALITY PROPERTIES AT SITE BARONDA, TRIBUTARY PAIRI

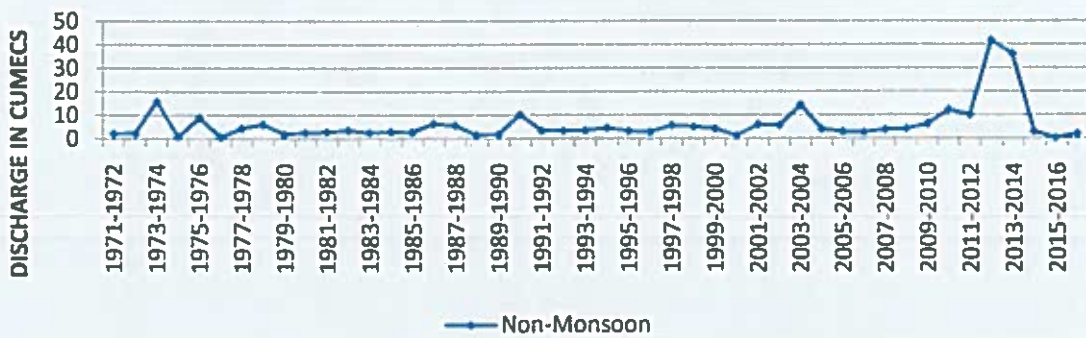


YEAR WISE TREND OF SITE RAJIM

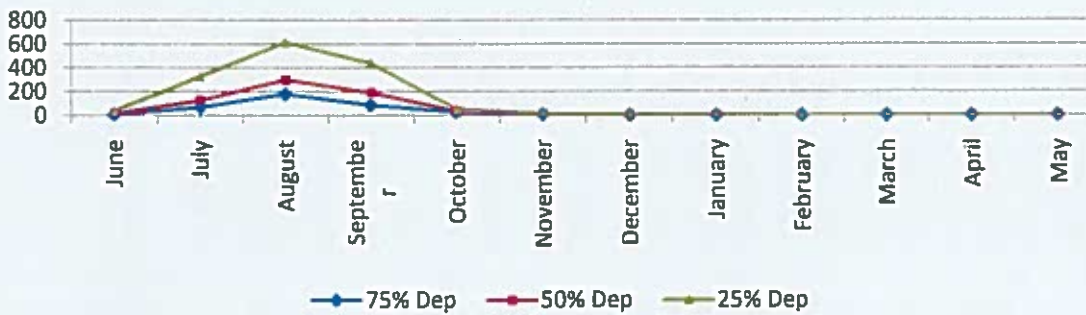
ANNUAL AVERAGE DISCHARGE SITE RAJIM, RIVER:MAHANADI



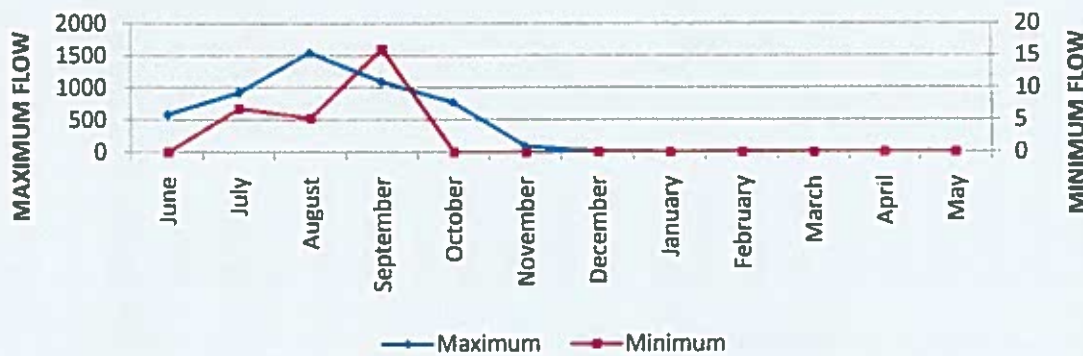
TOTAL AVERAGE DISCHARGE SITE RAJIM, RIVER MAHANADI



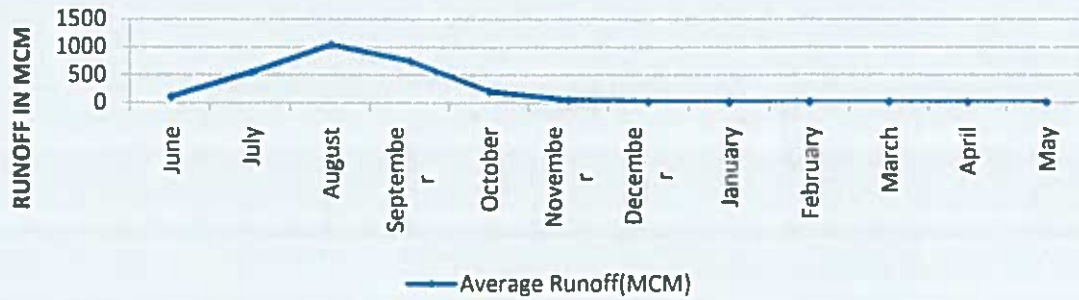
DEPENDABILITY FLOW FROM JUNE TO MAY SITE RAJIM, RIVER:MAHANADI



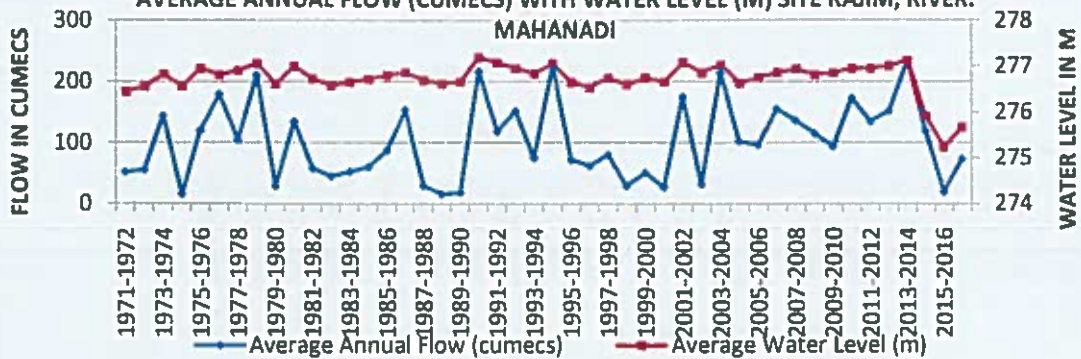
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE RAJIM, RIVER: MAHANADI



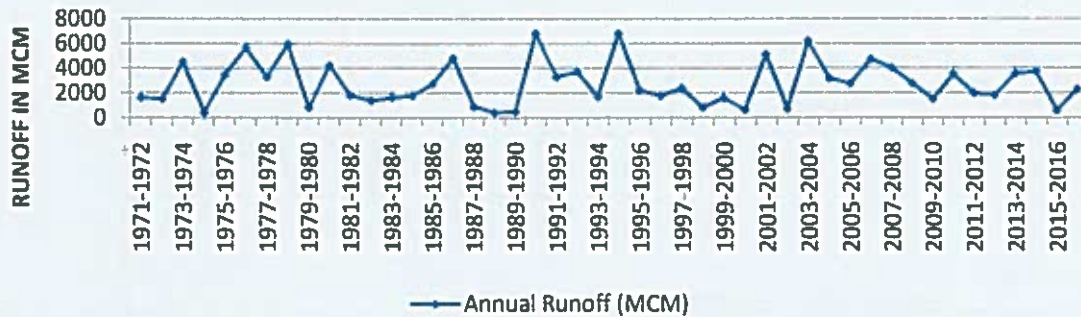
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:RAJIM,TRIBUTARY:UPPER MAHANADI



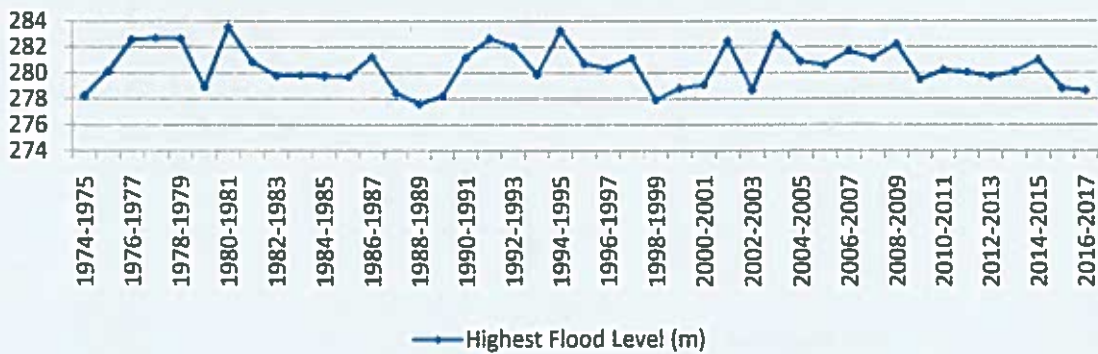
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE RAJIM, RIVER: MAHANADI



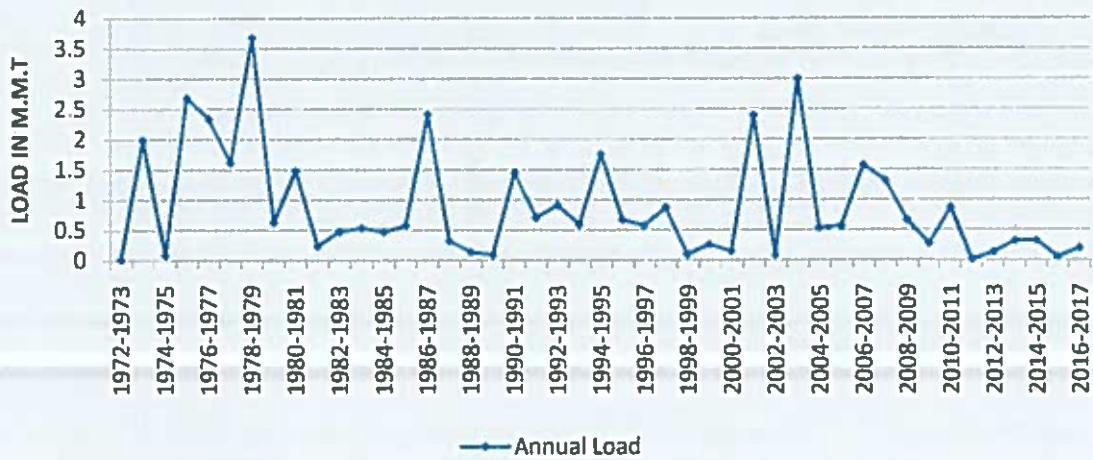
ANNUAL RUNOFF(MCM) SITE RAJIM,TRIBUTARY:UPPER MAHANADI



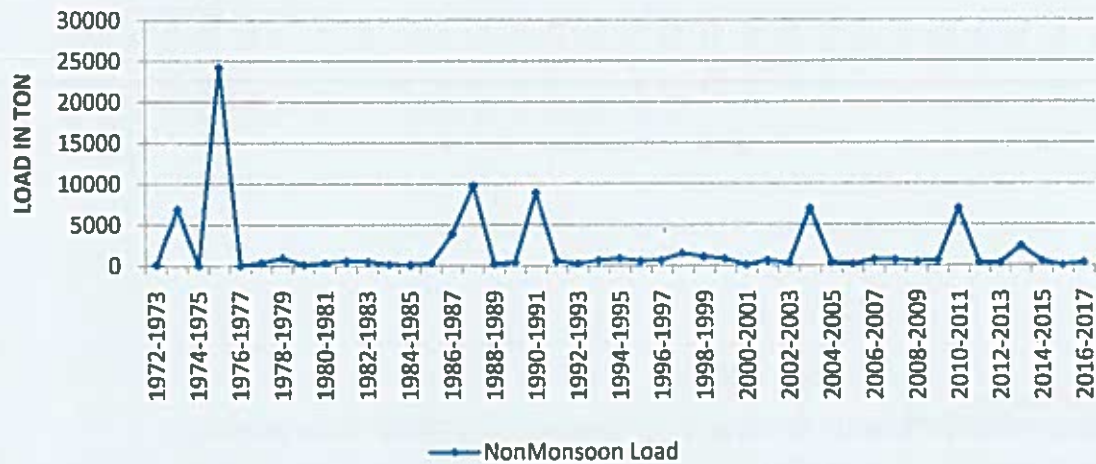
HIGHEST FLOOD LEVEL (m) AT SITE RAJIM,RIVER: MAHANADI



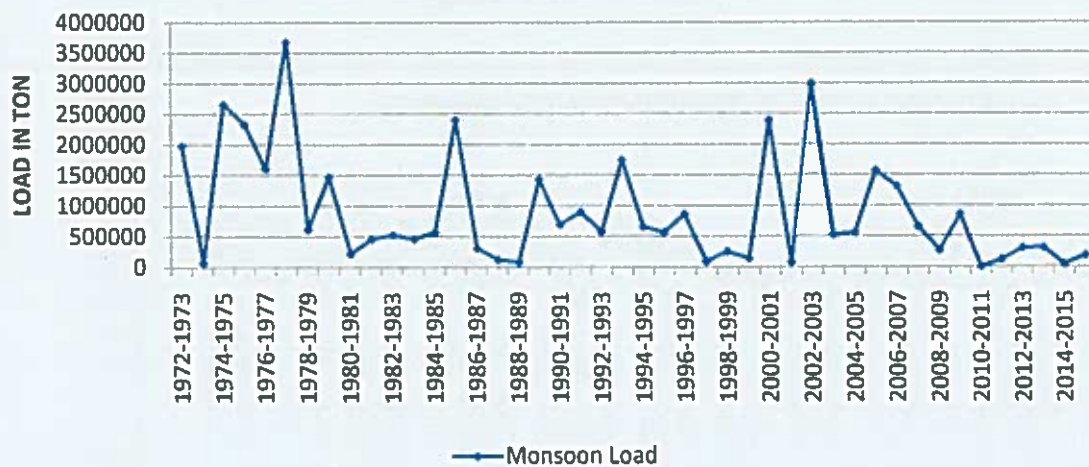
ANNUAL LOAD (MILLION M.T.) AT SITE RAJIM, TRIBUTARY: UPPER MAHANADI

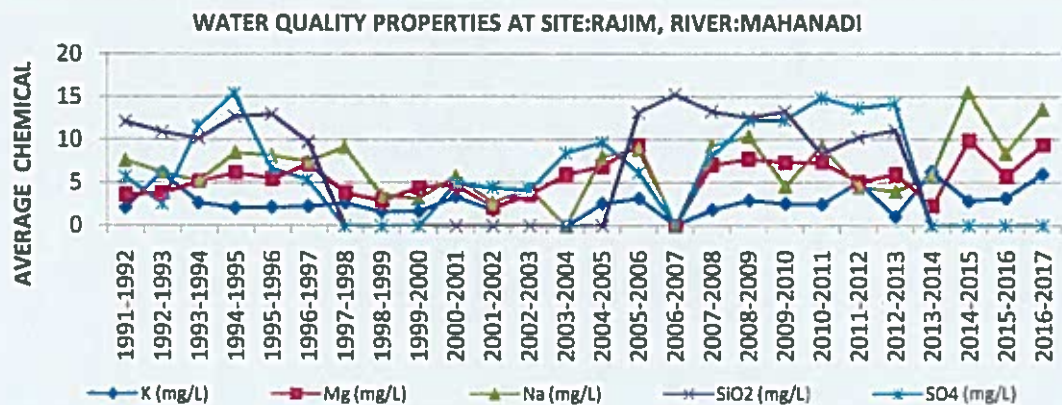
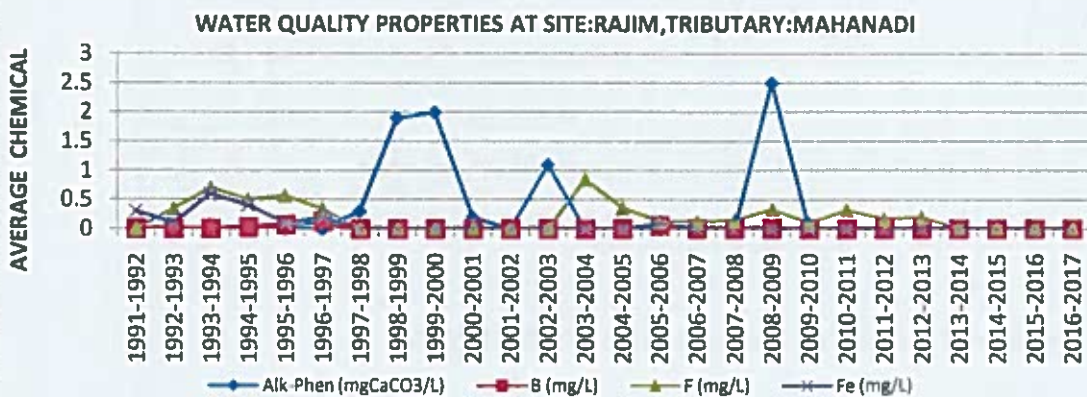
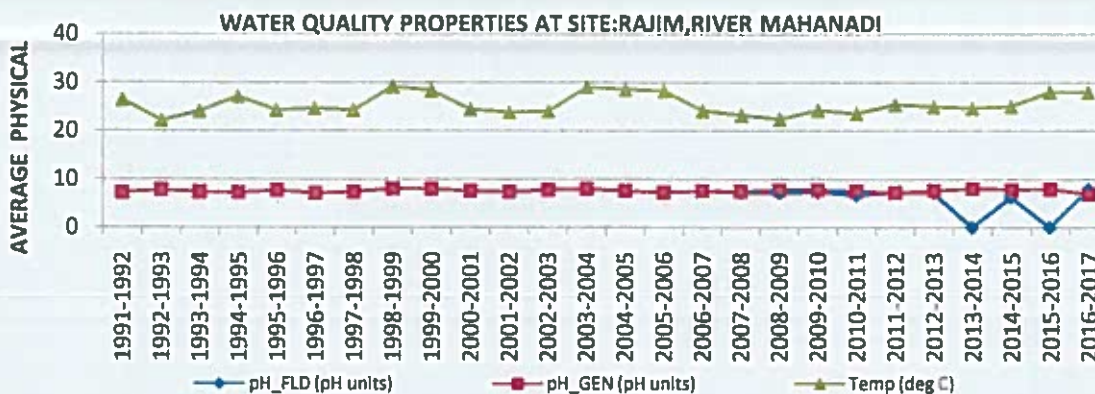
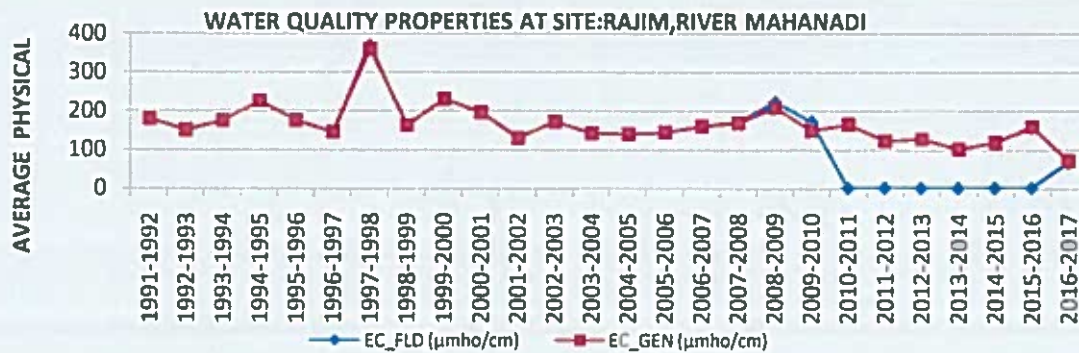


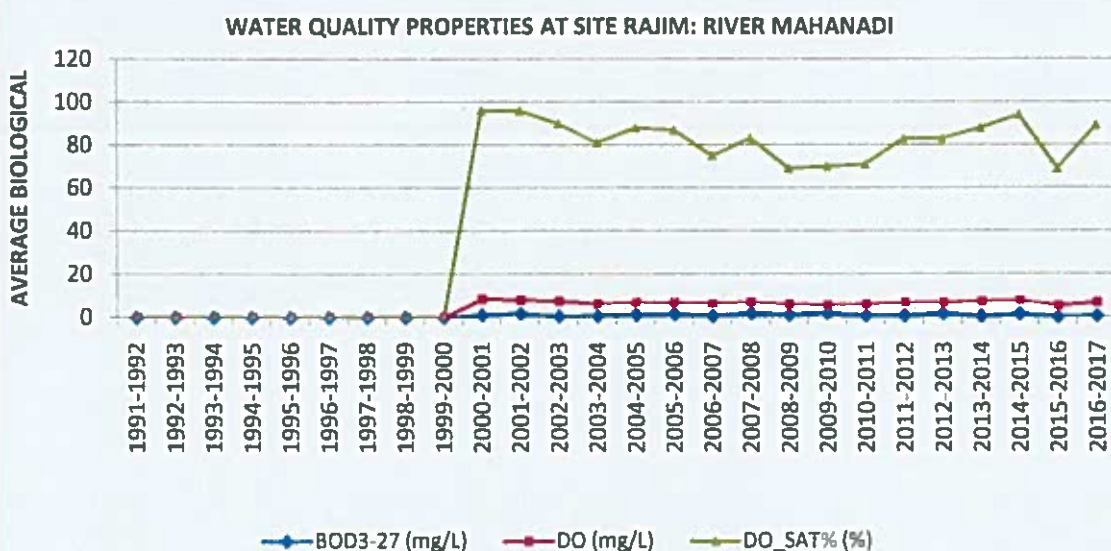
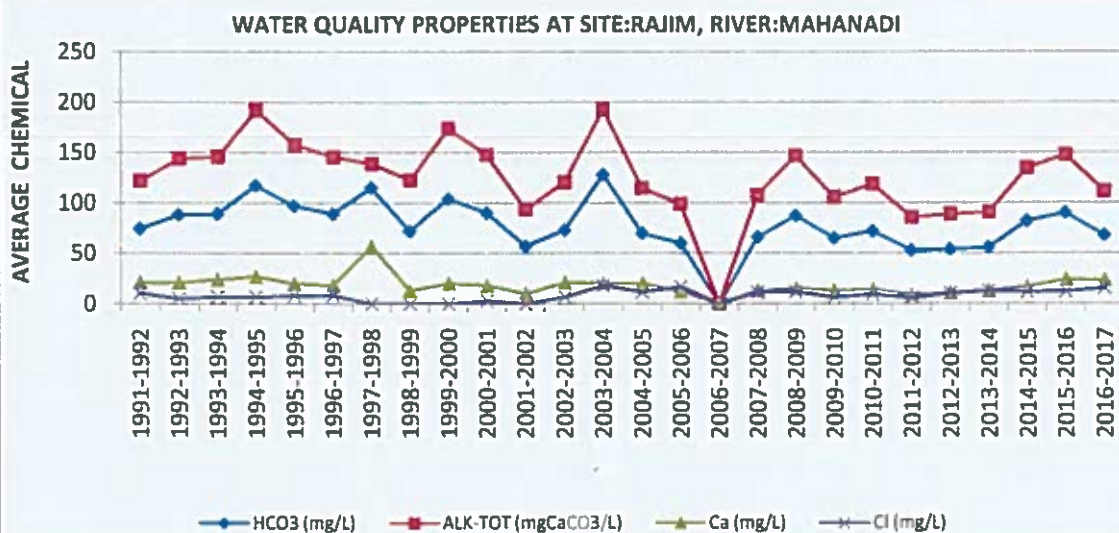
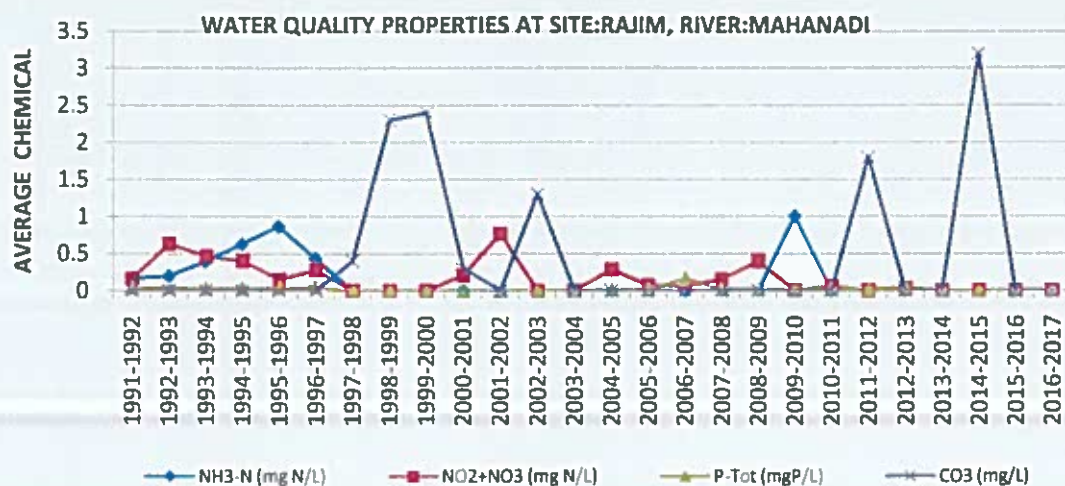
NON MONSOON LOAD AT SITE RAJIM, TRIBUTARY: UPPER MAHANADI



MONSOON LOAD AT SITE RAJIM, TRIBUTARY: UPPER MAHANADI

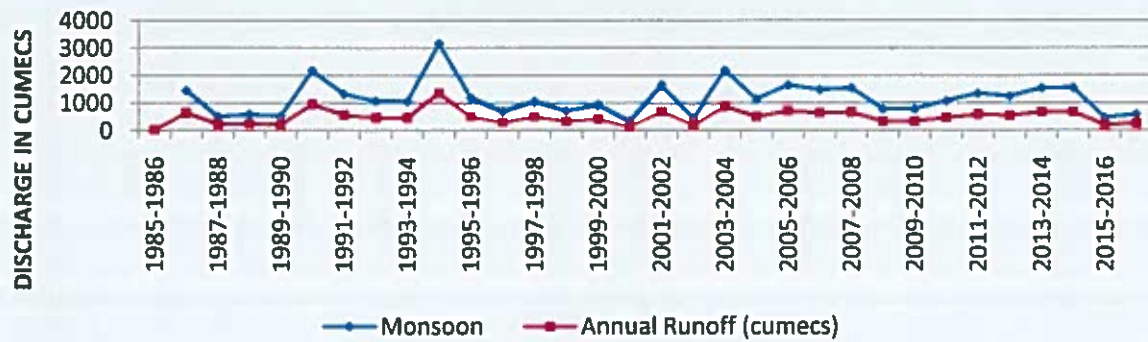




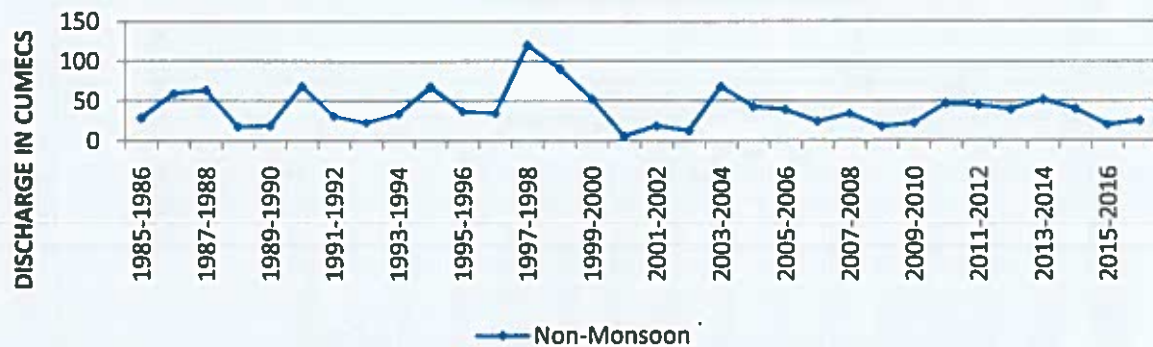


YEAR WISE TREND OF SITE SEORINARAYAN

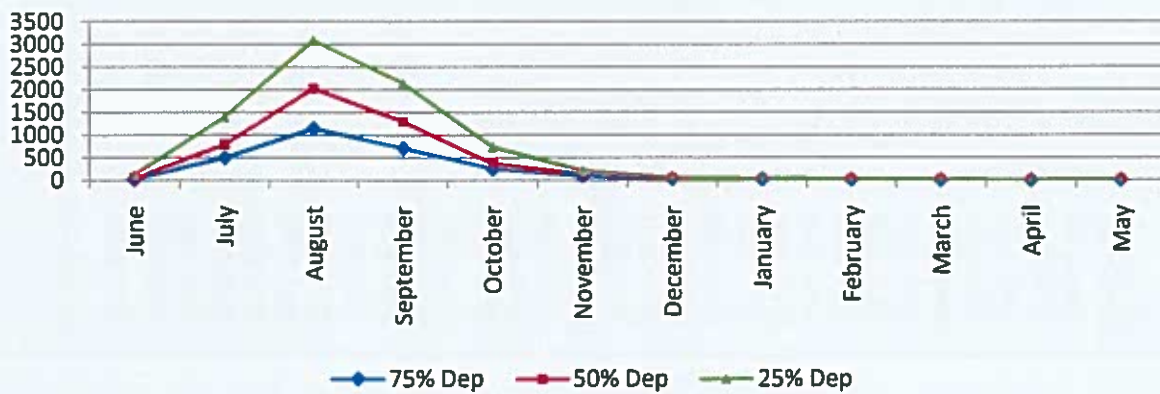
ANNUAL AVERAGE DISCHARGE SITE SEORINARAYAN, RIVER:MAHANADI



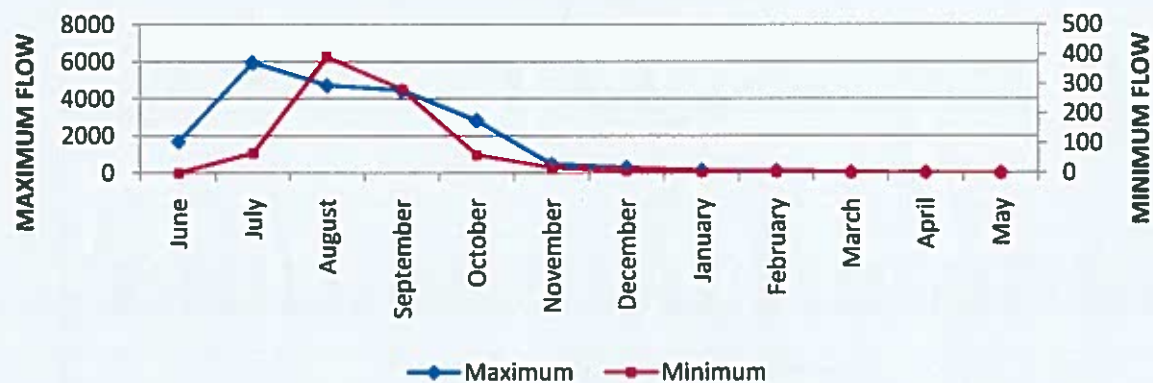
TOTAL AVERAGE DISCHARGE SITE SEORINARAYAN, RIVER:MAHANADI



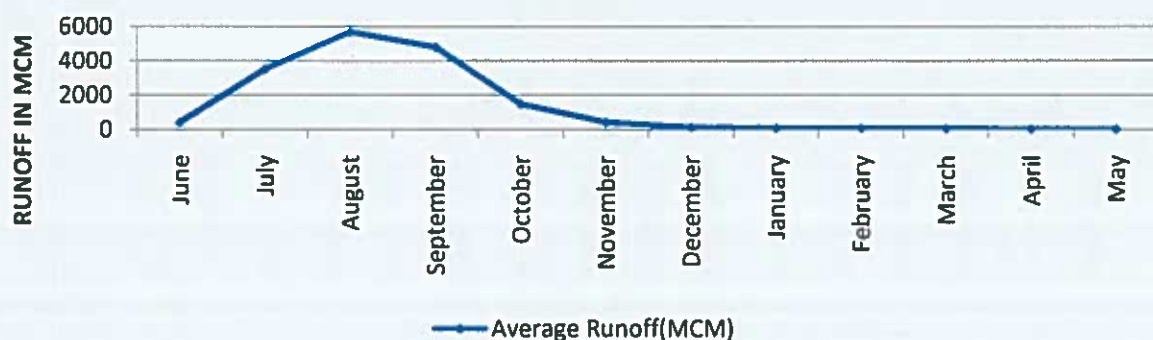
DEPENDABILITY FLOW FROM JUNE TO MAY SITE SEORINARAYAN, RIVER:MAHANADI



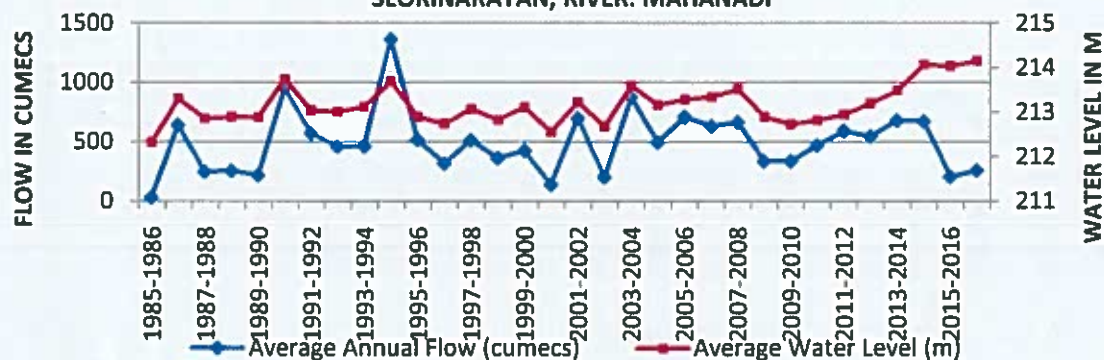
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE SEORINARAYAN, RIVER:MAHANADI



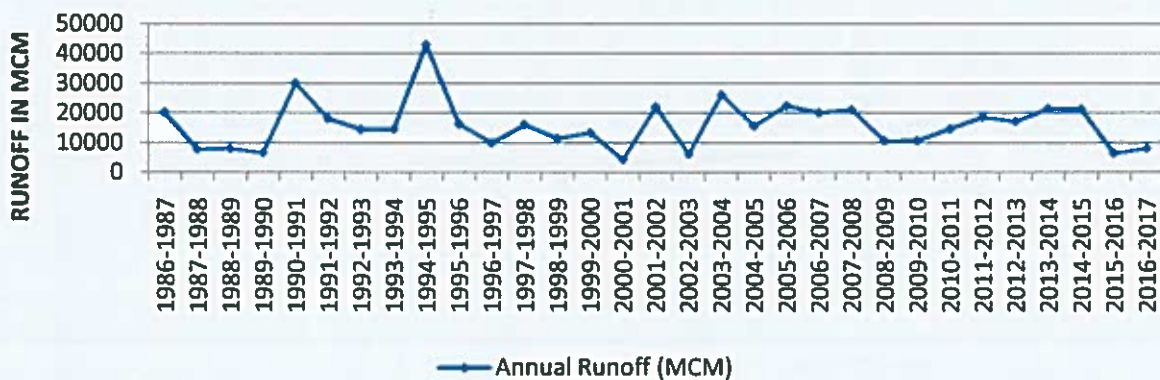
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:SEORINARAYAN,TRIBUTARY:UPPER MAHANADI



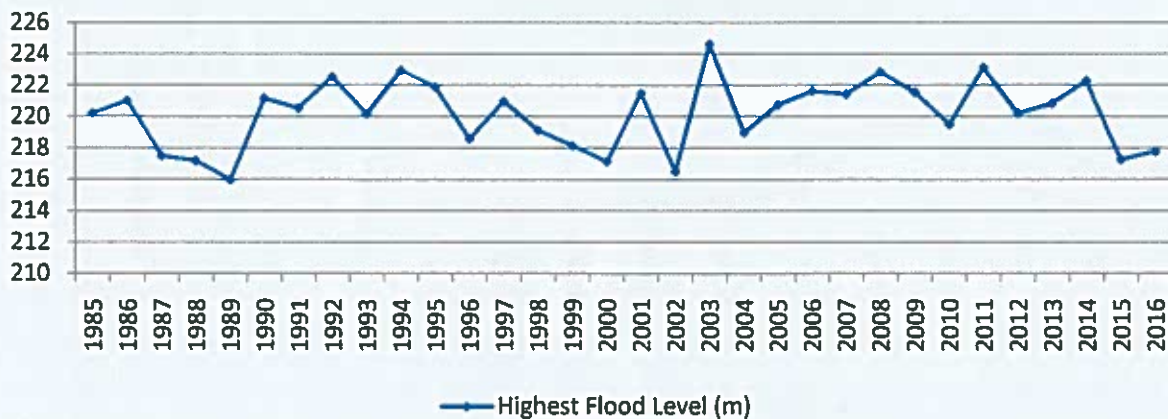
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE SEORINARAYAN, RIVER: MAHANADI



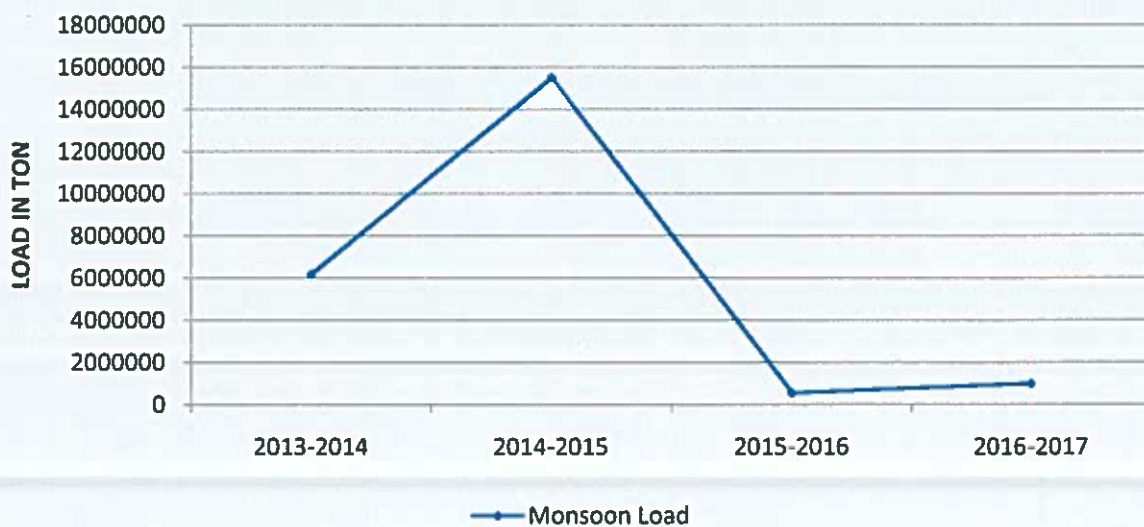
ANNUAL RUNOFF(MCM) SITE SEORINARAYAN,TRIBUTARY:UPPER MAHANADI



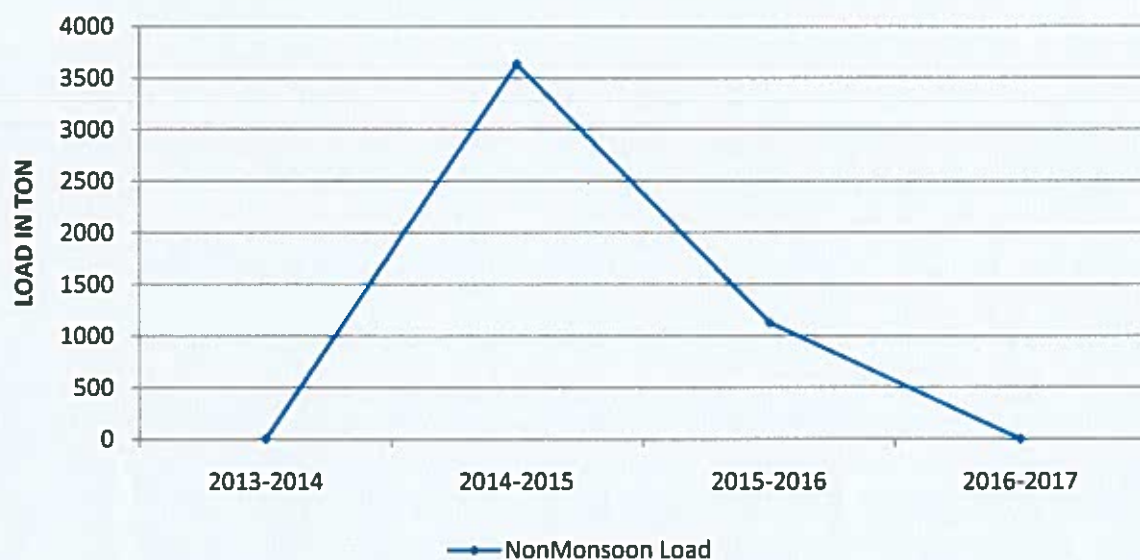
HIGHEST FLOOD LEVEL (m) AT SITE SEORINARAYAN,RIVER:MAHANADI



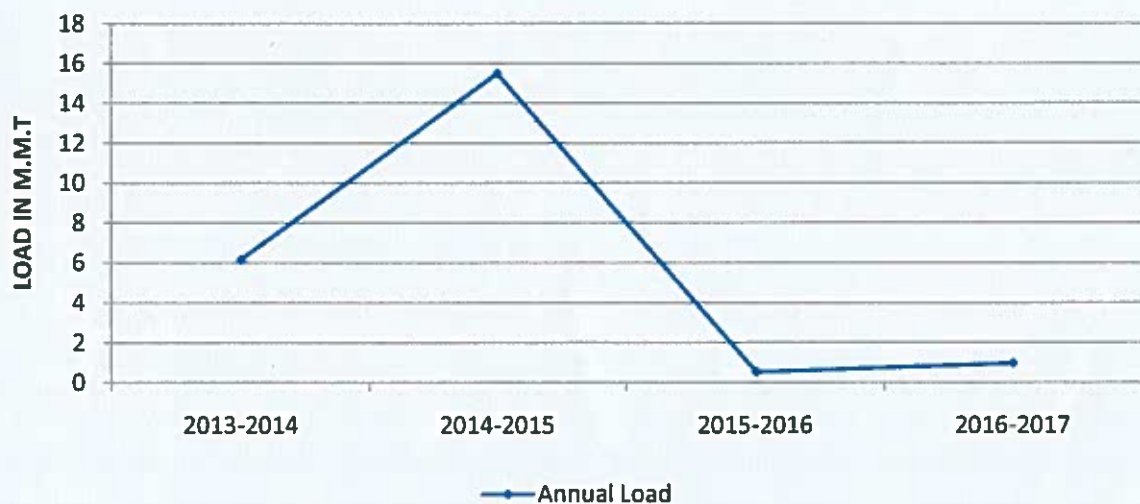
MONSOON LOAD AT SITE SEORINARAYAN ,TRIBUTARY:UPPER MAHANADI



NON MOONSOON LOAD AT SITE SEORINARAYAN,TRIBUTARY:UPPER MAHANADI

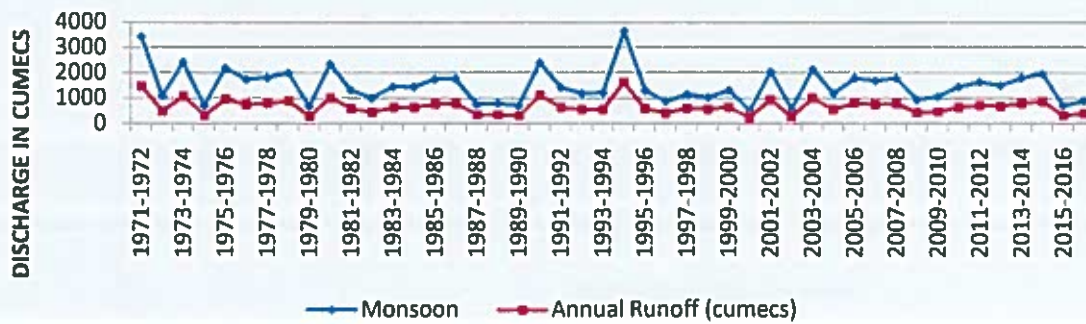


ANNUAL LOAD (MILLION M.T.) AT SITE SEORINARAYAN,TRIBUTARY: UPPER MAHANADI

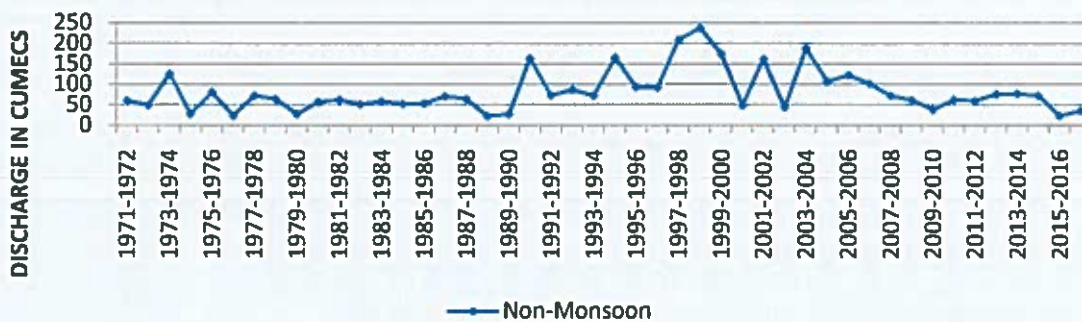


YEAR WISE TREND OF SITE BASANTPUR

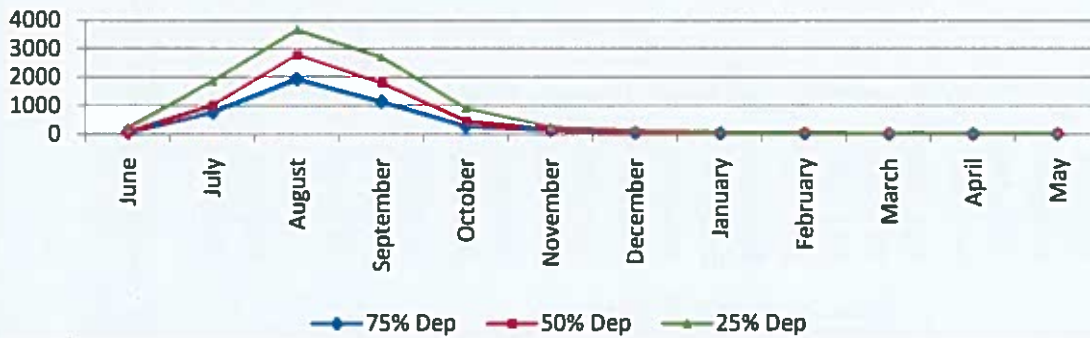
ANNUAL AVERAGE DISCHARGE SITE BASANTPUR, RIVER: MAHANADI



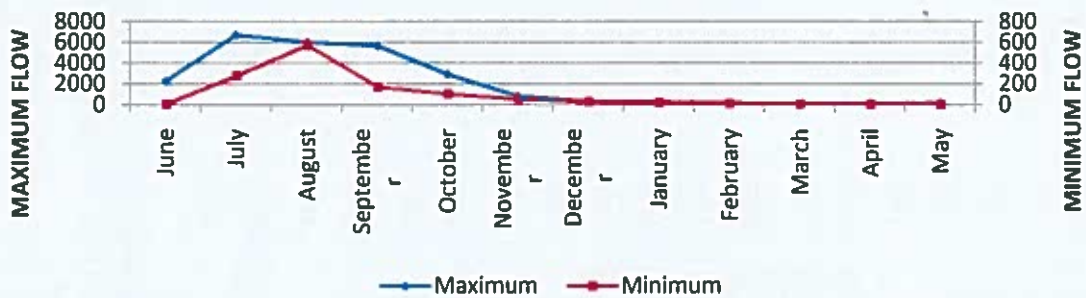
TOTAL ANNUAL DISCHARGE SITE BASANTPUR, RIVER:MAHANADI



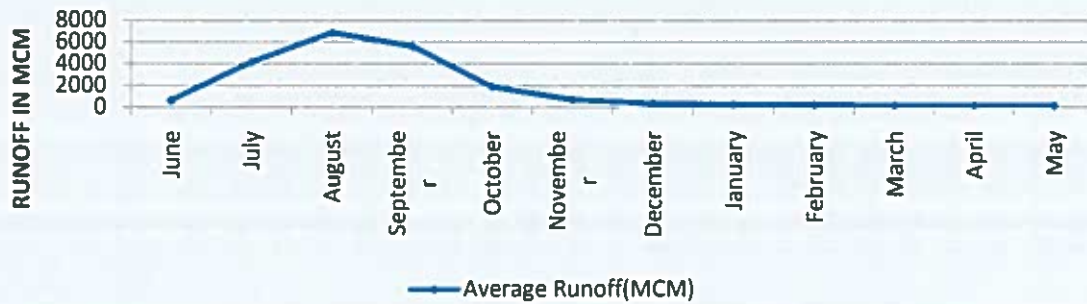
DEPENDABILITY FLOW FROM JUNE TO MAY SITE BASANTPUR, RIVER: MAHANADI



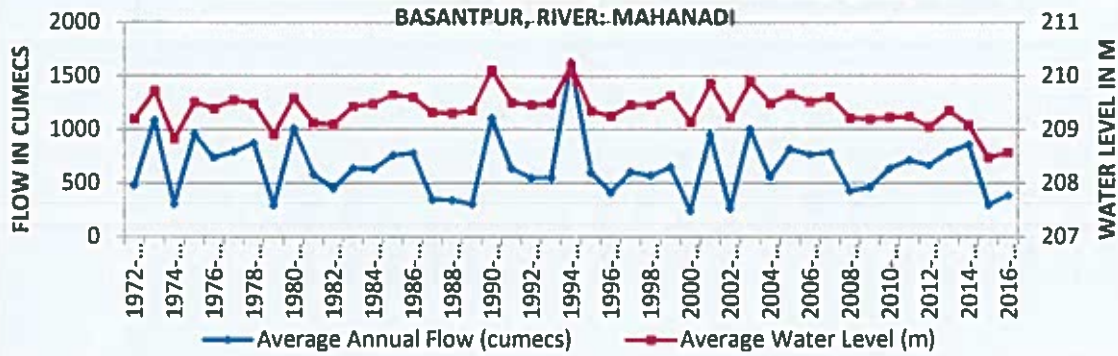
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE BASANTPUR, RIVER:MAHANADI



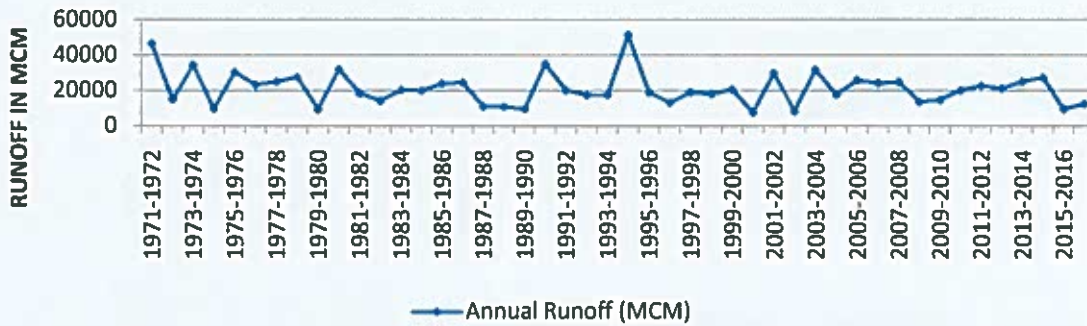
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:BASANTPUR,TRIBUTARY:UPPER MAHANADI



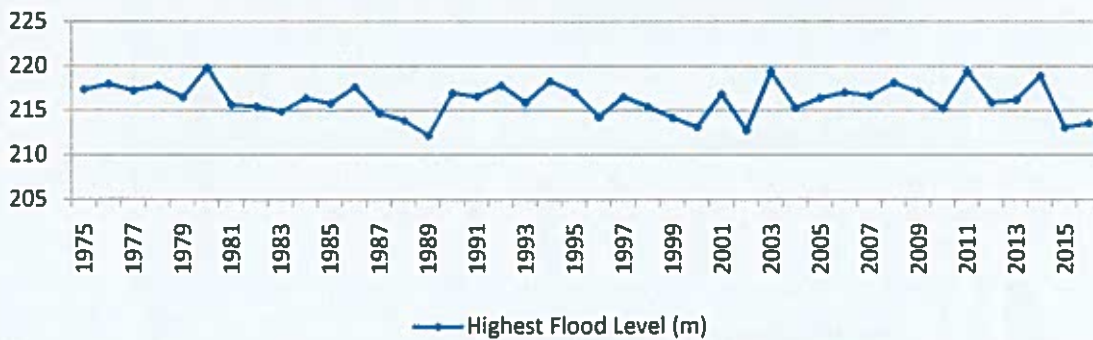
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE BASANTPUR, RIVER: MAHANADI



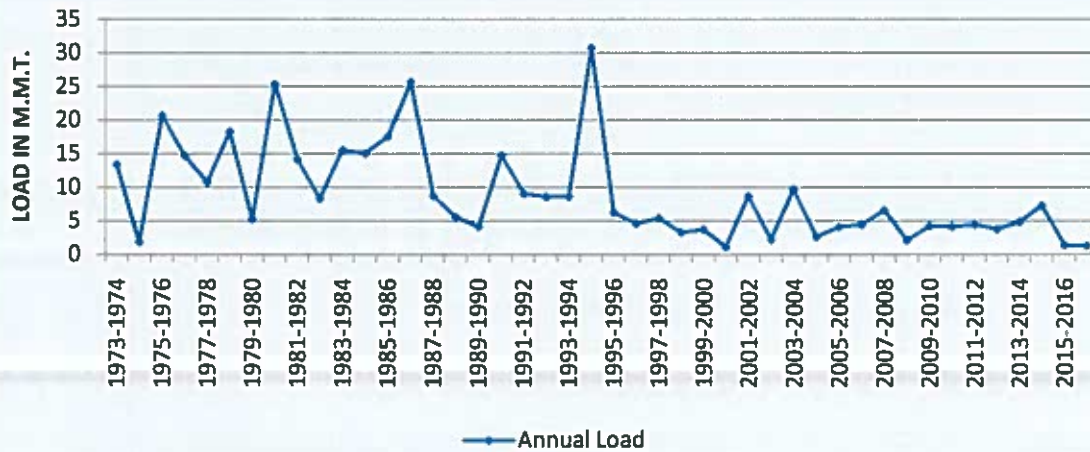
ANNUAL RUNOFF(MCM) SITE BASANTPUR ,TRIBUTARY:UPPER MAHANADI



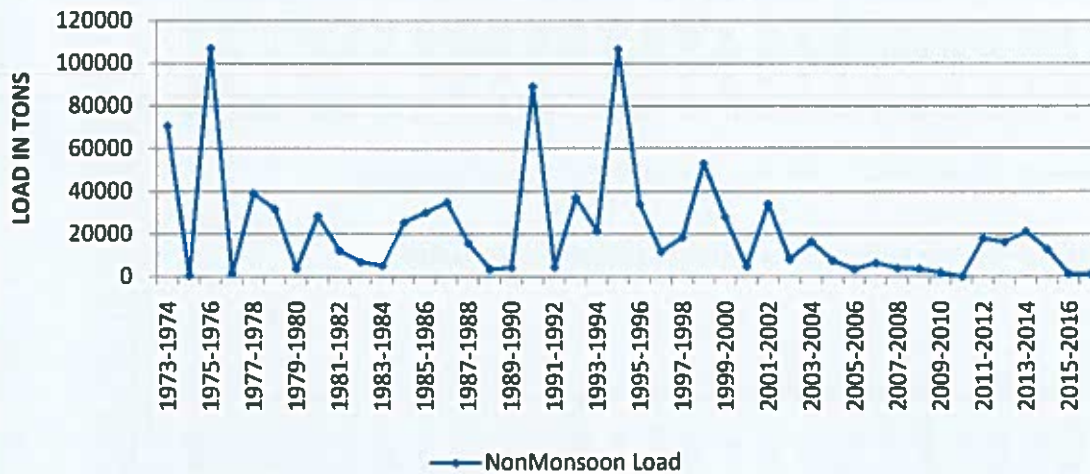
HIGHEST FLOOD LEVEL (m) AT SITE BASANTPUR, RIVER: MAHANADI



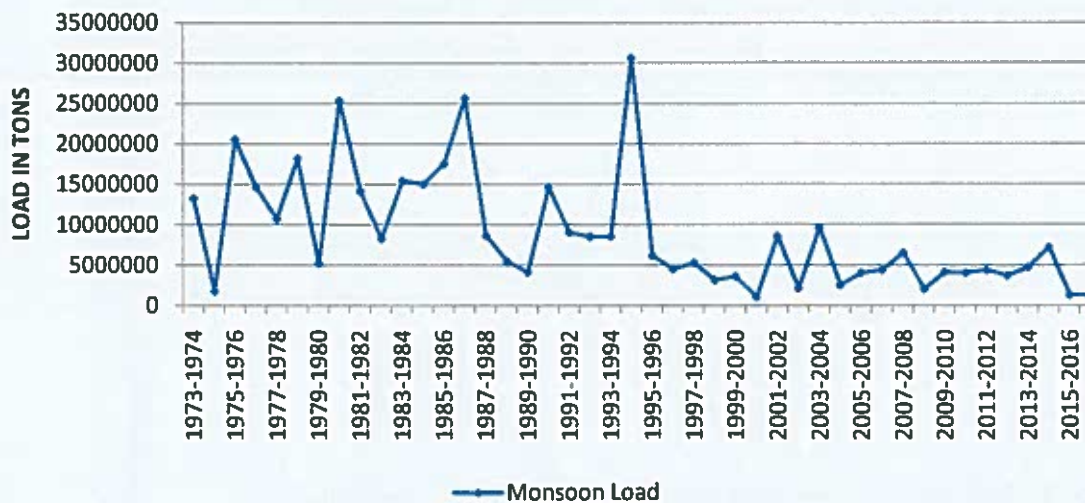
ANNUAL LOAD (MILLION M.T.) AT SITE BASANTPUR, TRIBUTARY:HASDEO



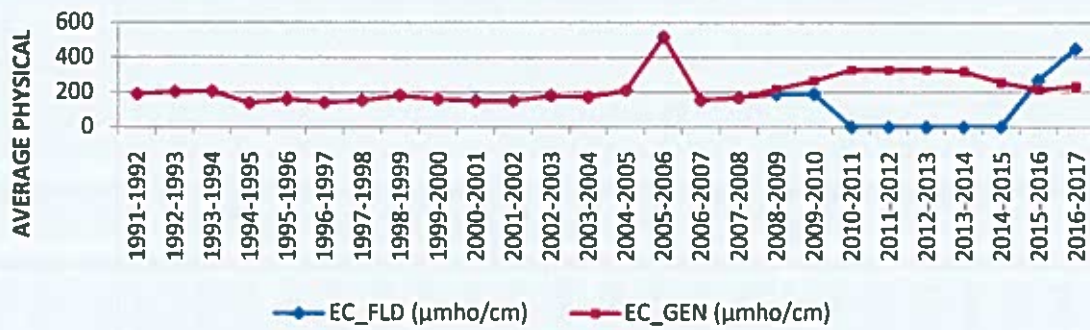
NON MONSOON LOAD AT SITE BASANTPUR, RIBUTARY:HASDEO



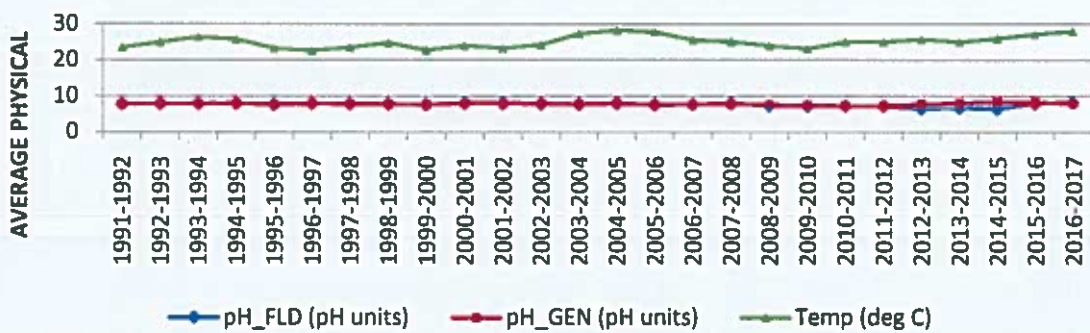
MONSOON LOAD AT SITE BASANTPUR,, TRIBUTARY: HASDEO



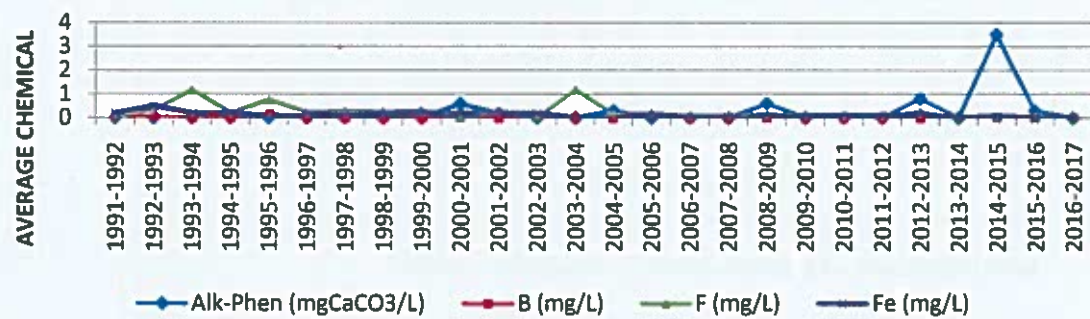
WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI



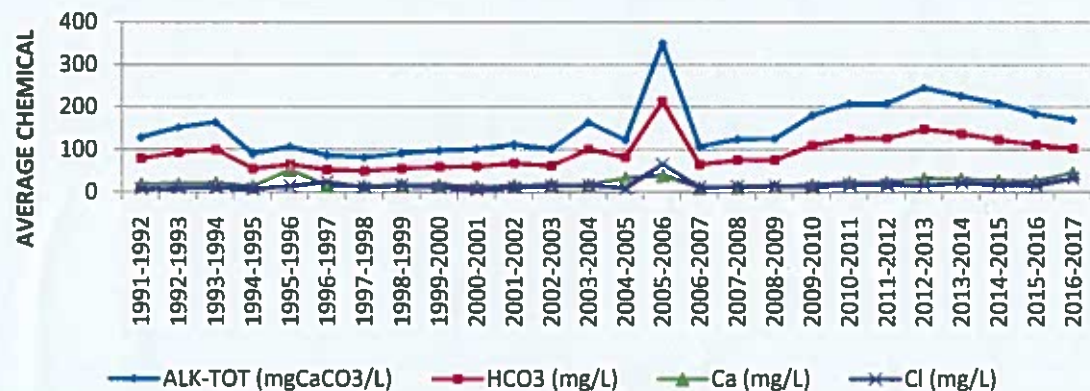
WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER:MAHANADI



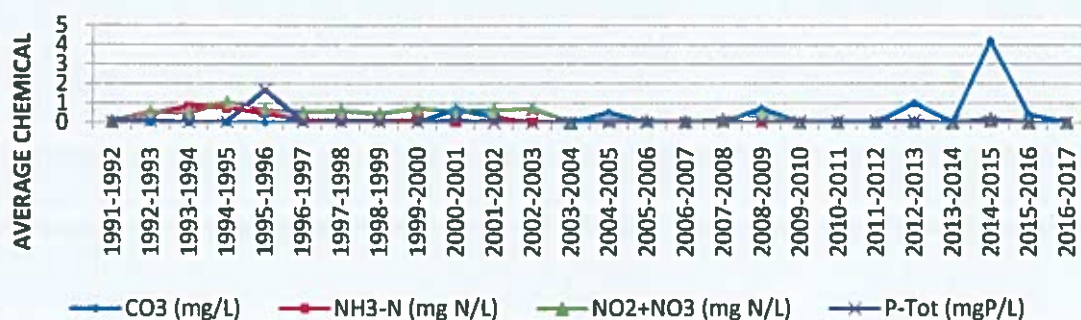
WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI



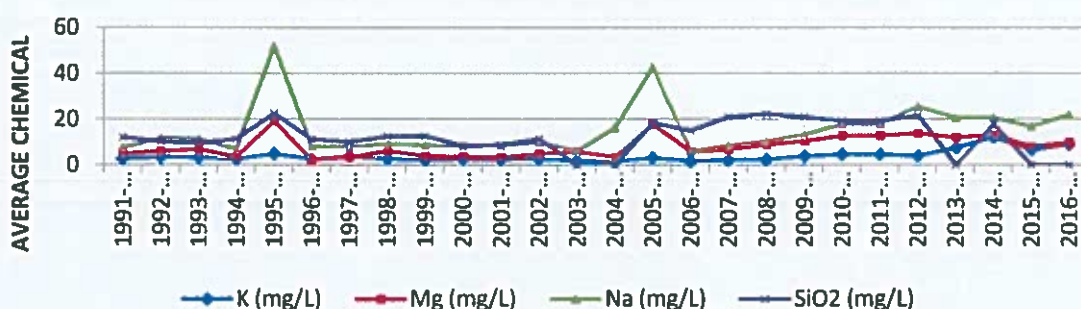
WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI



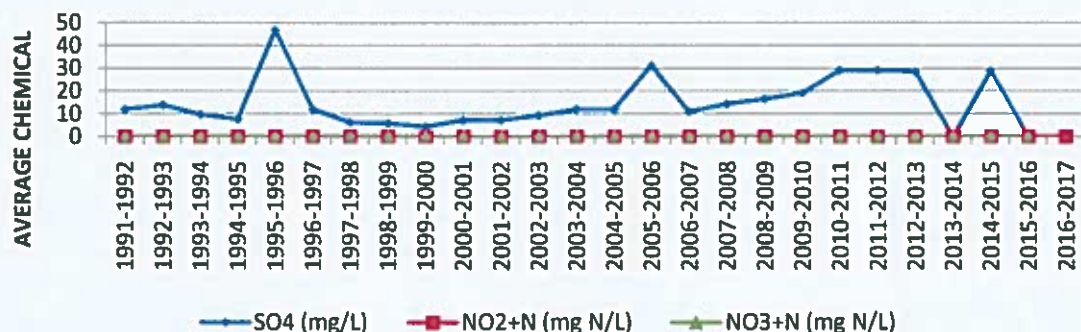
WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI



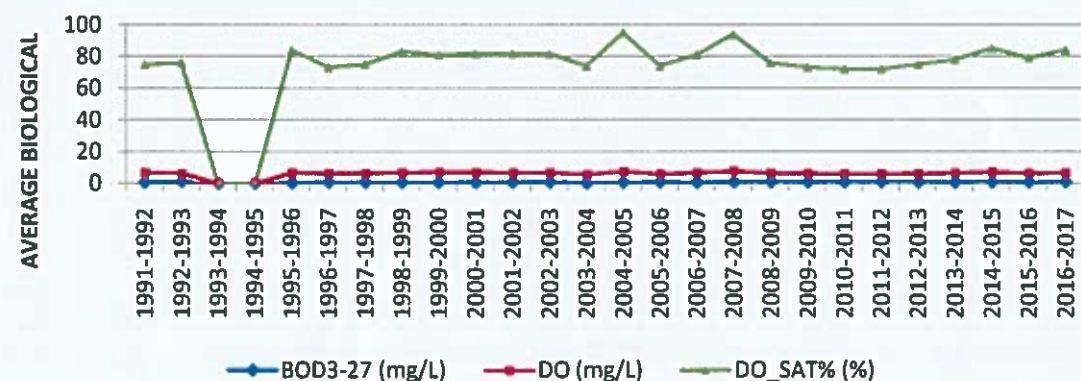
WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER: MAHANADI



WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER:MAHANADI

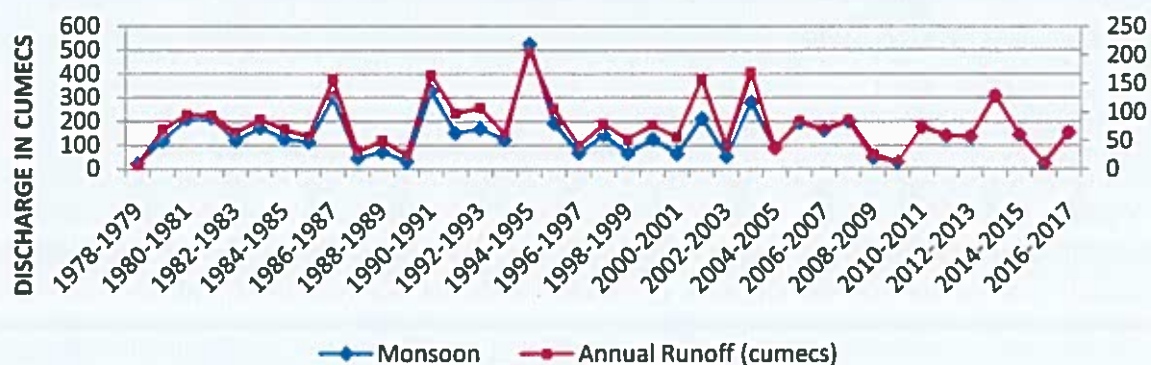


WATER QUALITY PROPERTIES AT SITE BASANTPUR, RIVER:MAHANADI

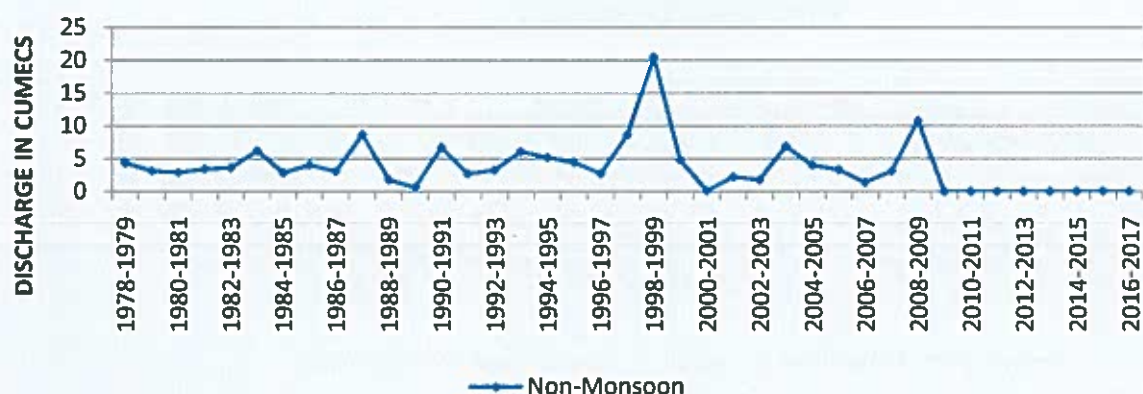


YEAR WISE TREND OF SITE KOTNI

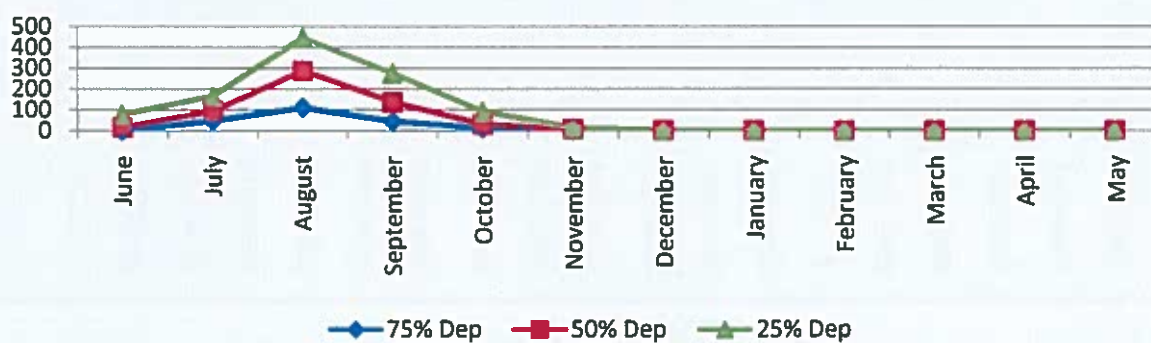
ANNUAL AVERAGE DISCHARGE SITE KOTNI, TRIBUTARY:SEONATH



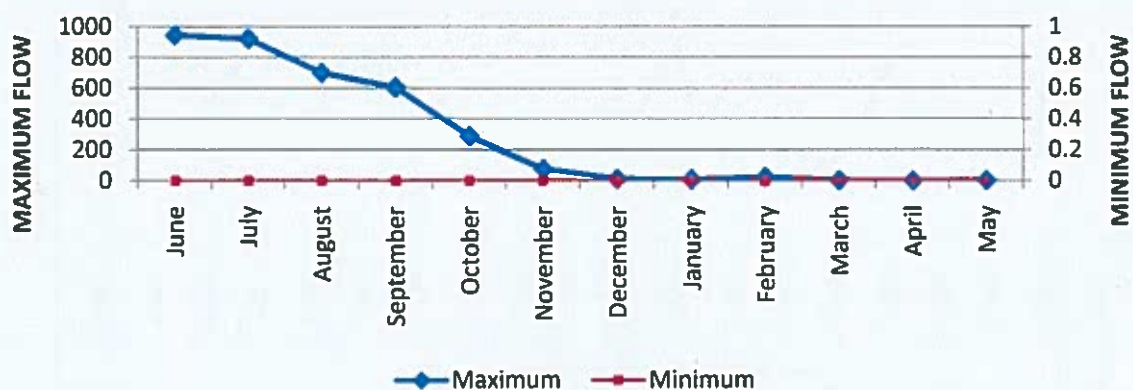
TOTAL ANNUAL DISCHARGE SITE KOTNI, TRIBUTARY:SEONATH



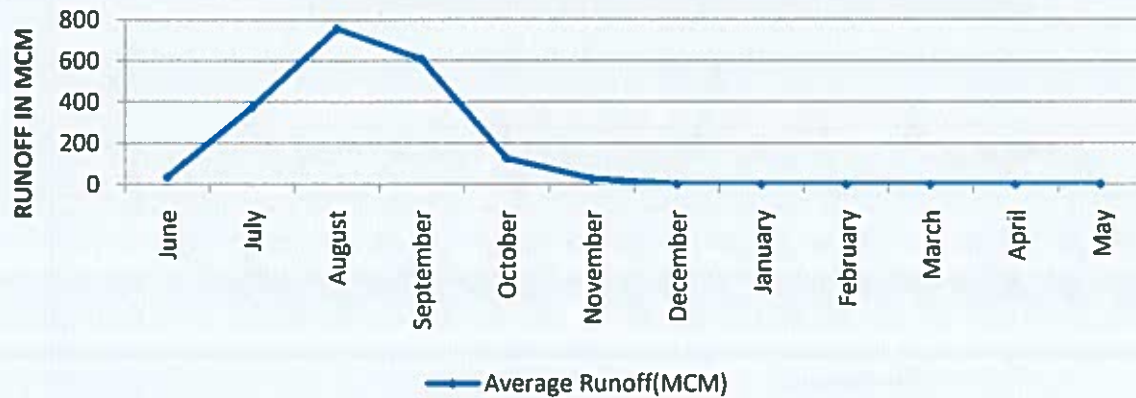
DEPENDABILITY FLOW FROM JUNE TO MAY SITE KOTNI, TRIBUTARY:SEONATH



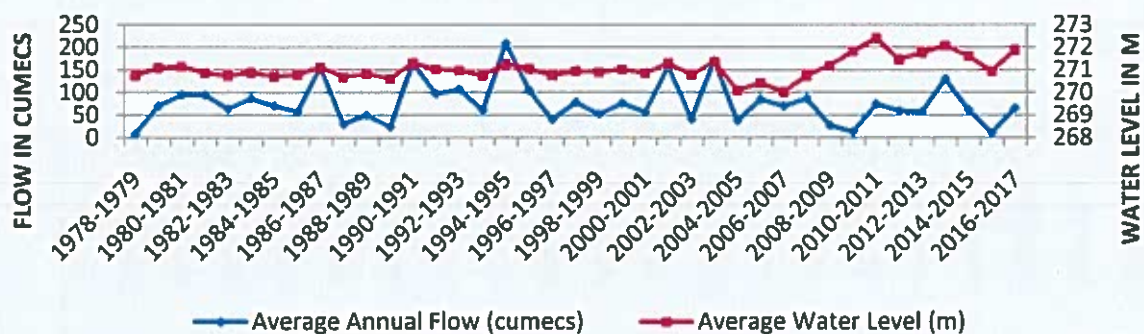
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE KOTNI, TRIBUTARY:SEONATH



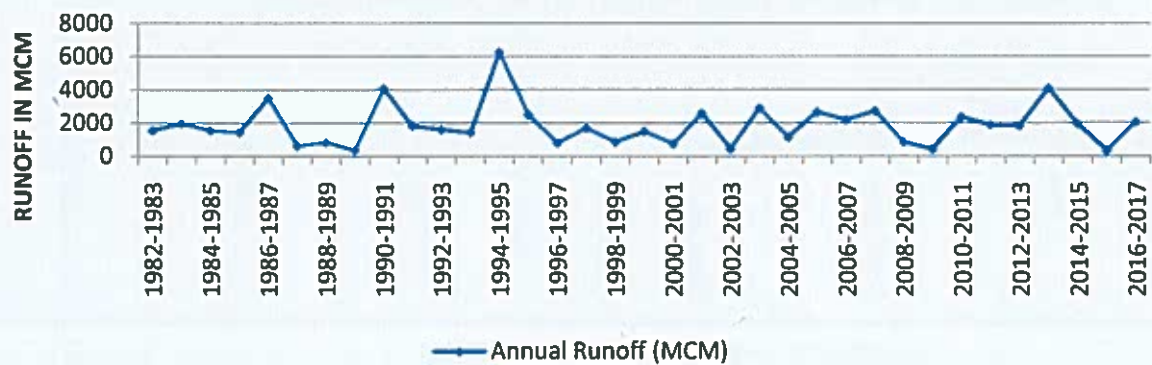
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:KOTNI,TRIBUTARY:SEONATH



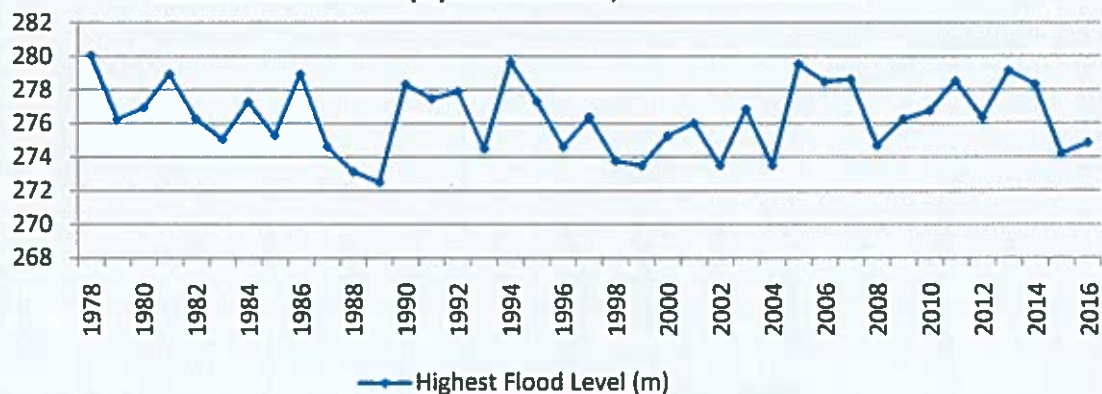
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE KOTNI, TRIBUTARY:SEONATH



ANNUAL RUNOFF(MCM) SITE KOTNI,TRIBUTARY:SEONATH

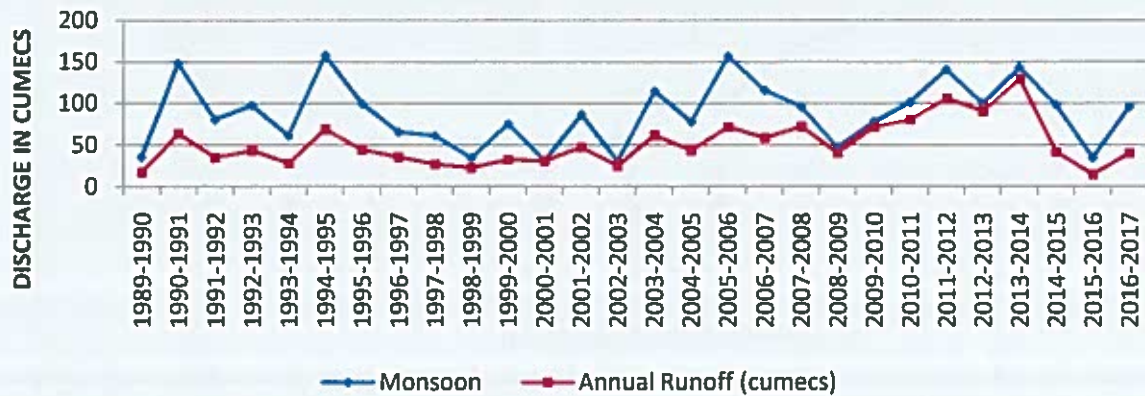


HIGHEST FLOOD LEVEL (m) AT SITE KOTNI, TRIBUTARY:SEONATH

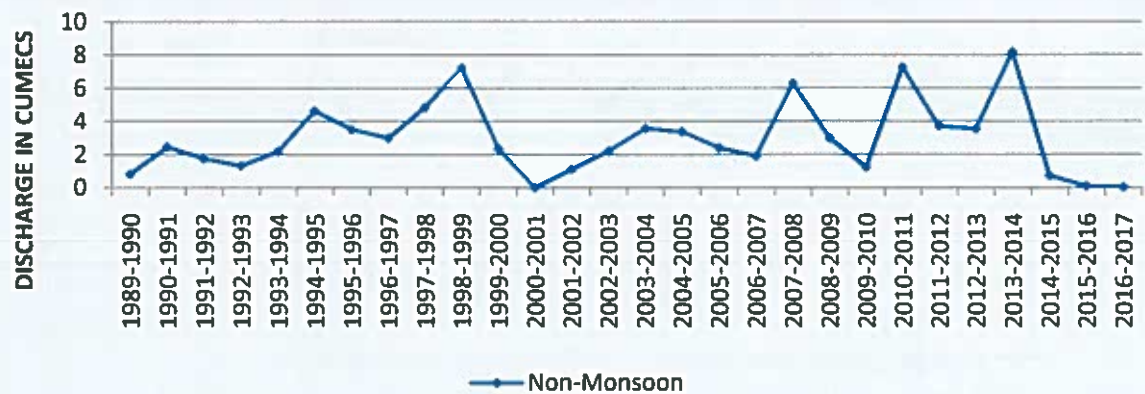


YEAR WISE TREND OF SITE PATHARDIH

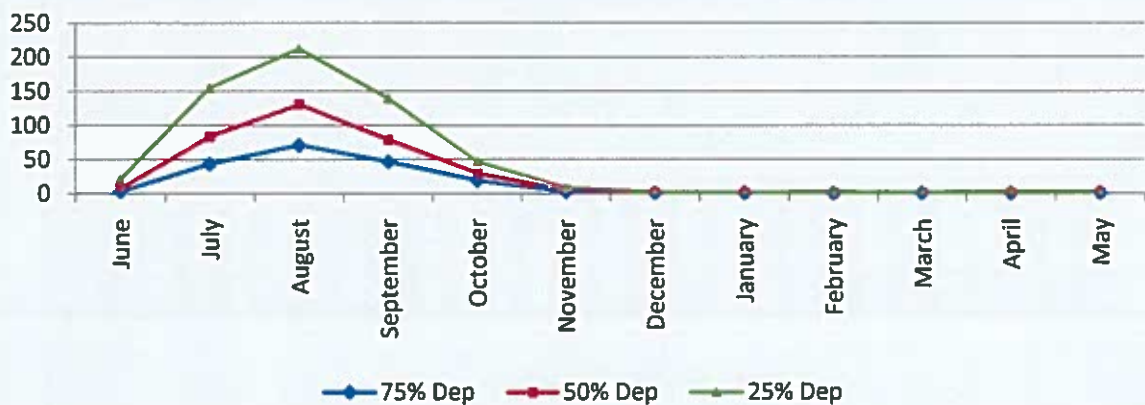
ANNUAL AVERAGE DISCHARGE SITE PATHARDIH,TRIBUTARY:SEONATH



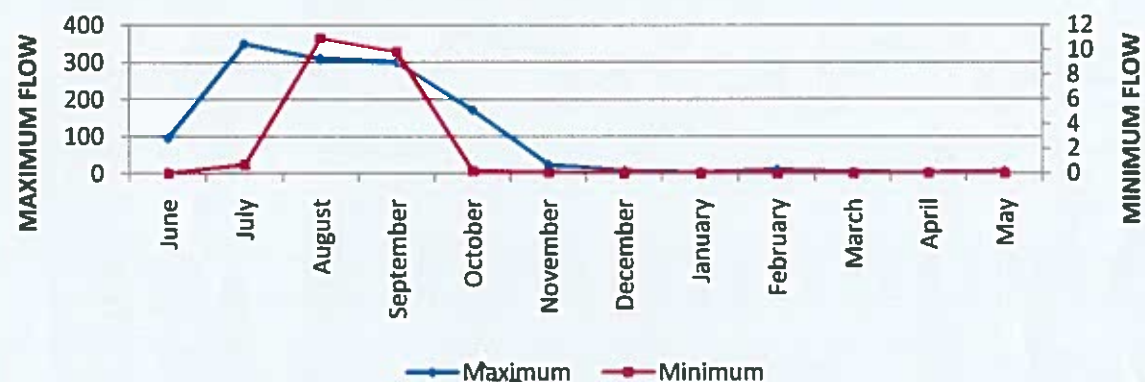
TOTAL AVERAGE DISCHARGE SITE PATHARDIH, TRIBUTARY:SEONATH



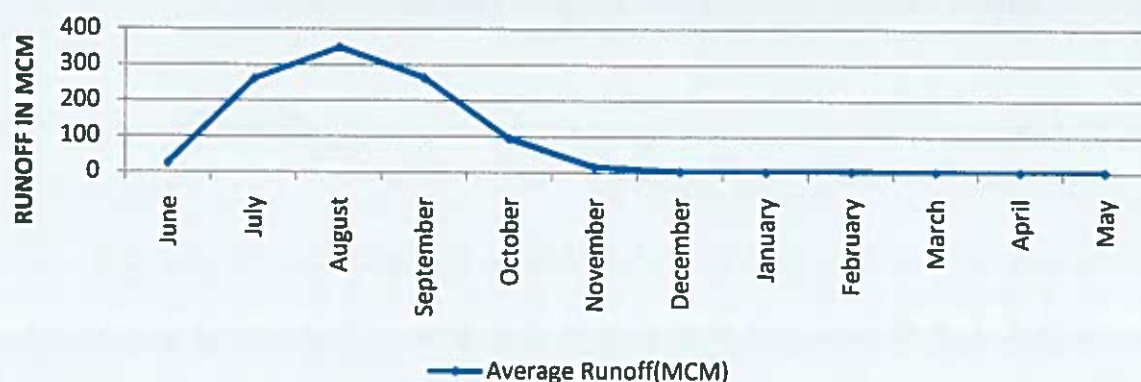
DEPENDEBILITY FLOW FROM JUNE TO MAY SITE PATHARDIH,TRIBUTARY:SEONATH



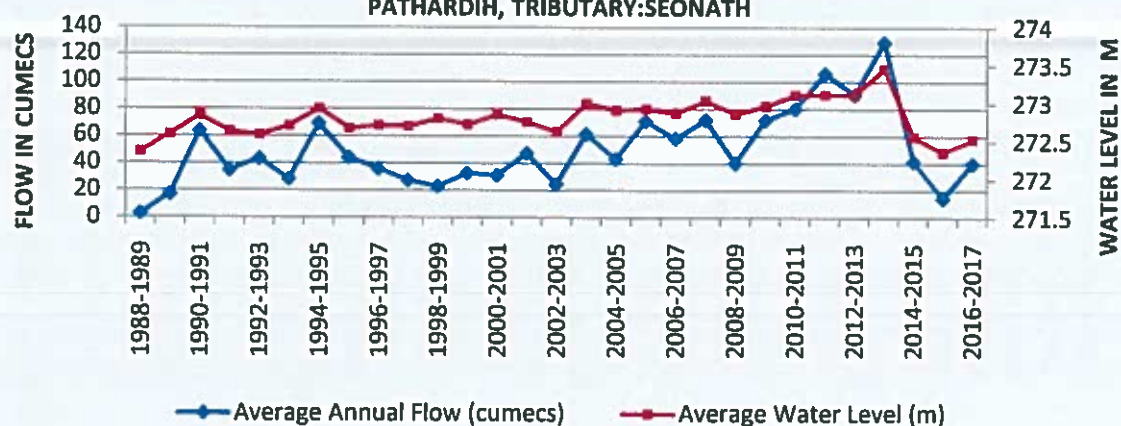
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE PATHARDIH,TRIBUTARY:SEONATH



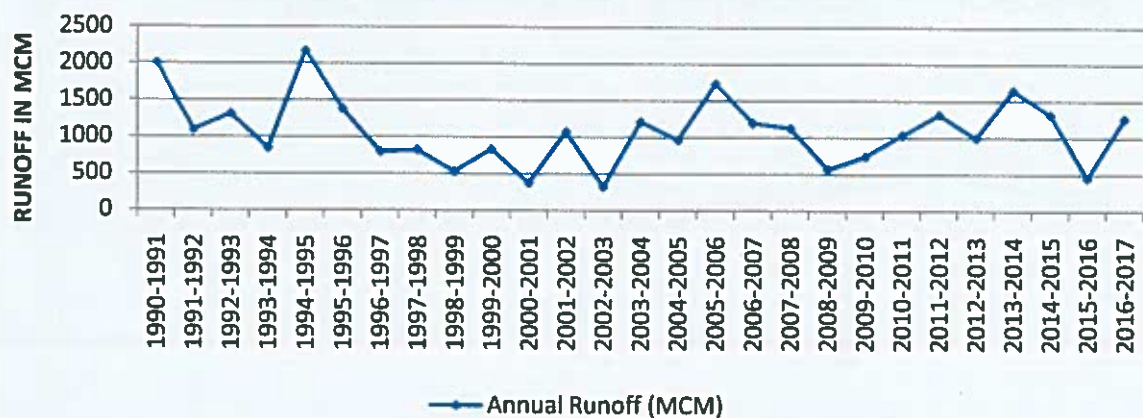
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:PATHARDIH,TRIBUTARY:SEONATH



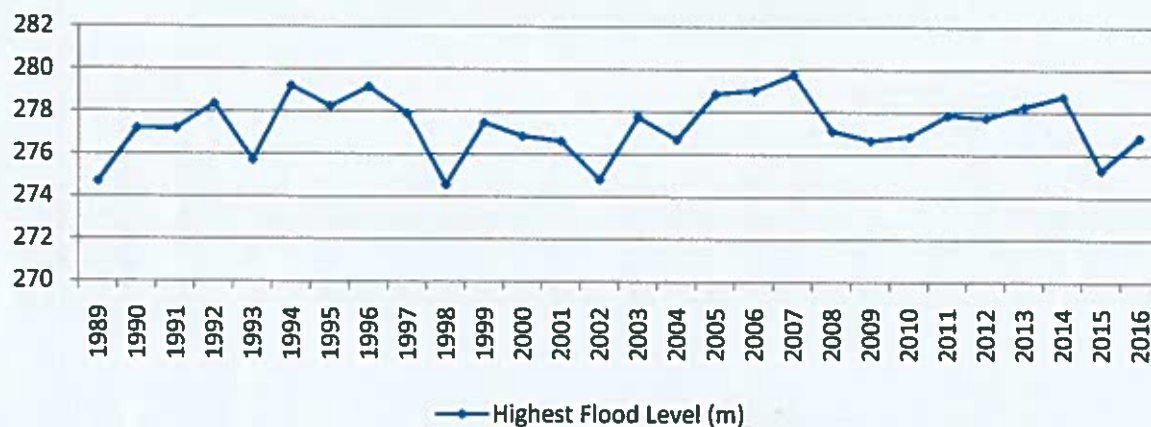
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE PATHARDIH, TRIBUTARY:SEONATH



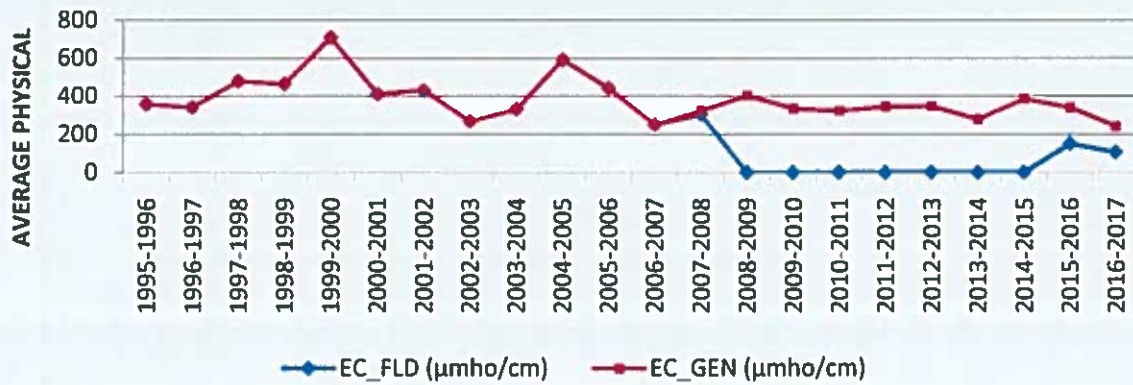
ANNUAL RUNOFF(MCM) SITE PATHARDIH,TRIBUTARY:SEONATH



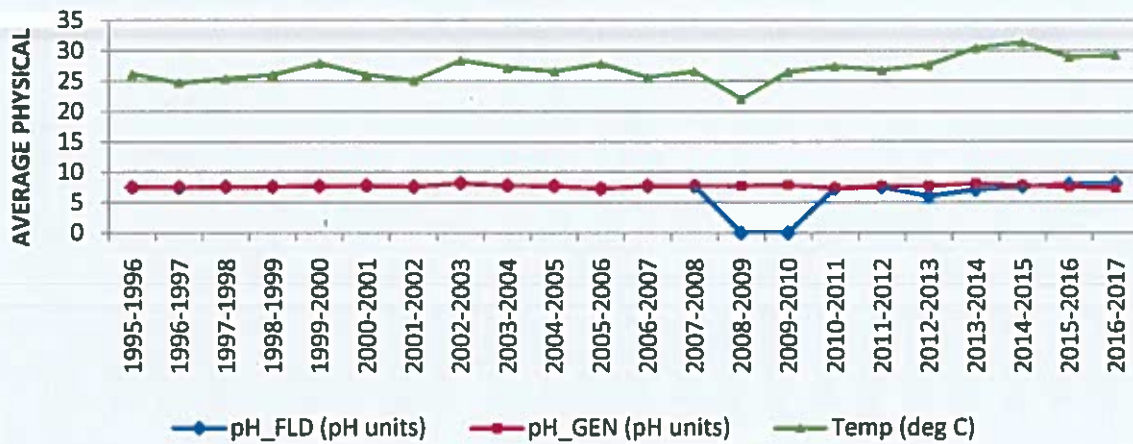
HIGHEST FLOOD LEVEL (m) AT SITE: PATHARDIH,TRIBUTARY:SEONATH



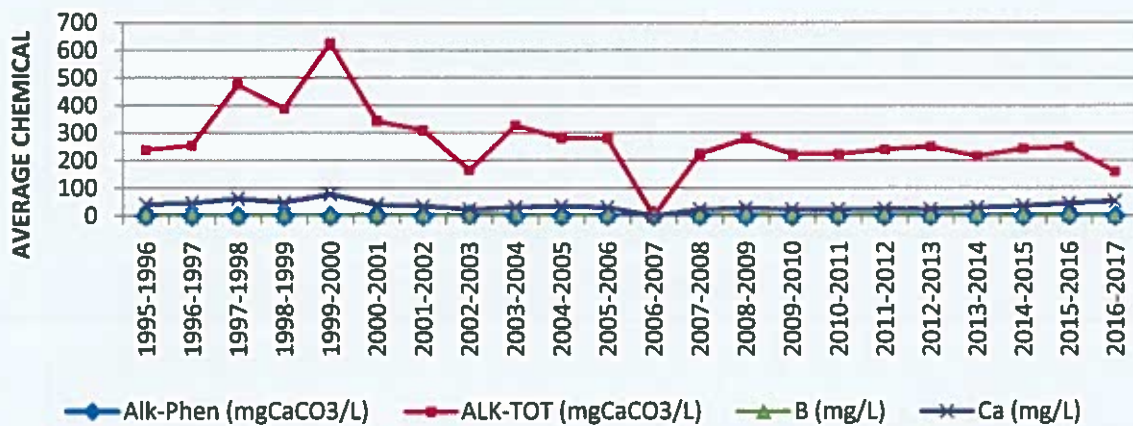
WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH



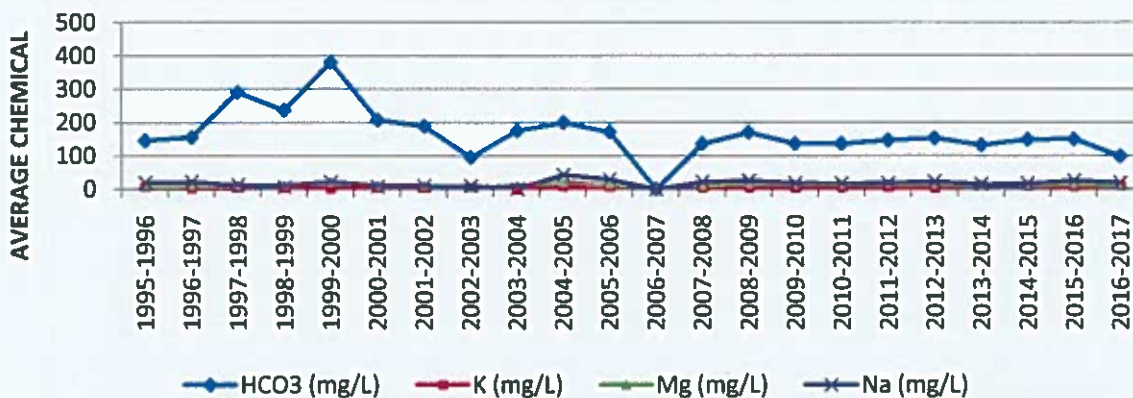
WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH



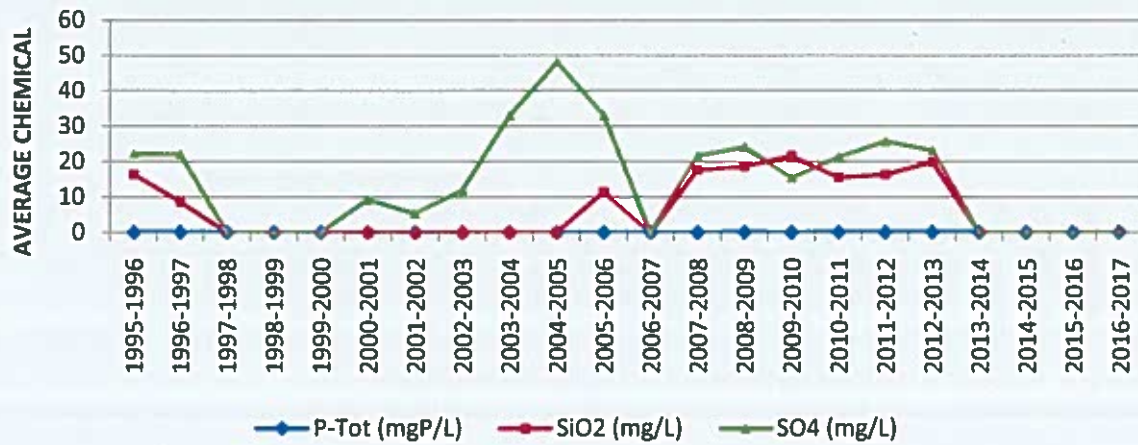
WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH



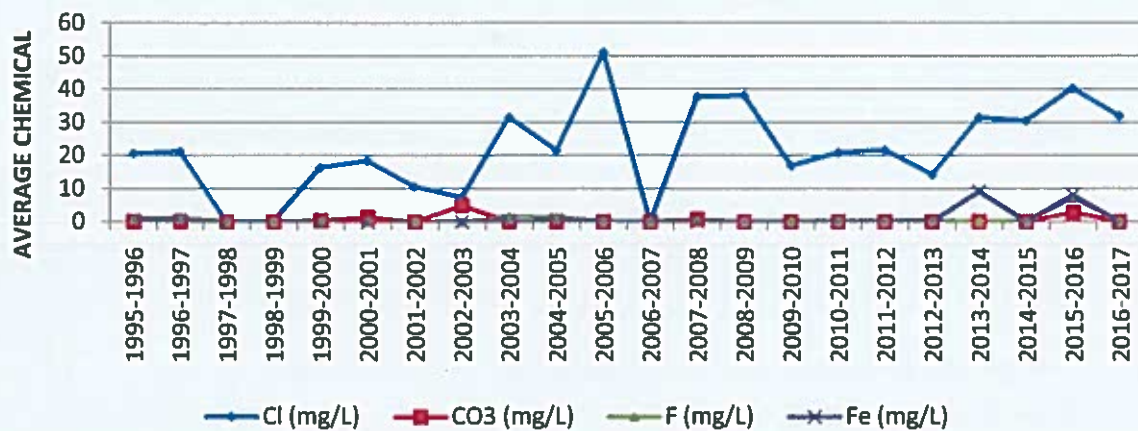
WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH



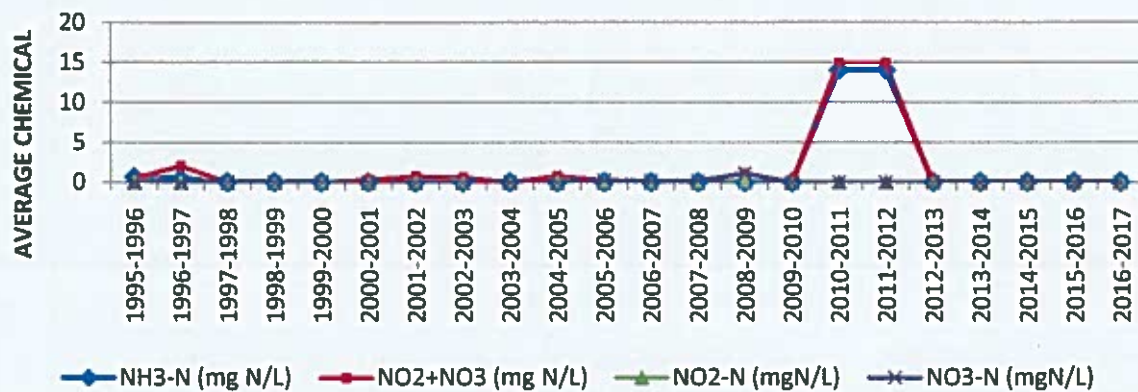
WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH



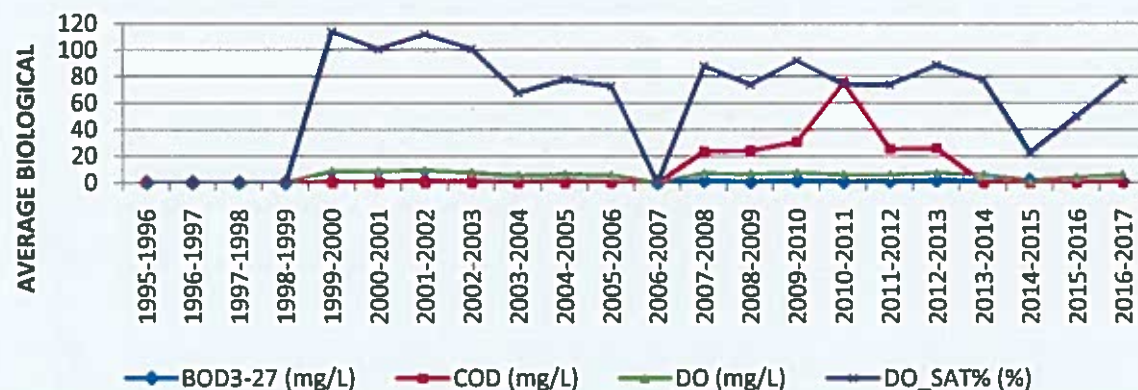
WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH



WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH

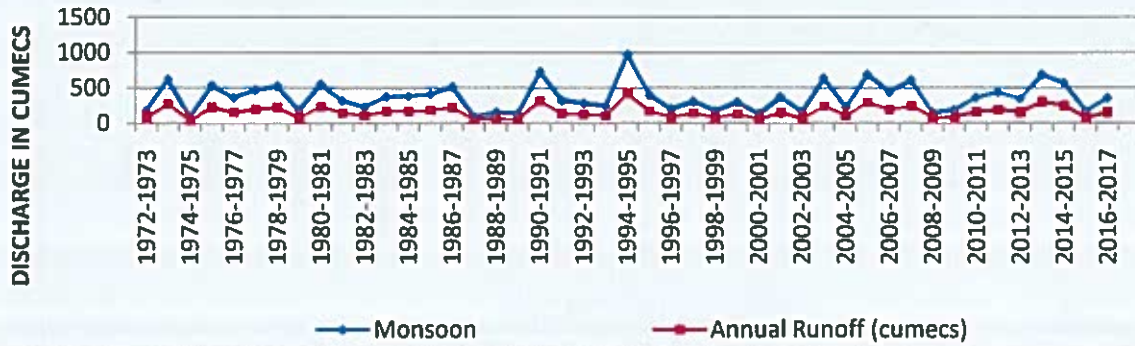


WATER QUALITY PROPERTIES AT SITE PATHARDIH, TRIBUTARY: SEONATH

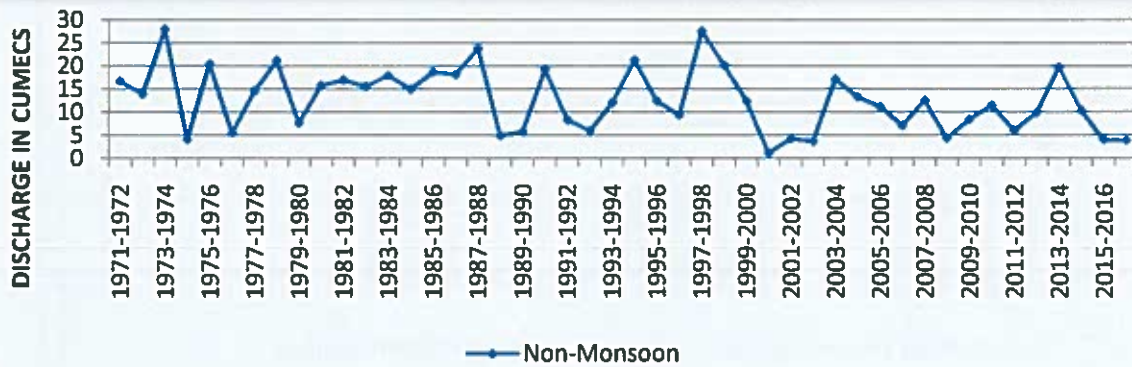


YEAR WISE TREND OF SITE SIMGA

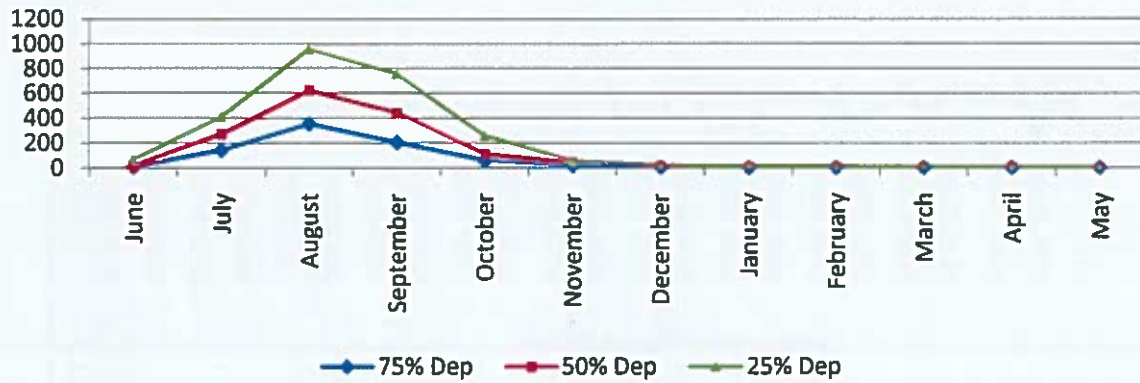
ANNUAL AVERAGE DISCHARGE SITE SIMGA, TRIBUTARY:SEONATH



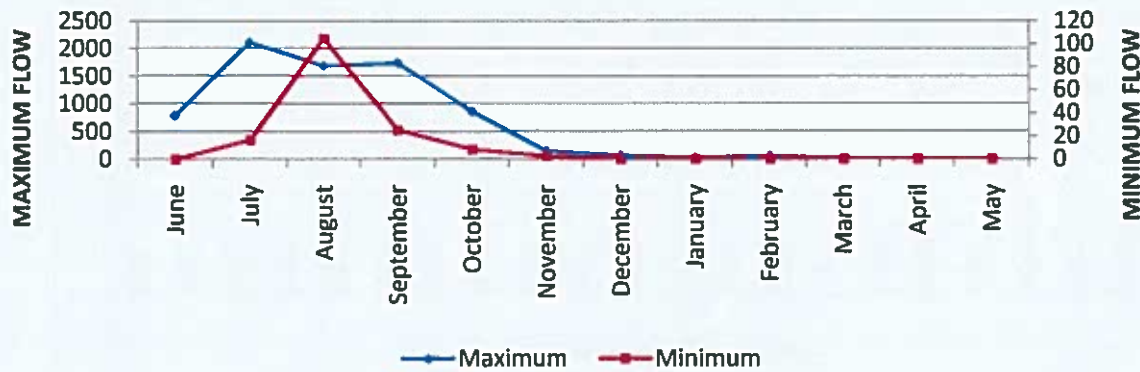
TOTAL AVERAGE DISCHARGE SITE SIMGA, TRIBUTARY:SEONATH



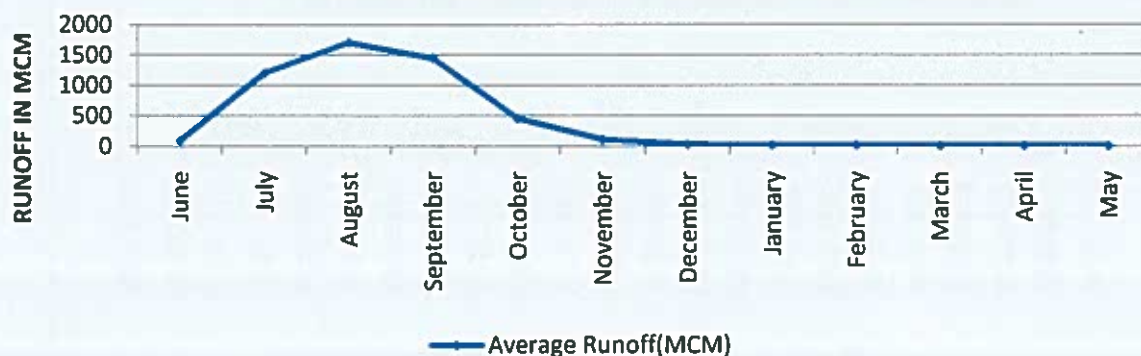
DEPENDABILITY FLOW FROM JUNE TO MAY SITE SIMGA, TRIBUTARY:SEONATH



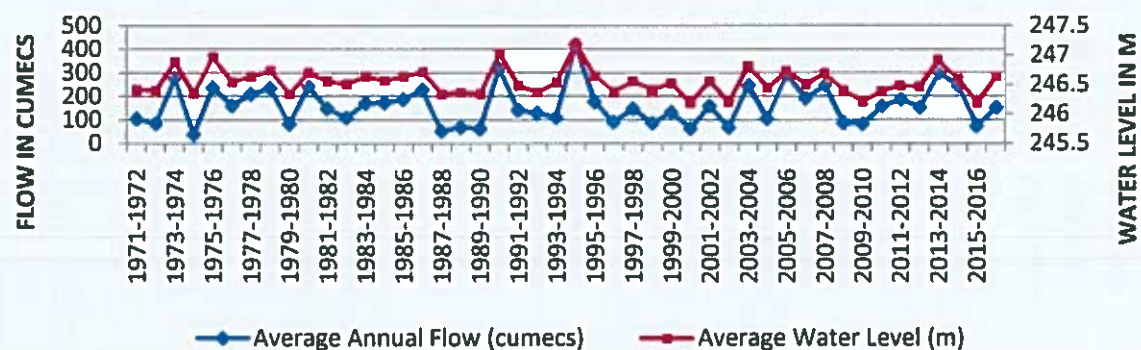
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE SIMGA, TRIBUTARY:SEONATH



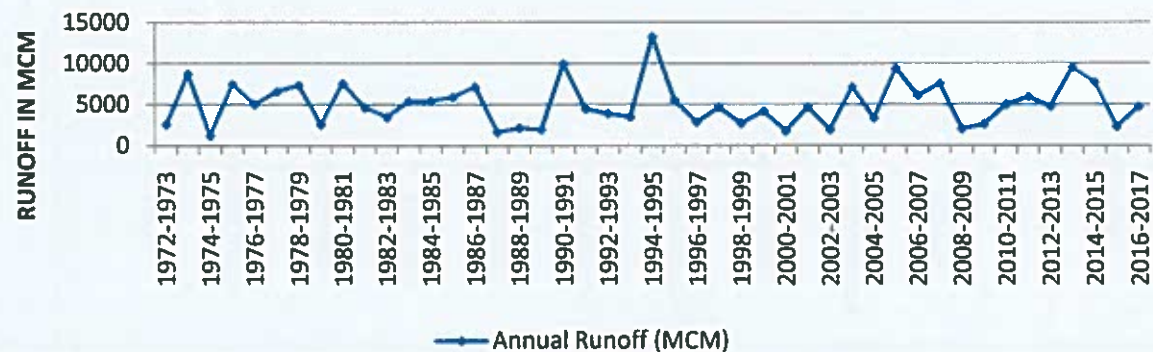
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:SIMGA,TRIBUTARY:SEONATH



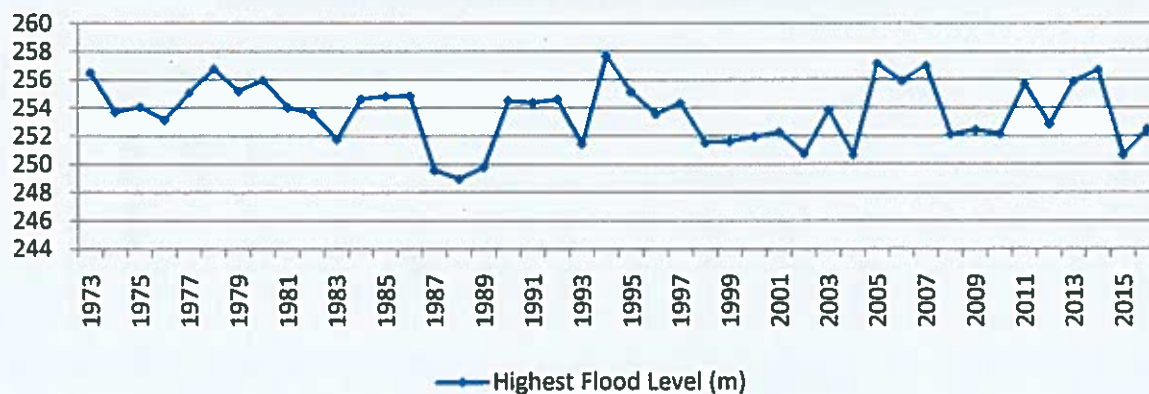
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE SIMGA, TRIBUTARY: SEONATH



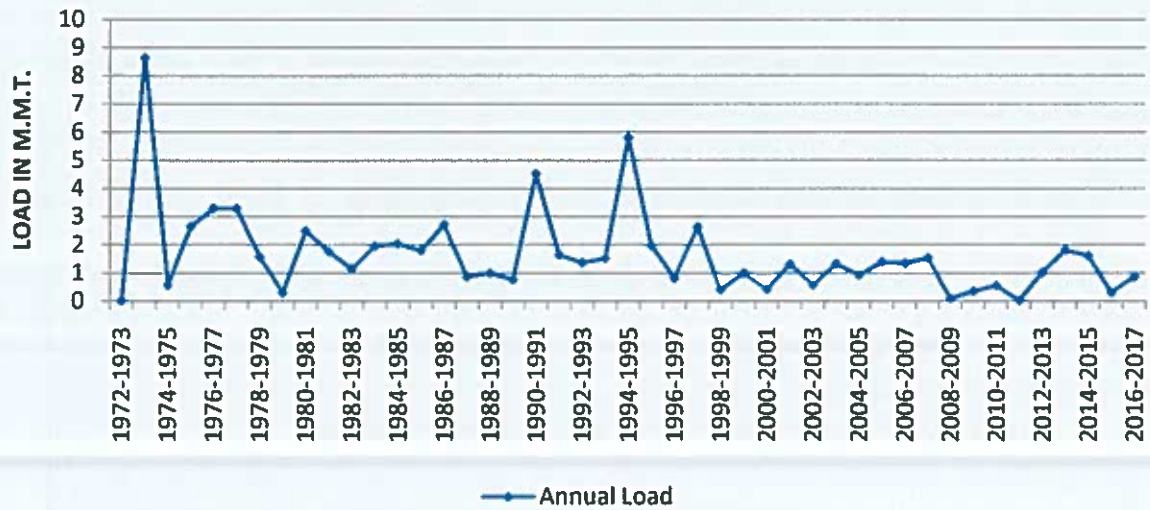
ANNUAL RUNOFF(MCM) SITE SIMGA,TRIBUTARY:SEONATH



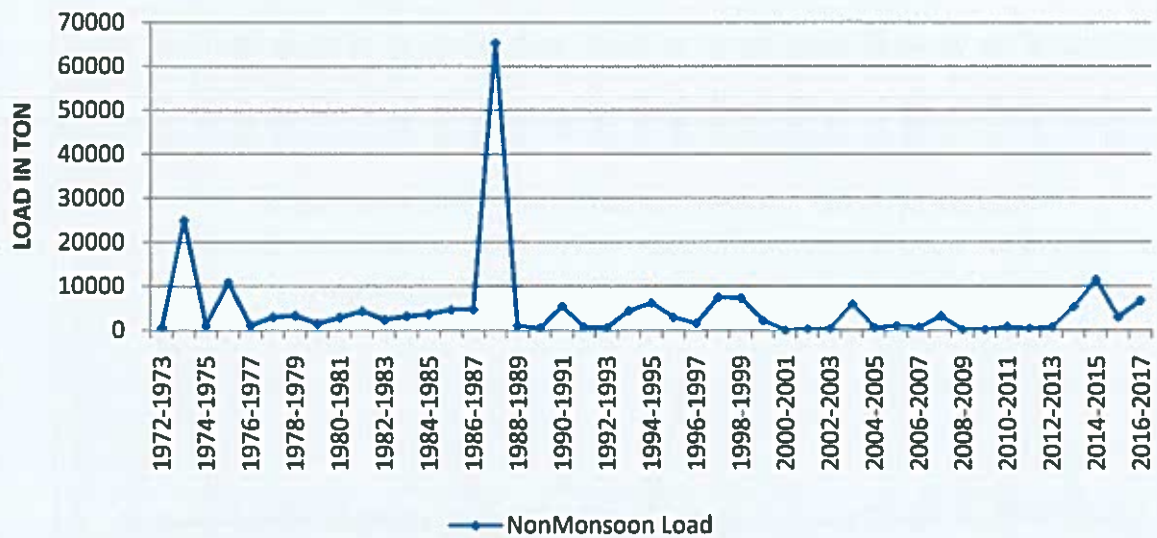
HIGHEST FLOOD LEVEL (m) AT SITE SIMGA,TRIBUTARY:SEONATH



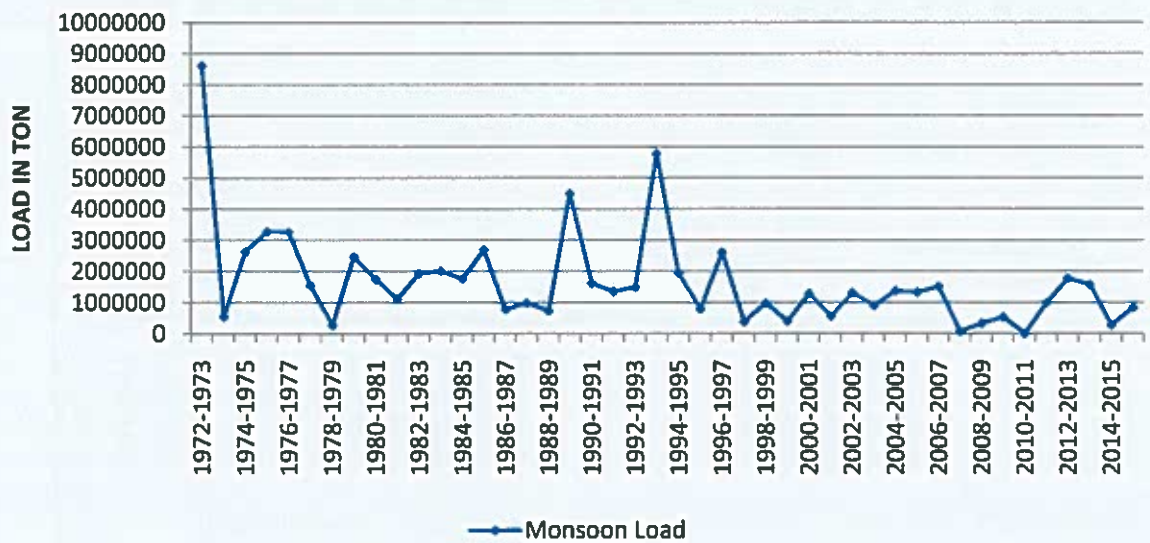
ANNUAL LOAD(MILLION M.T.) AT SITE SIMGA,TRIBUTARY:SEONATH



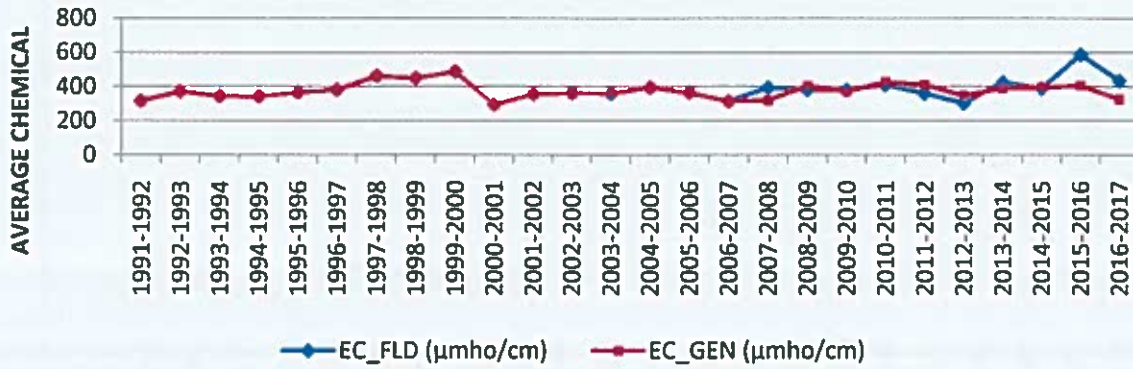
NON MONSOON LOAD AT SITE SIMGA,TRIBUTARY:SEONATH



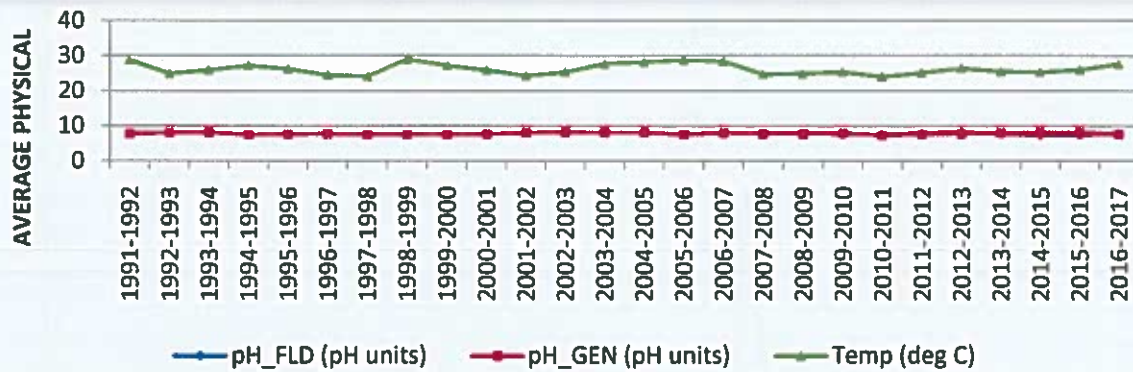
MONSOON LOAD AT SITE SIMGA,TRIBUTARY:SEONATH



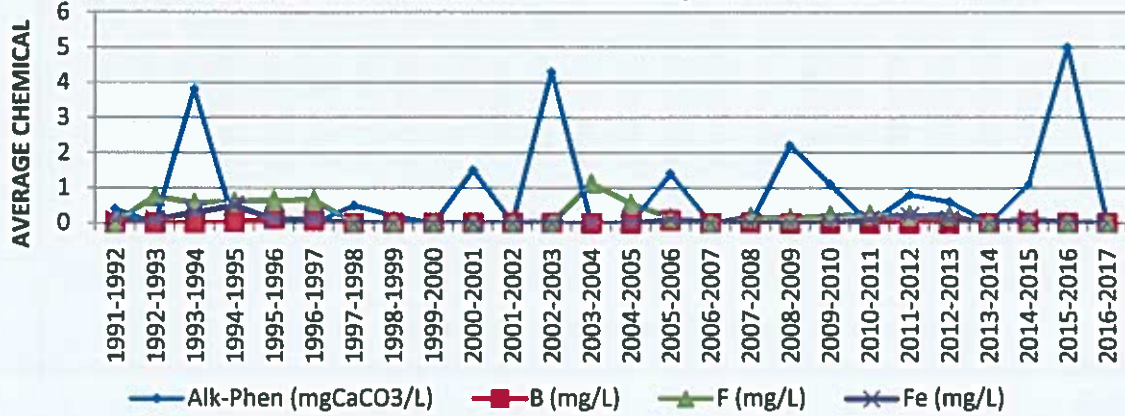
WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY: SEONATH



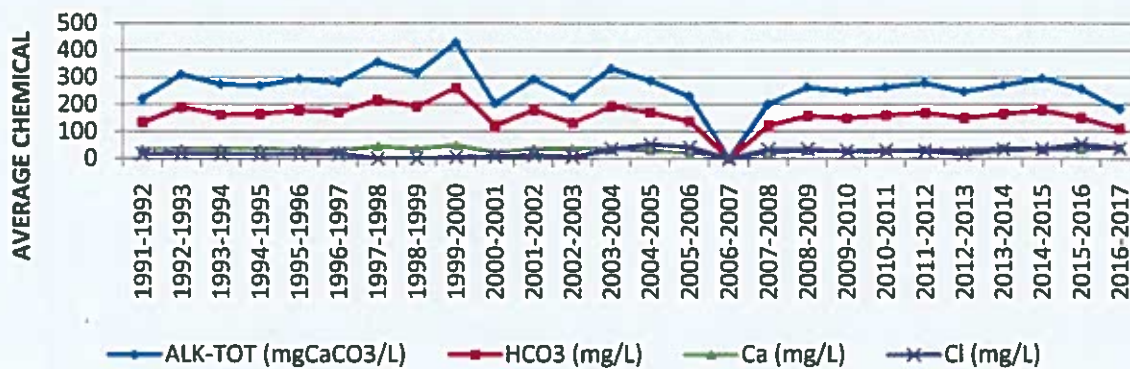
WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY: SEONATH



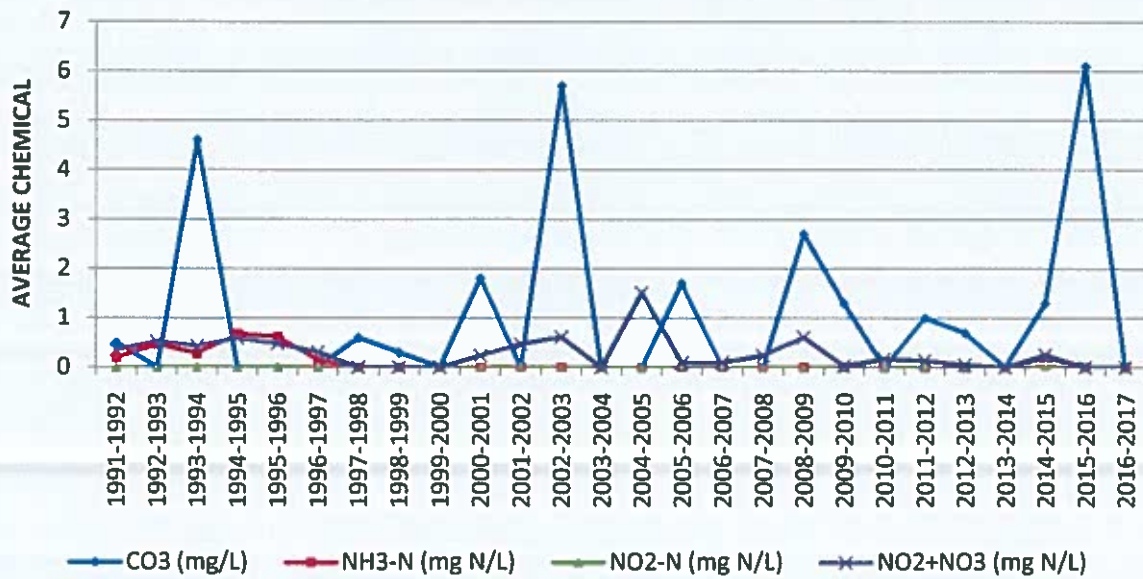
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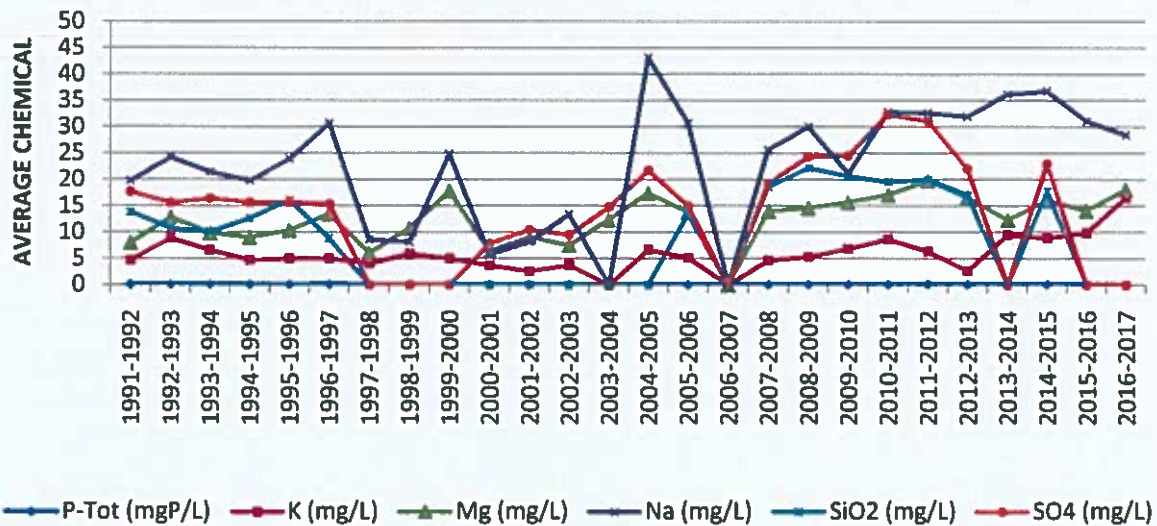
WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY:SEONATH



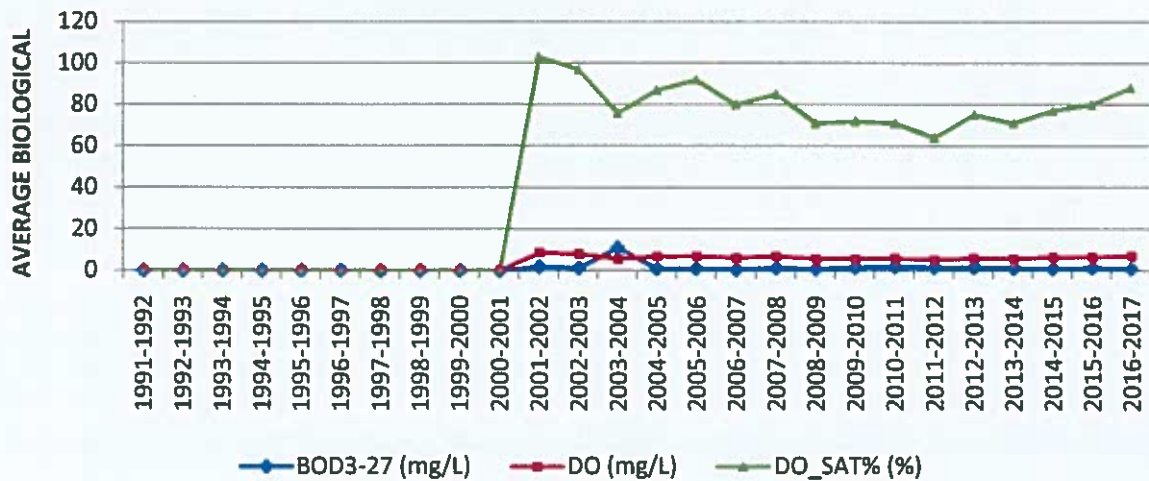
WATER QUALITY PROPERTIES AT SITE SIMGA,TRIBUTARY:



WATER QUALITY PROPERTIES AT SITE SIMGA, TRIBUTARY: SEONATH

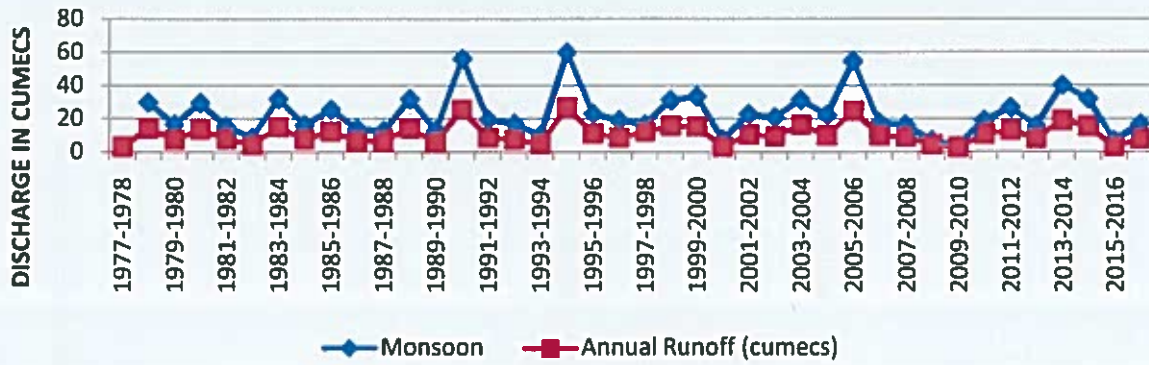


WATER QUALITY PROPERTIES AT SITE SIMGA,

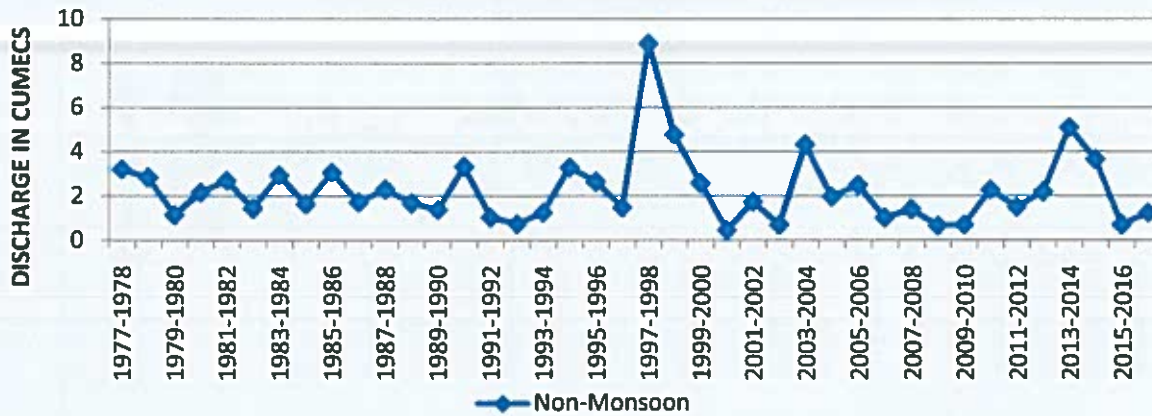


YEAR WISE TREND OF SITE ANDHIARKHORE

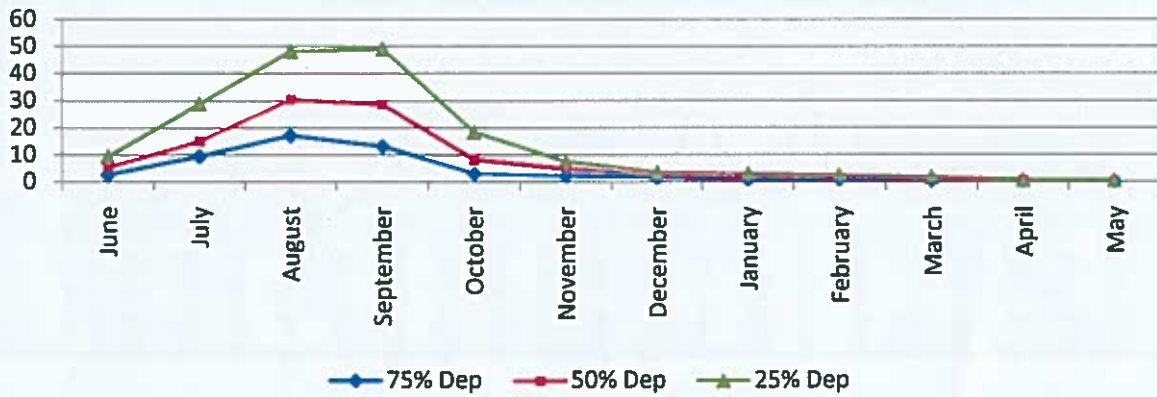
ANNUAL AVERAGE DISCHARGE SITE ANDHIARKHORE, TRIBUTARY: HAMP



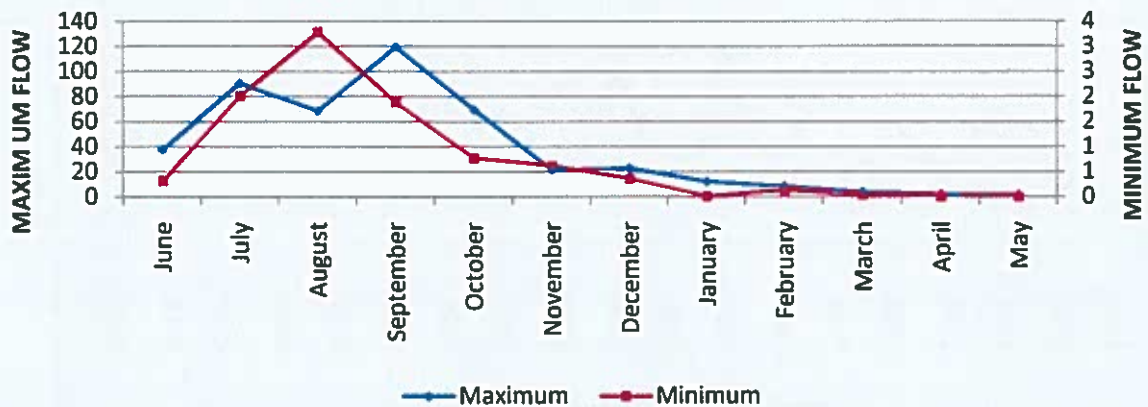
TOTAL ANNUAL DISCHARGE SITE ANDHIARKHORE, TRIBUTARY: HAMP



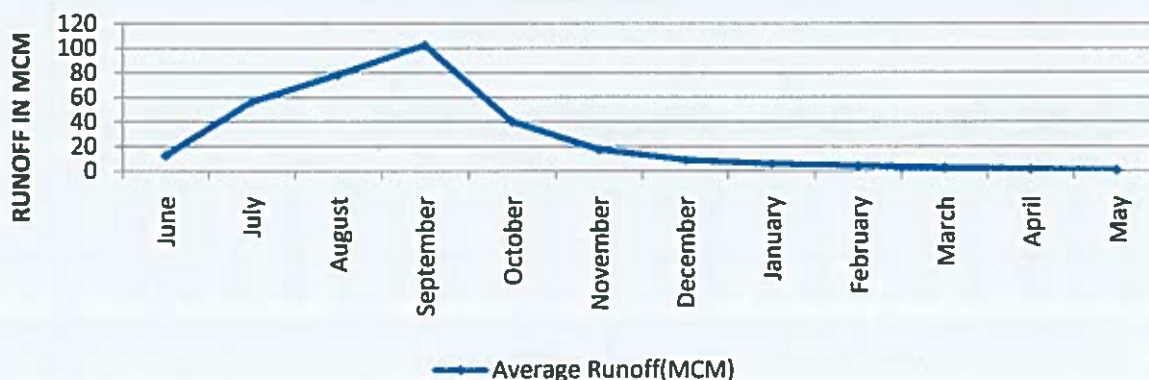
DEPENDABILITY FLOW FROM JUNE TO MAY SITE ANDHIARKHORE, TRIBUTARY: PAIRI



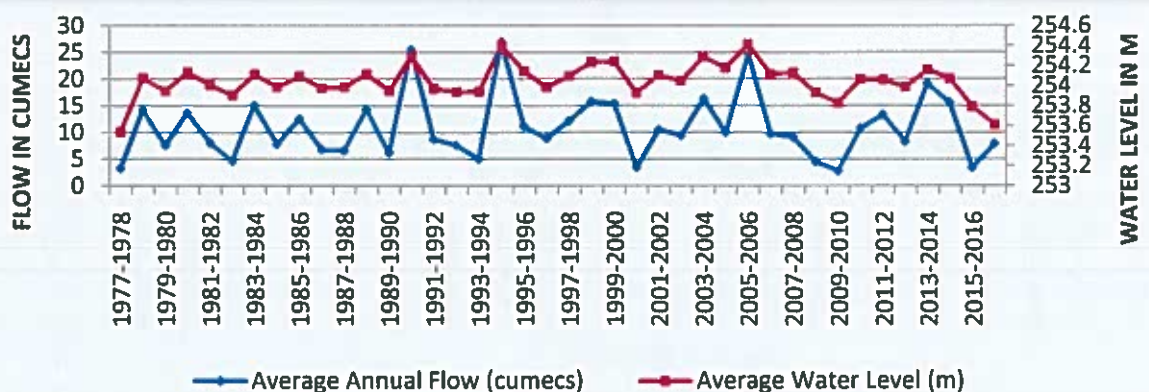
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE ANDHIARKHORE, TRIBUTARY: HAMP



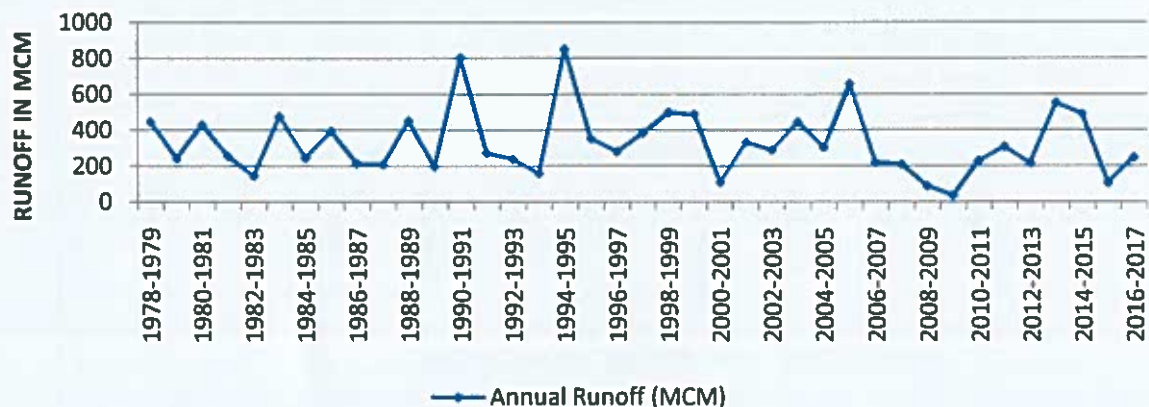
AVERAGE RUNOFF(MCM) PERIOD:1993-2017
SITE:ANDHIARKHORE,TRIBUTARY:SEONATH



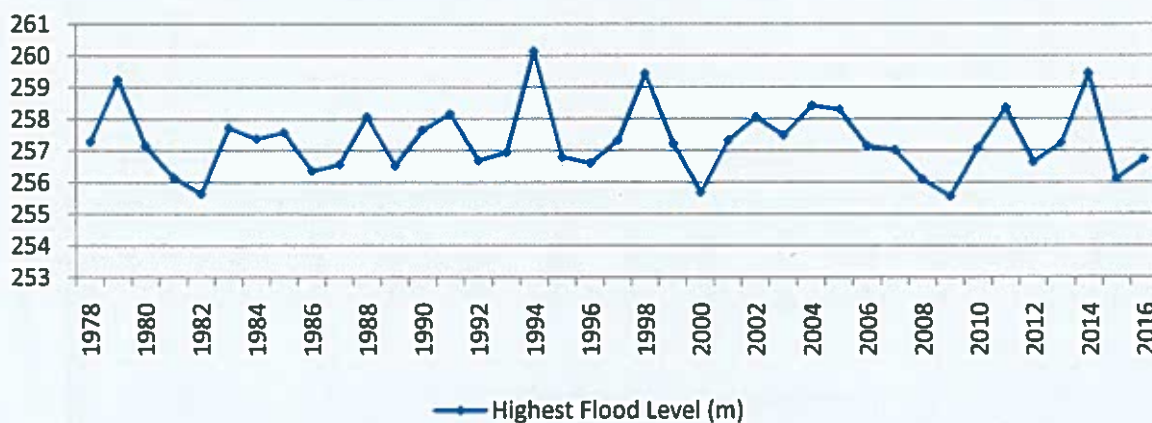
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M), SITE
ANDHIARKHORE,TRIBUTARY:HAMP



ANNUAL RUNOFF(MCM) SITE ANDHIARKHORE:TRIBUTARY:SEONATH



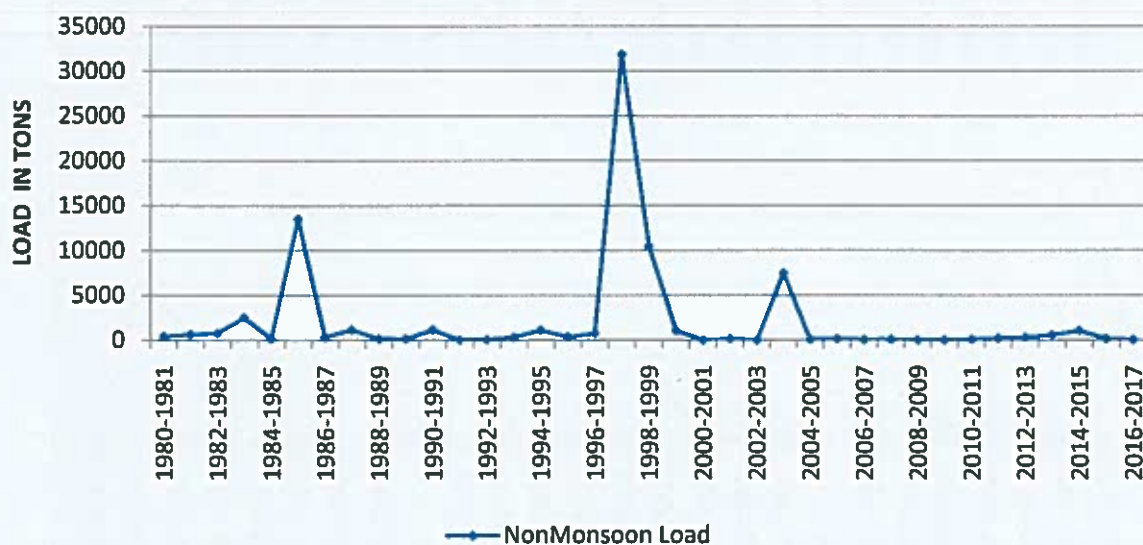
HIGHEST FLOOD LEVEL (m) AT SITE ANDHIARKHORE,TRIBUTARY: ANDHIARKHORE



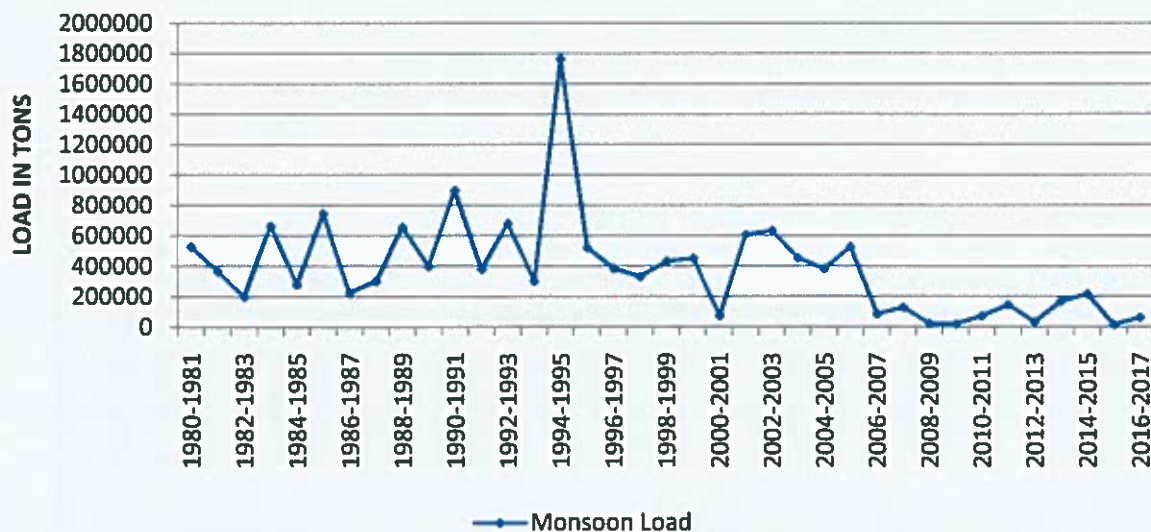
ANNUAL LOAD (MILLION M.T.) AT SITE ANDHIARKHORE, TRIBUTARY SEONATH



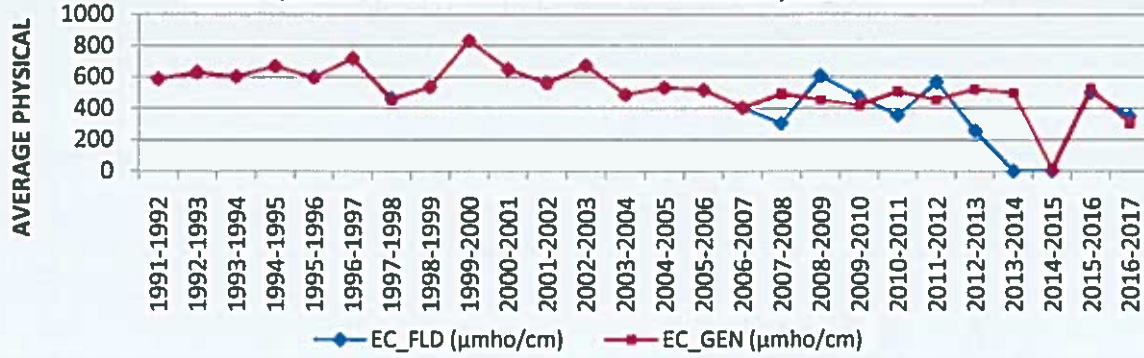
NON MONSOON LOAD AT SITE ANDHIARKHORE, TRIBUTARY: SEONATH



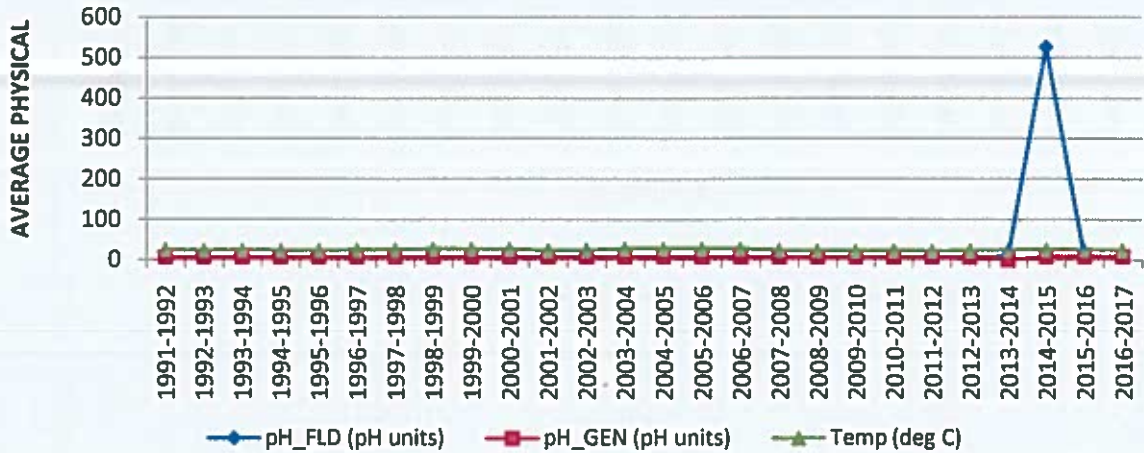
MONSOON LOAD AT SITE ANDHIARKHORE, TRIBUTARY: SEONATH



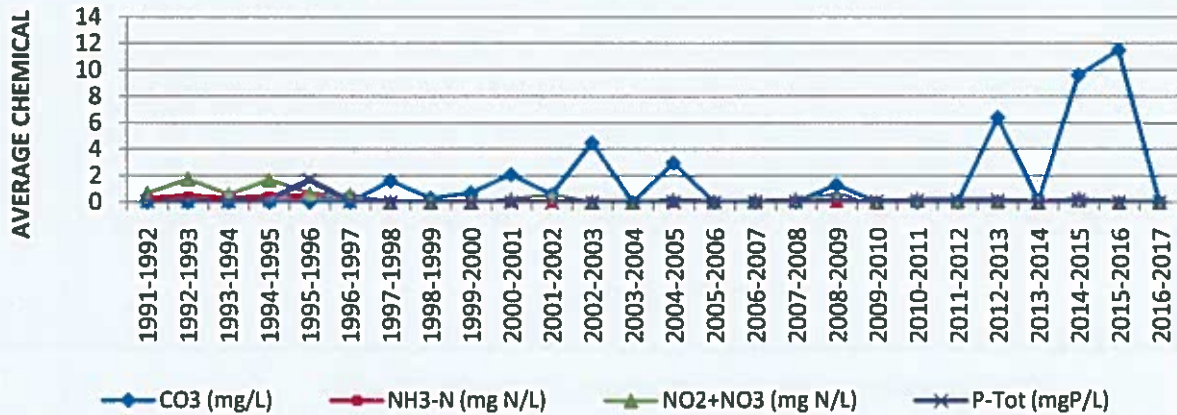
WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE,TRIBUTARY:HAMP



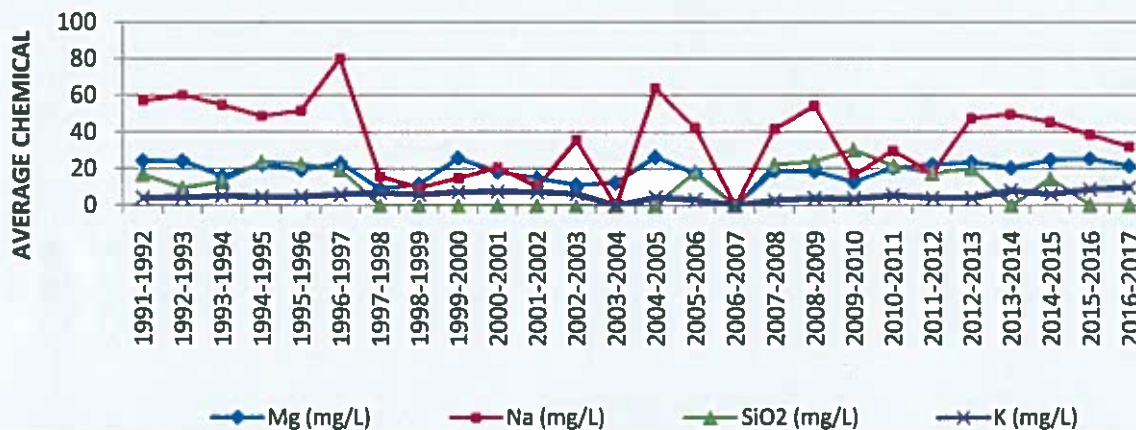
WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE, TRIBUTARY:HAMP



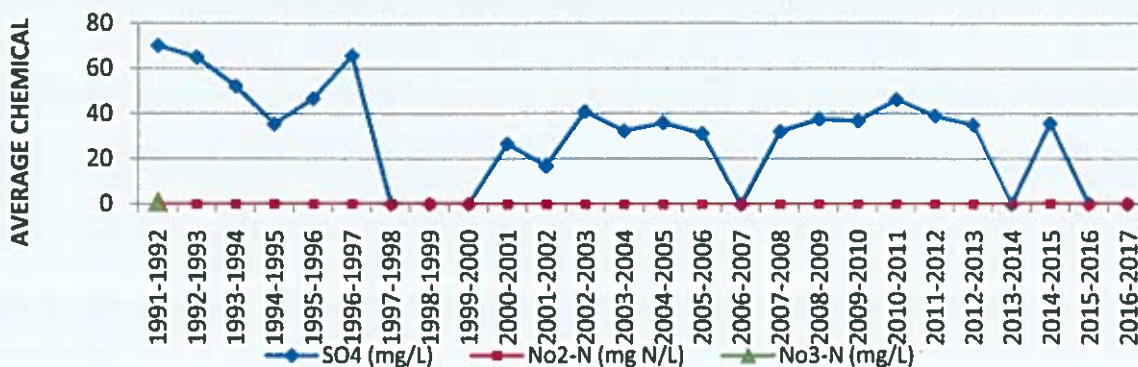
WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP



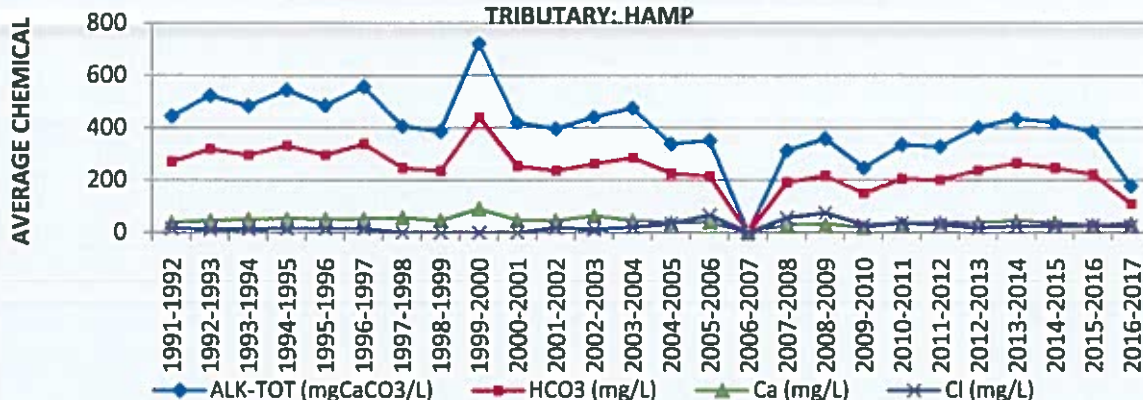
WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP



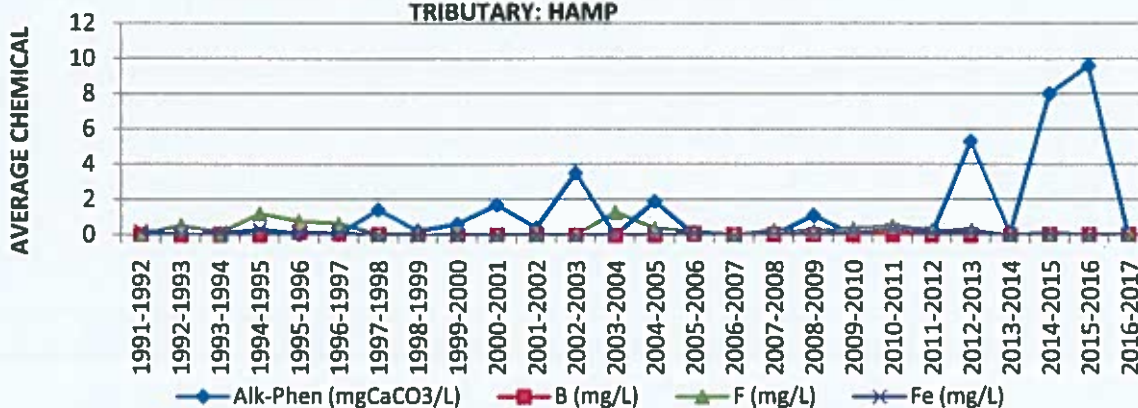
WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP



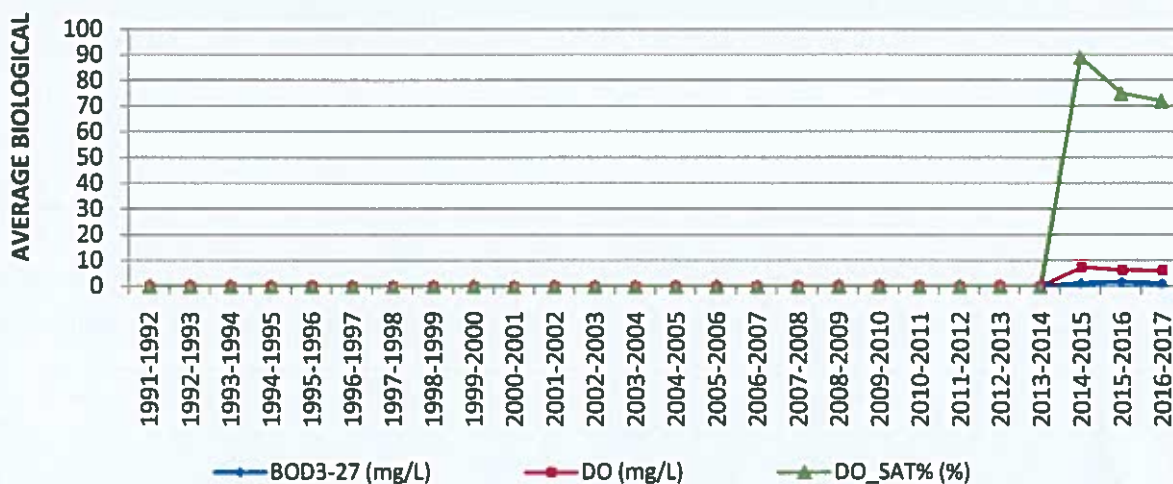
WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE, TRIBUTARY: HAMP



WATER QUALITY PROPERTIES AT SITE ANDHIARKHORE, TRIBUTARY: HAMP

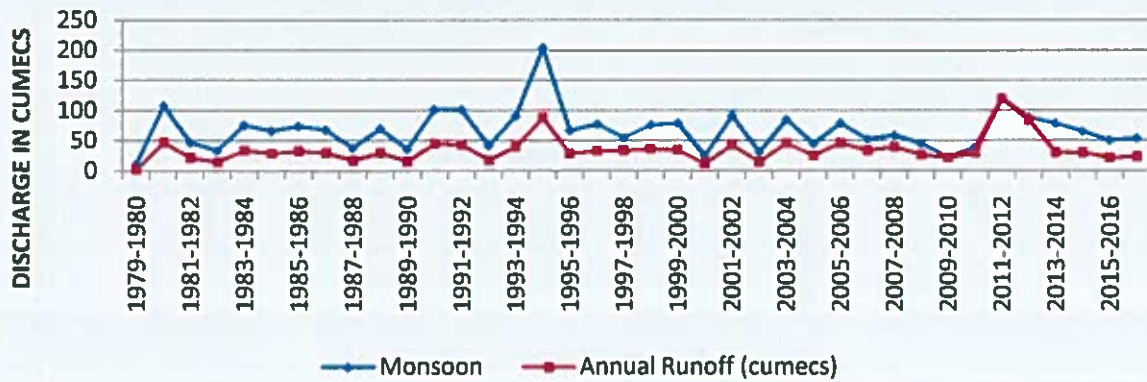


WATER QUALITY PROPERTIES AT SITE:ANDHIARKHORE,TRIBUTARY:HAMP

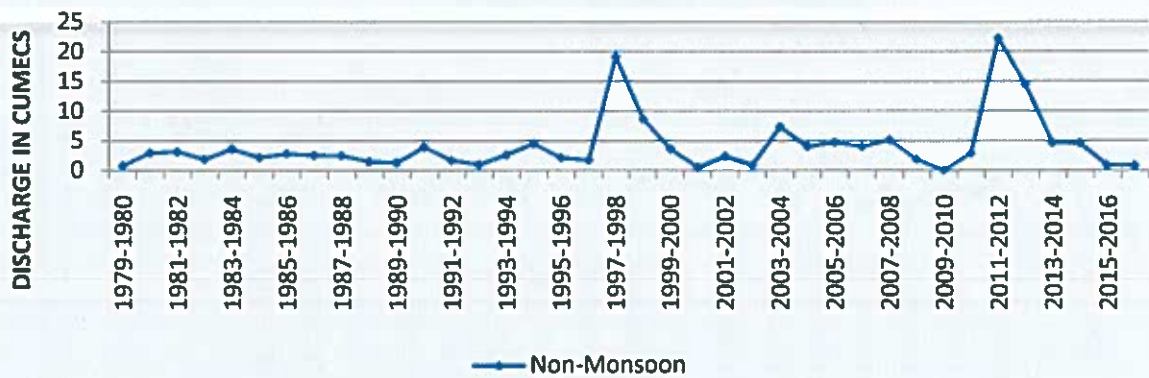


YEAR WISE TREND OF SITE GHATORA

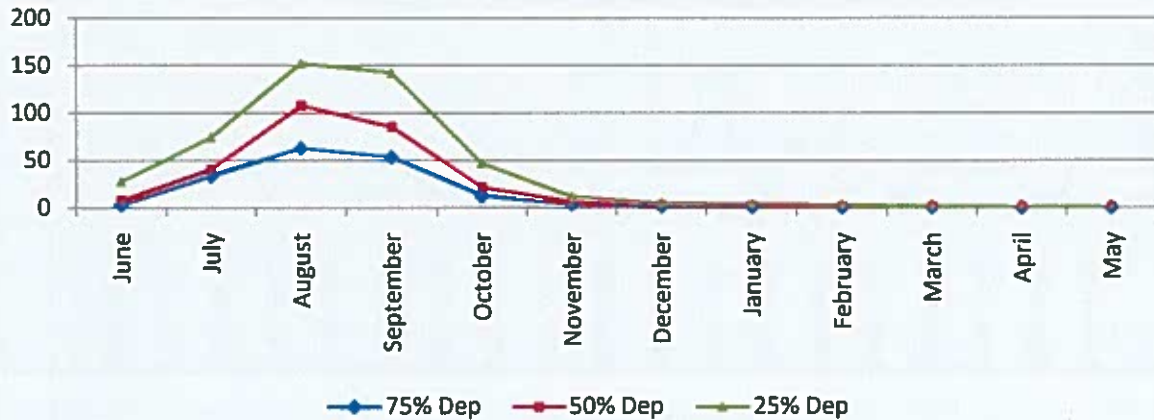
ANNUAL AVERAGE DISCHARGE SITE GHATORA, TRIBUTARY:ARPA



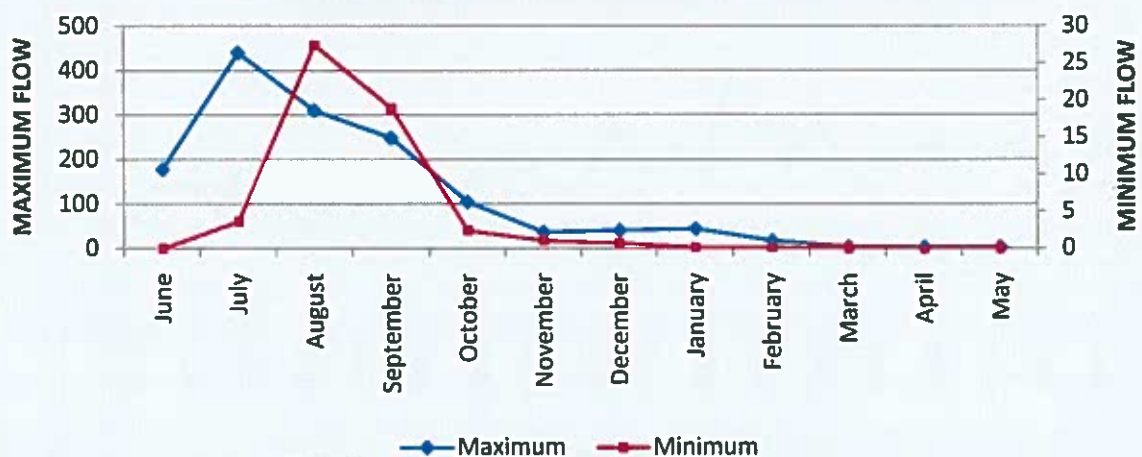
TOTAL ANNUAL DISCHARGE SITE GHATORA, TRIBUTARY:ARPA



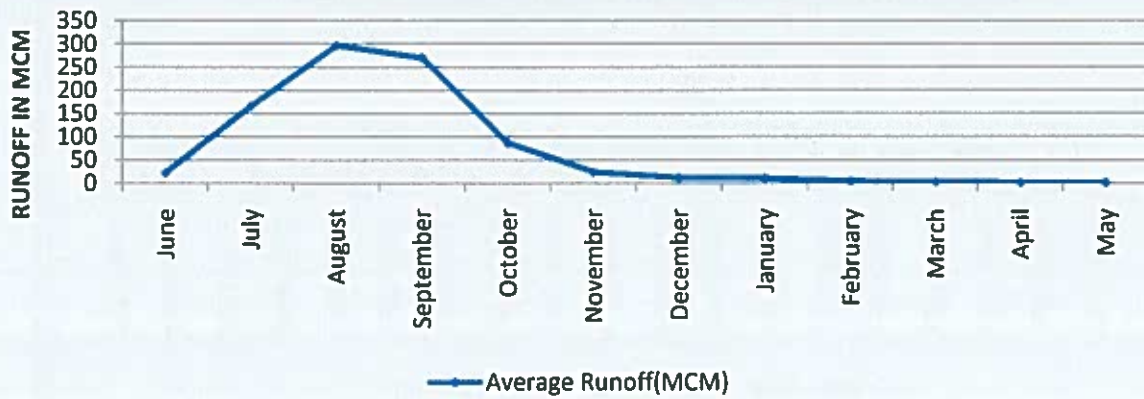
DEPENDABILITY FLOW FROM JUNE TO MAY SITE GHATORA, TRIBUTARY:ARPA



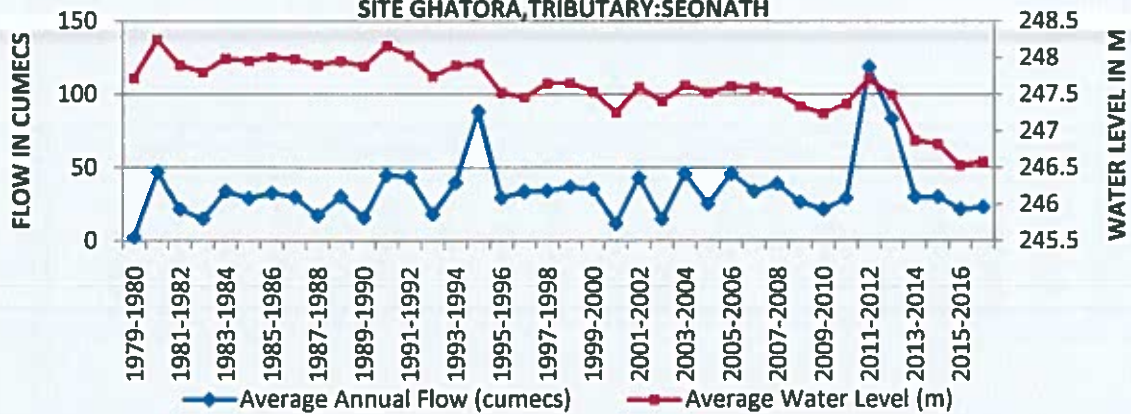
MAXIMUM MINIMUM FLOW SITE GHATORA, TRIBUTARY:ARPA



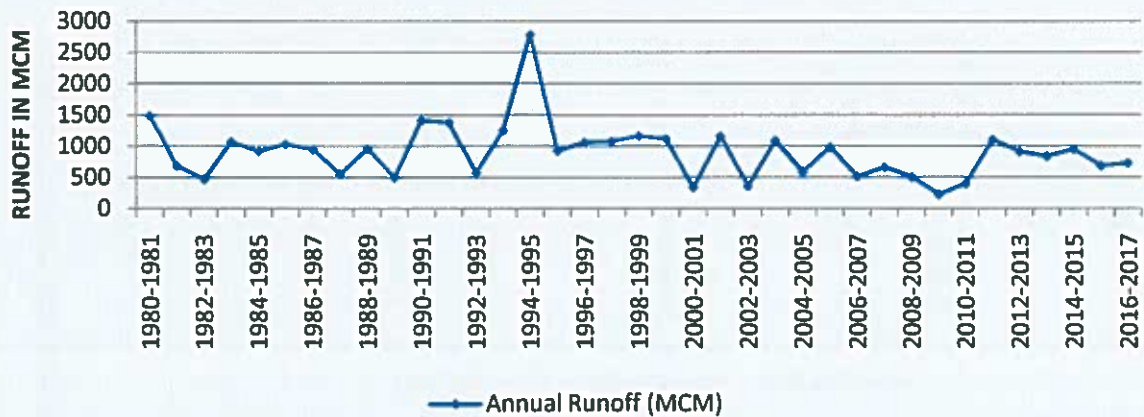
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:GHATORA,TRIBUTARY:SEONATH



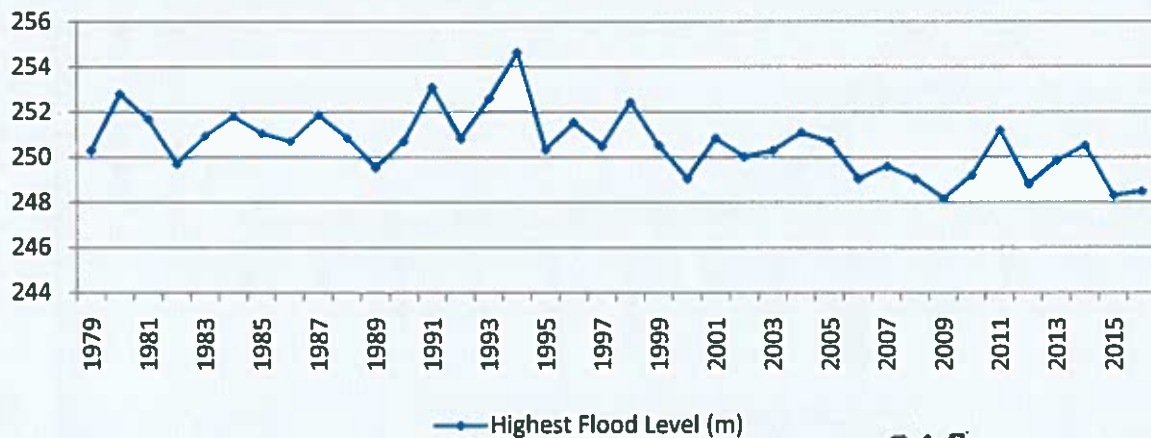
**AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M)
SITE GHATORA,TRIBUTARY:SEONATH**



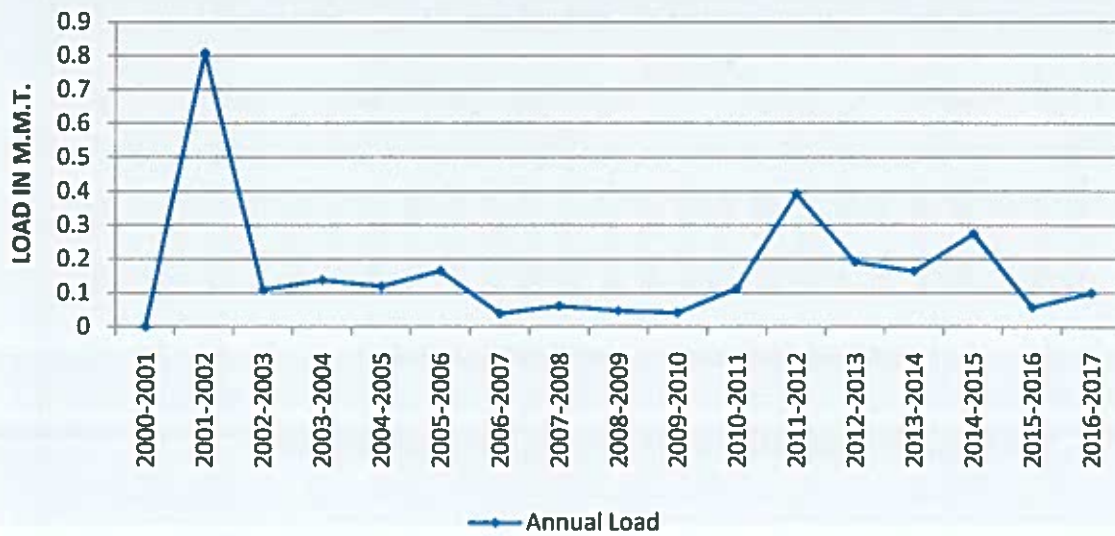
ANNUAL RUNOFF(MCM)SITE GHATORA,TRIBUTARY:SEONATH



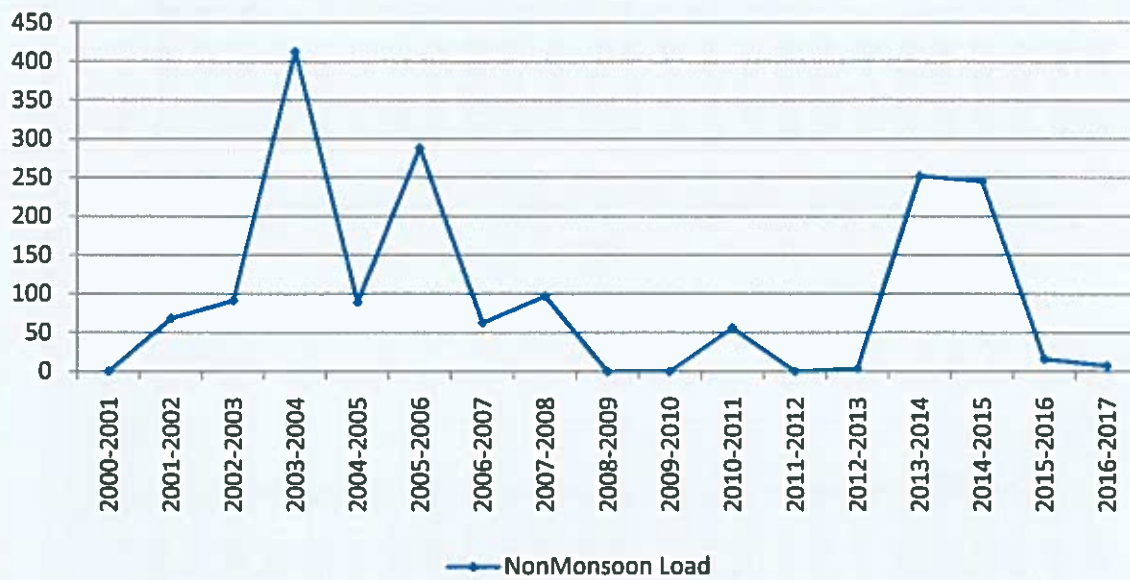
HIGHEST FLOOD LEVEL (m) AT SITE GHATORA,TRIBUTARY:SEONATH



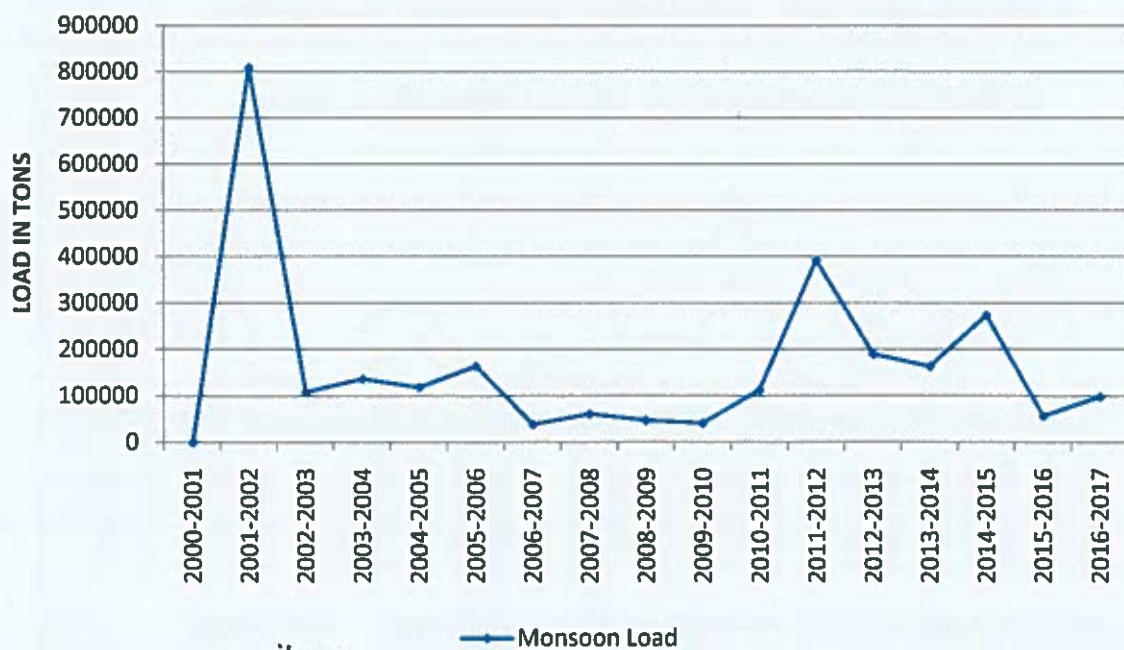
ANNUAL LOAD (MILLION M.T.) AT SITE GHATORA, TRIBUTARY:SEONATH



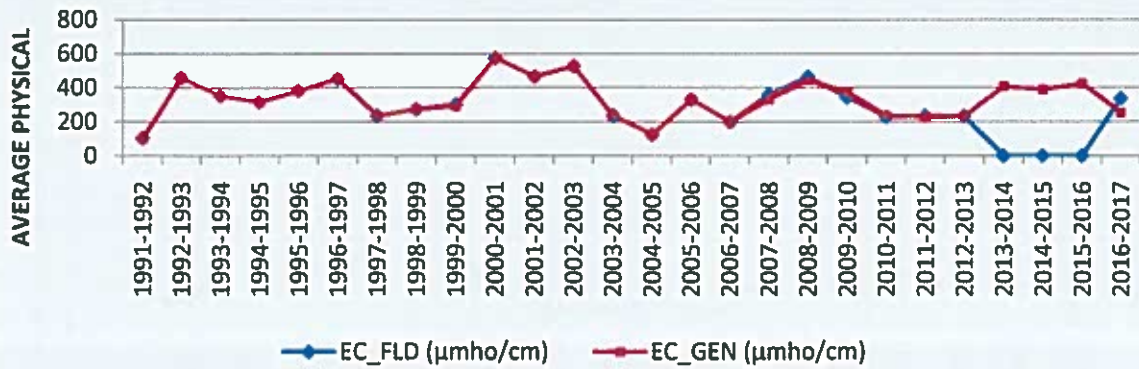
NON MONSOON LOAD AT SITE GHATORA,



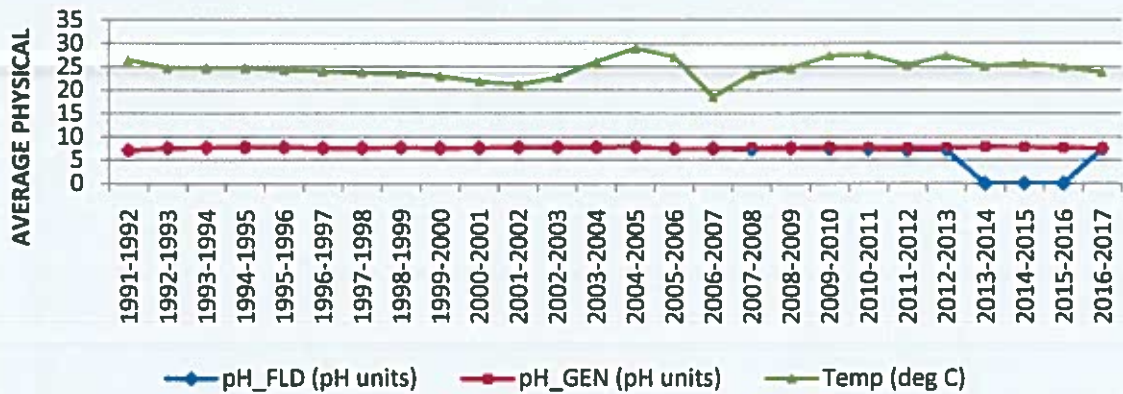
MONSOON LOAD AT SITE GHATORA, TRIBUTARY: SEONATH



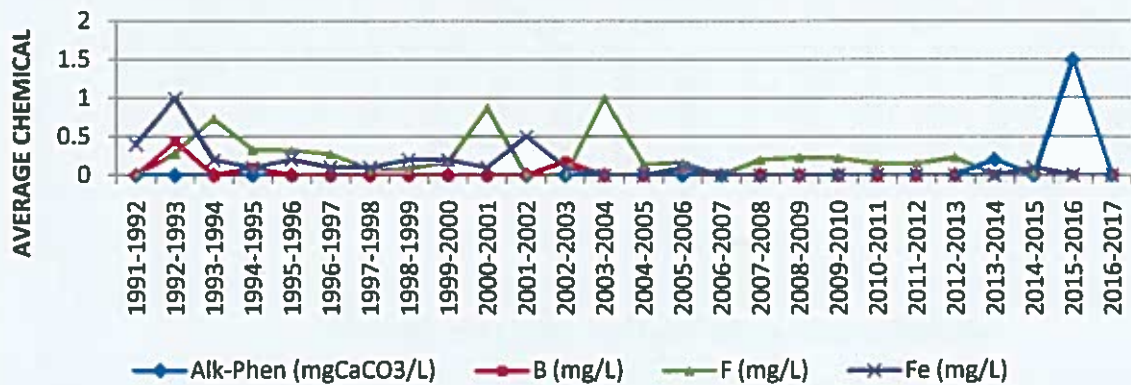
WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY:SEONATH



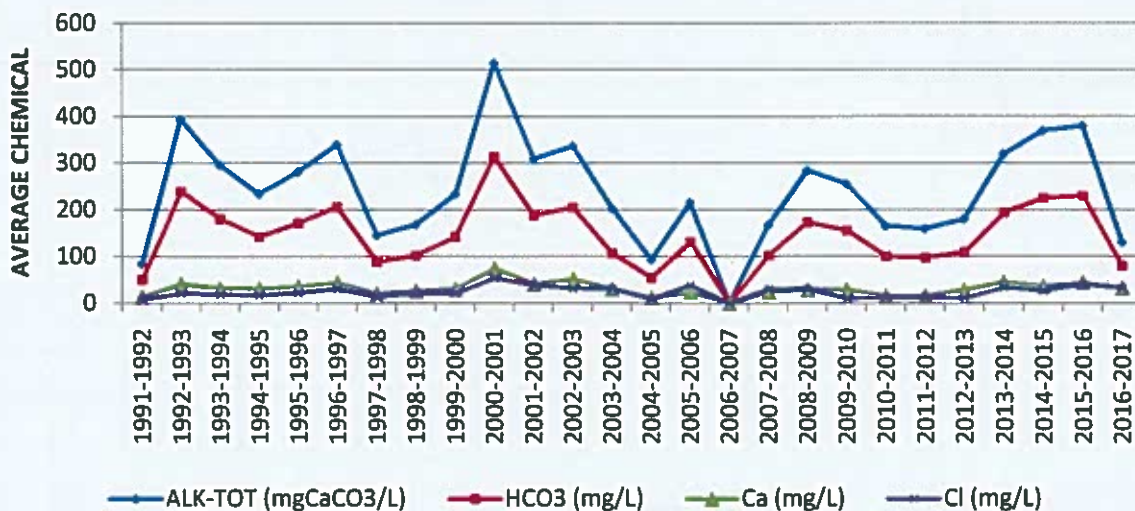
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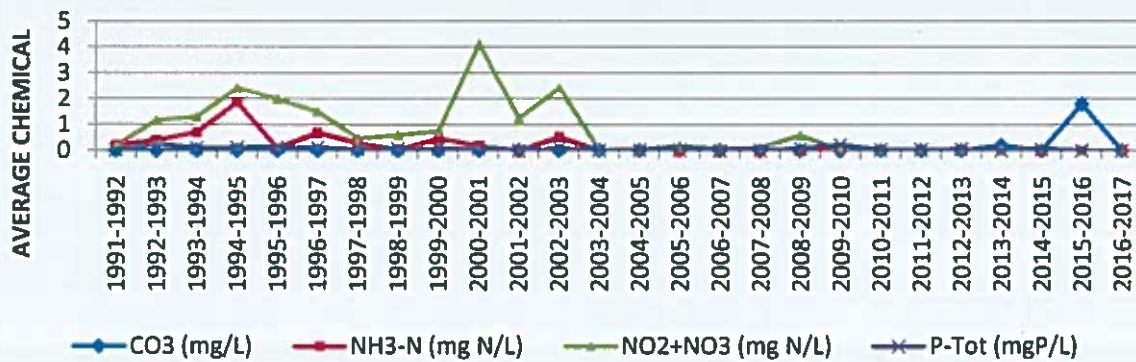
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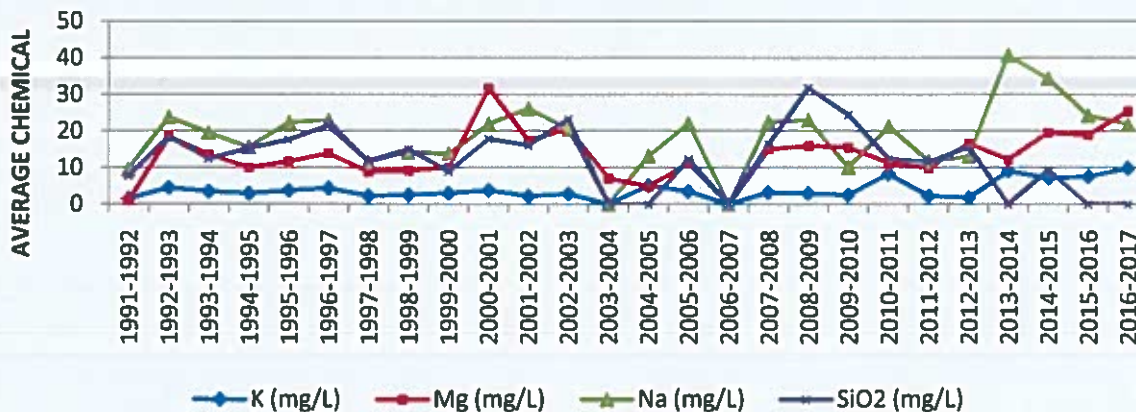
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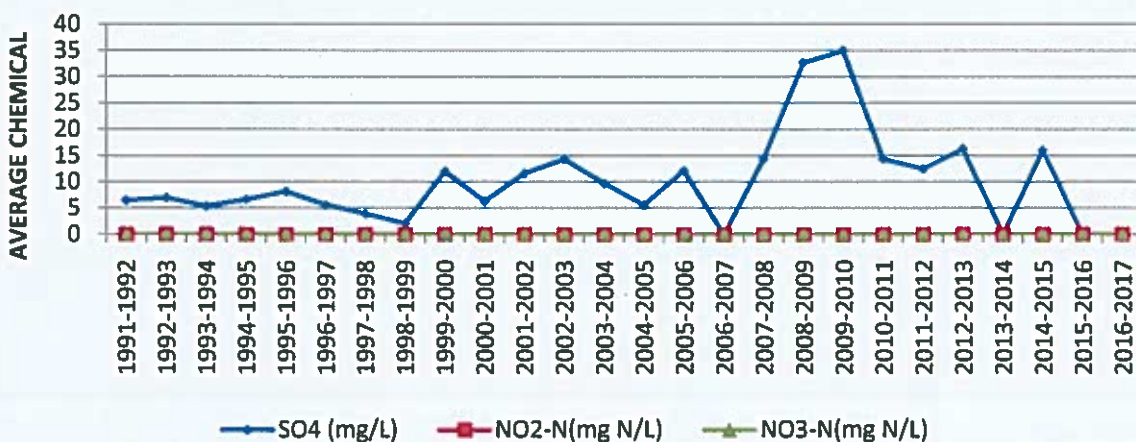
WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH



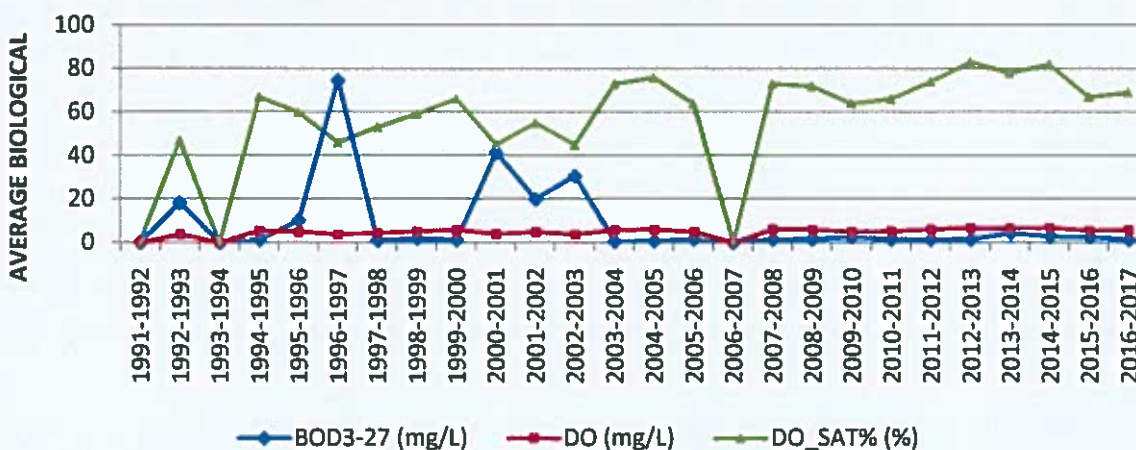
WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH



WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH

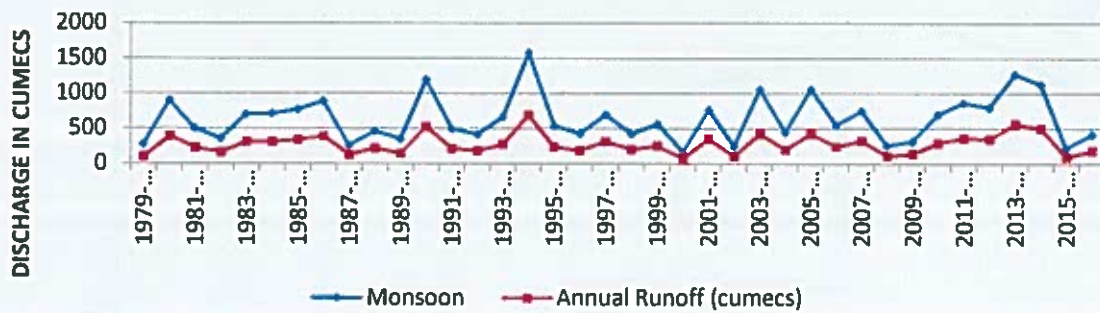


WATER QUALITY PROPERTIES AT SITE GHATORA, TRIBUTARY: SEONATH

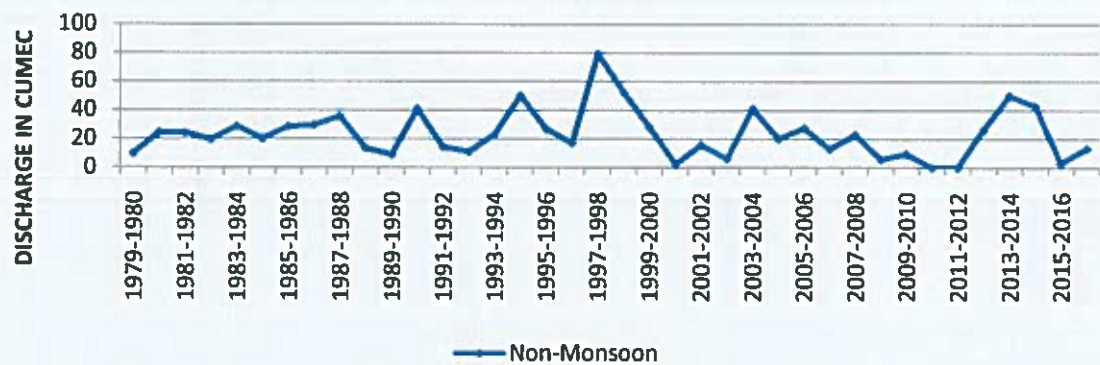


YEAR WISE TREND OF SITE JONDHRA

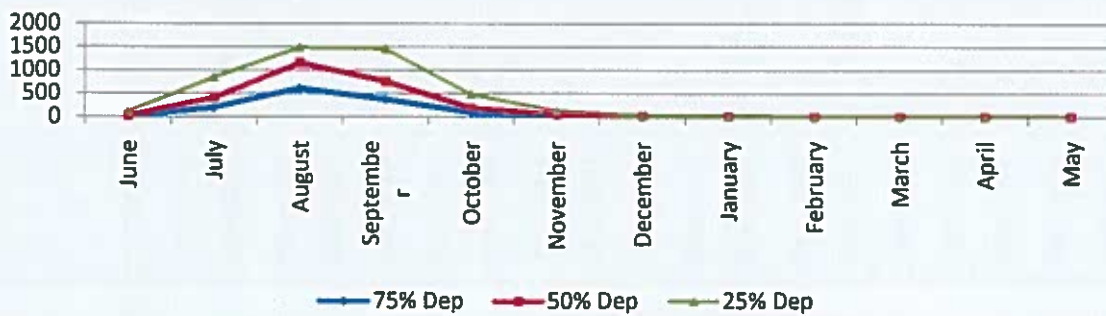
ANNUAL AVERAGE DISCHARGE SITE JONDHRA,TRIBUTARY:SEONATH



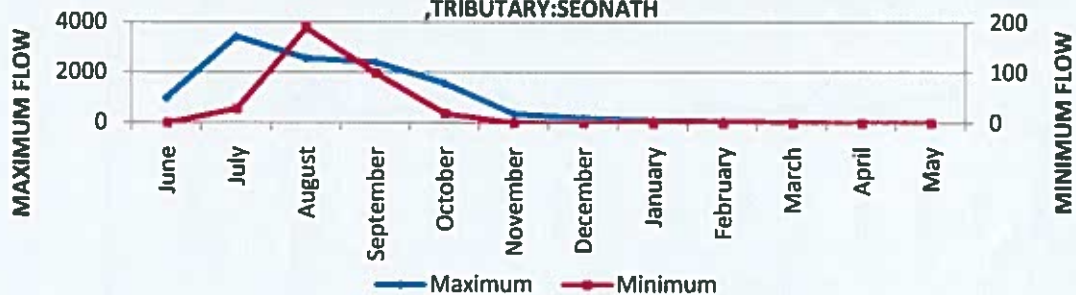
TOTAL ANNUAL DISCHARGE, SITE JONDHRA, TRIBUTARY: SEONATH



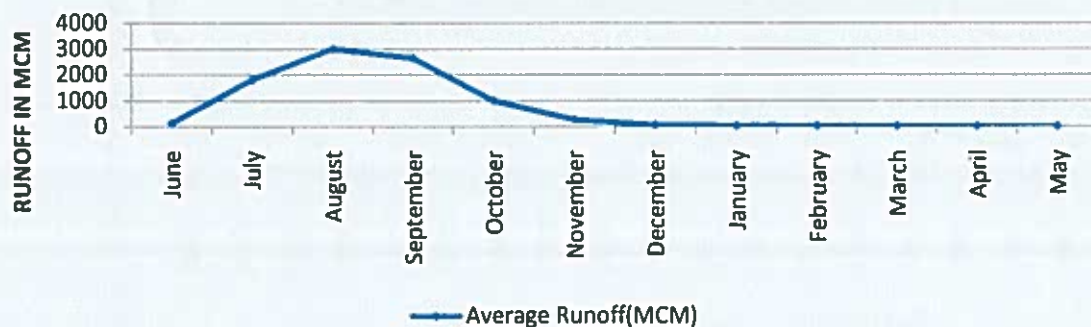
DEPENDABILITY FLOW FROM JUNE TO MAY AT SITE JONDHRA, TRIBUTARY: SEONATH



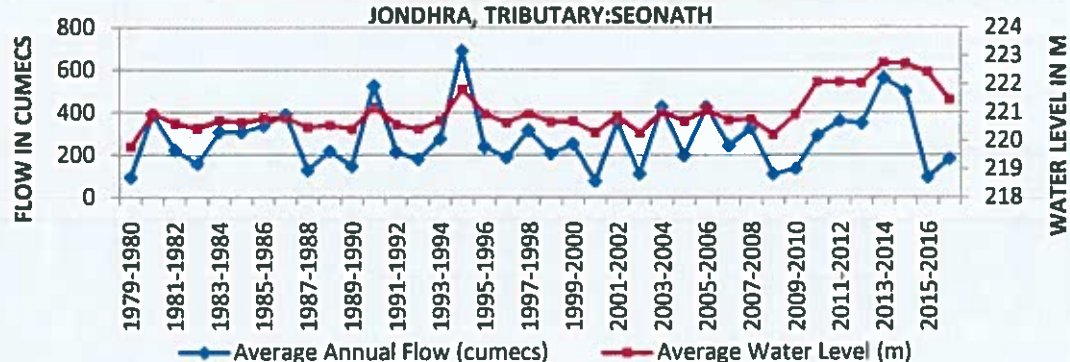
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY AT SITE JONDHRA, TRIBUTARY: SEONATH



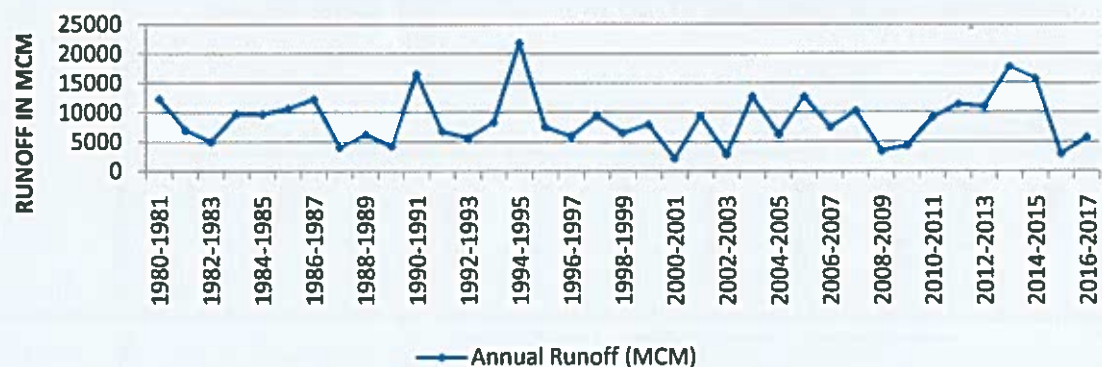
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:JONDHRA,TRIBUTARY:SEONATH



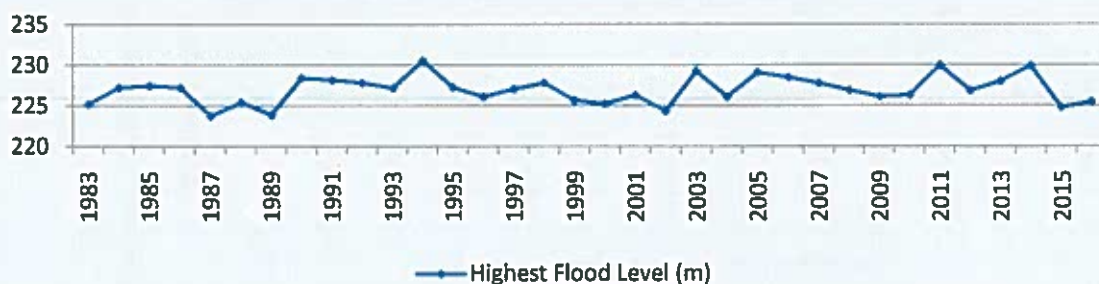
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL SITE JONDHRA, TRIBUTARY:SEONATH



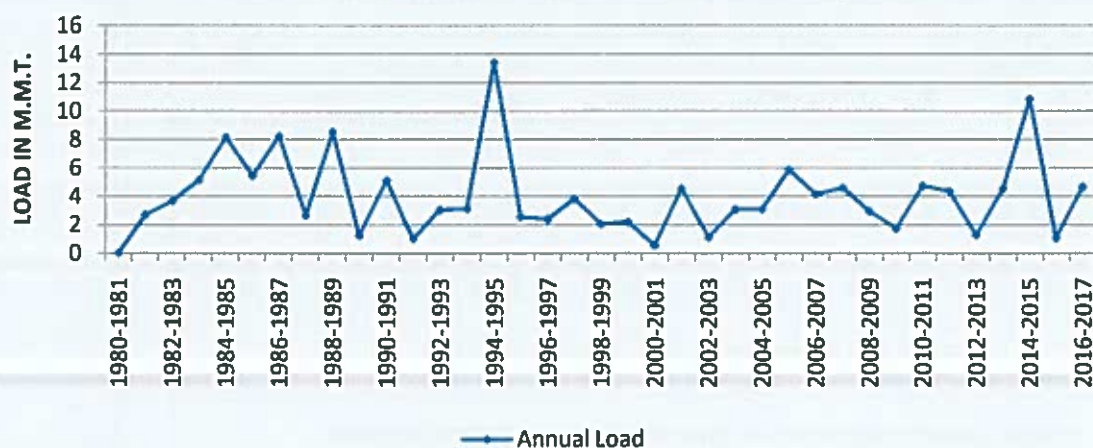
ANNUAL RUNOFF(MCM) SITE JONDHRA,TRIBUTARY:SEONATH



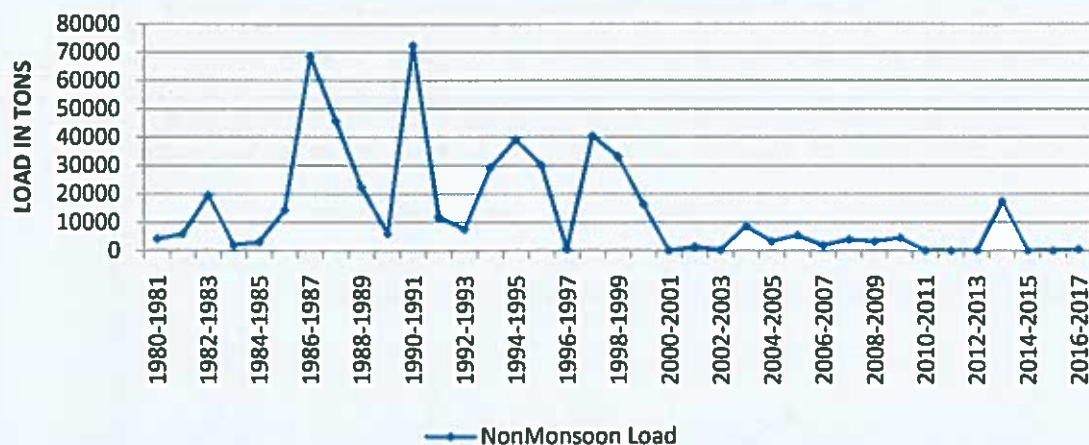
HIGHEST FLOOD LEVEL (m) AT SITE JONDHRA,TRIBUTARY: SEONATH



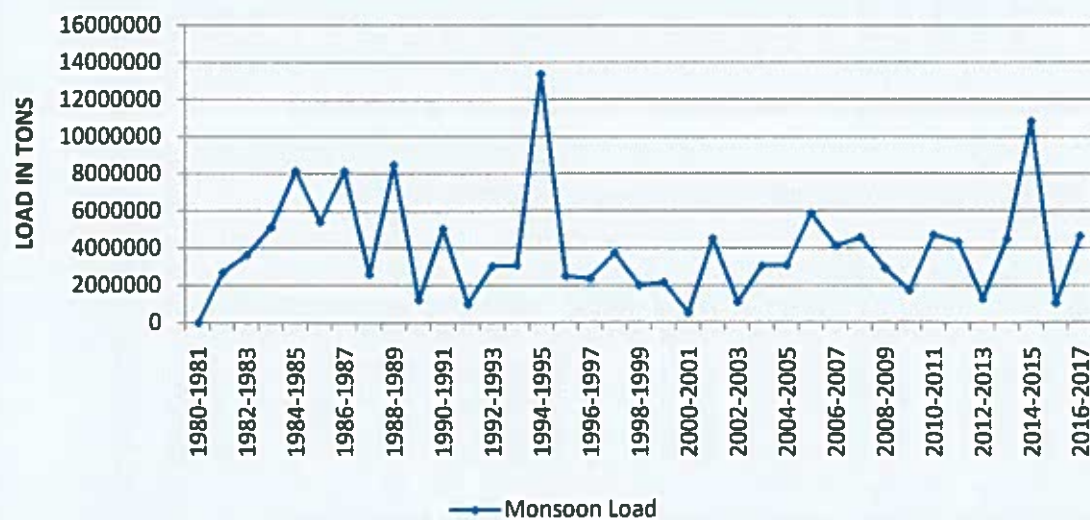
ANNUAL LOAD (MILLION M.T.) AT SITE JONDHRA, TRIBUTARY:SEONATH



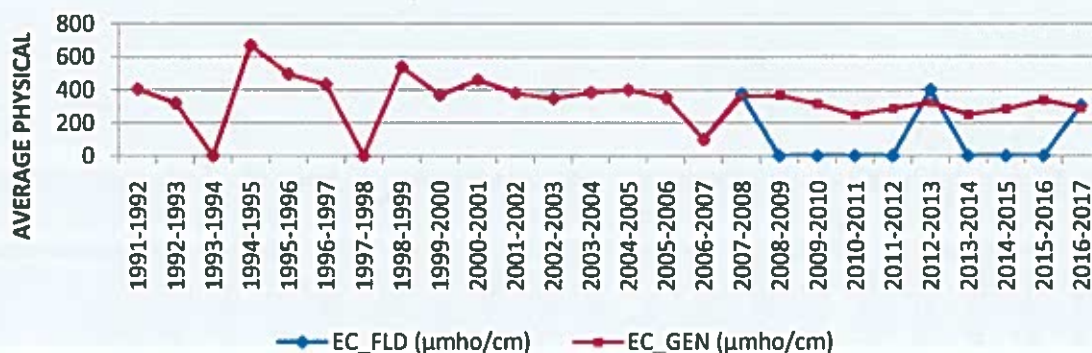
NON MONSOON LOAD AT SITE JONDHRA, TRIBUTARY:SEONATH



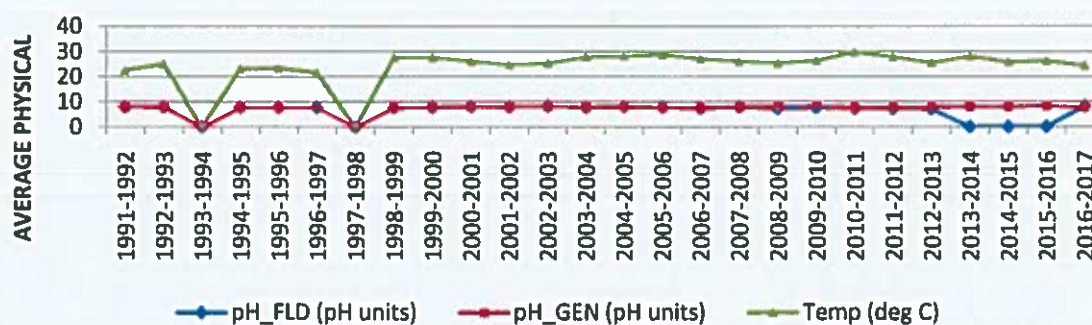
MONSOON LOAD AT SITE JONDHRA, TRIBUTARY:SEONATH



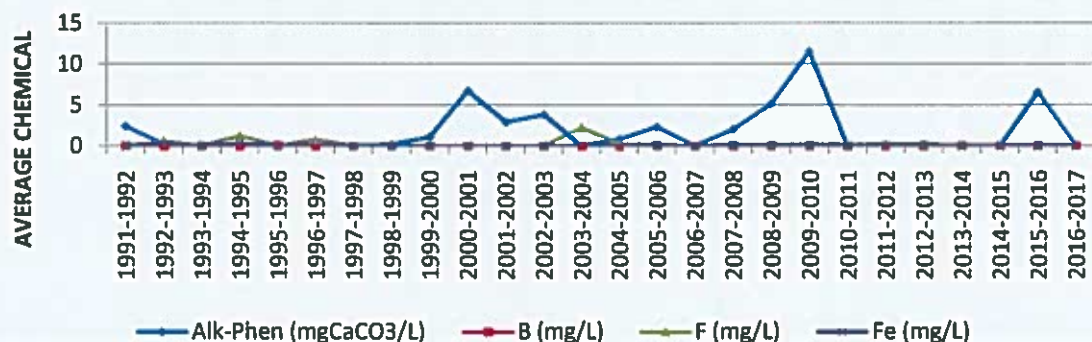
WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH



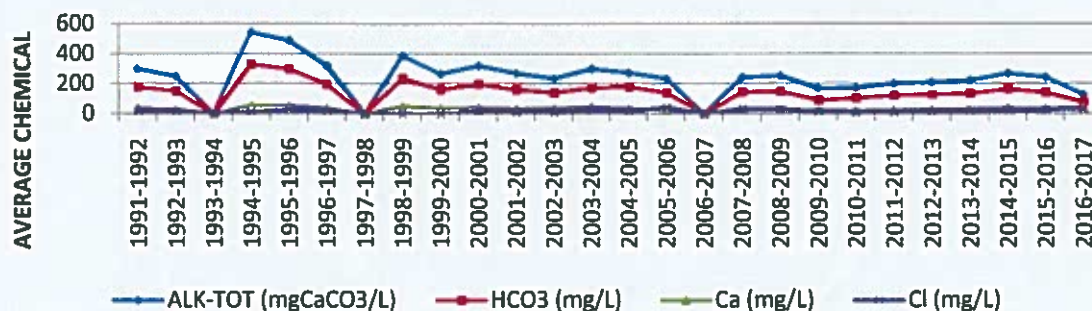
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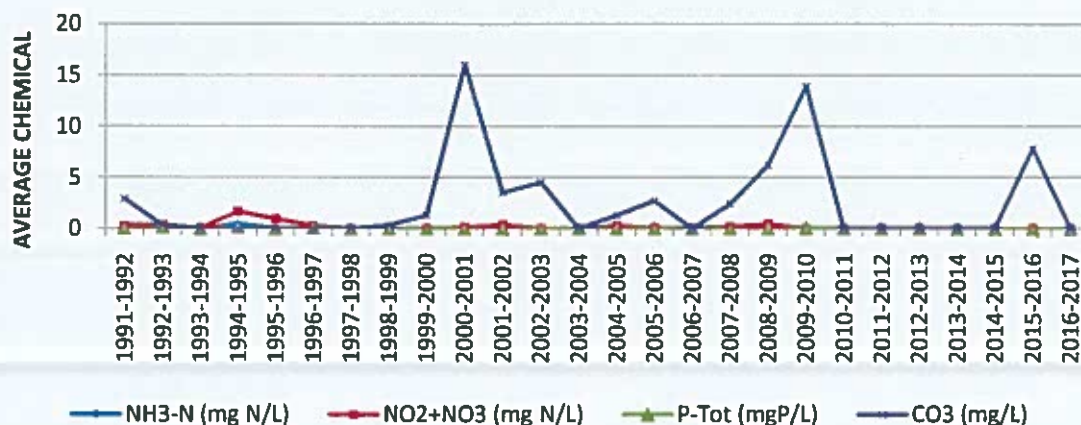
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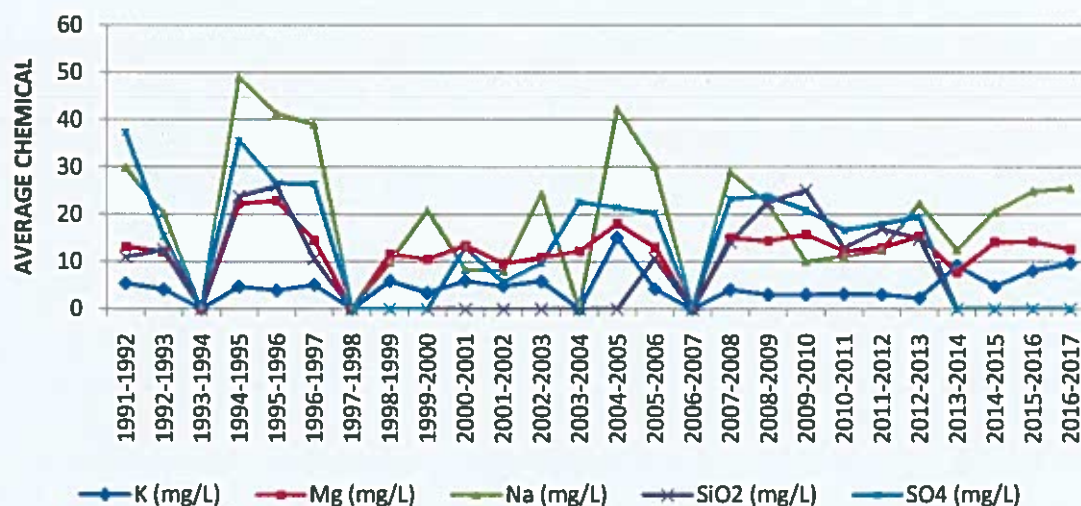
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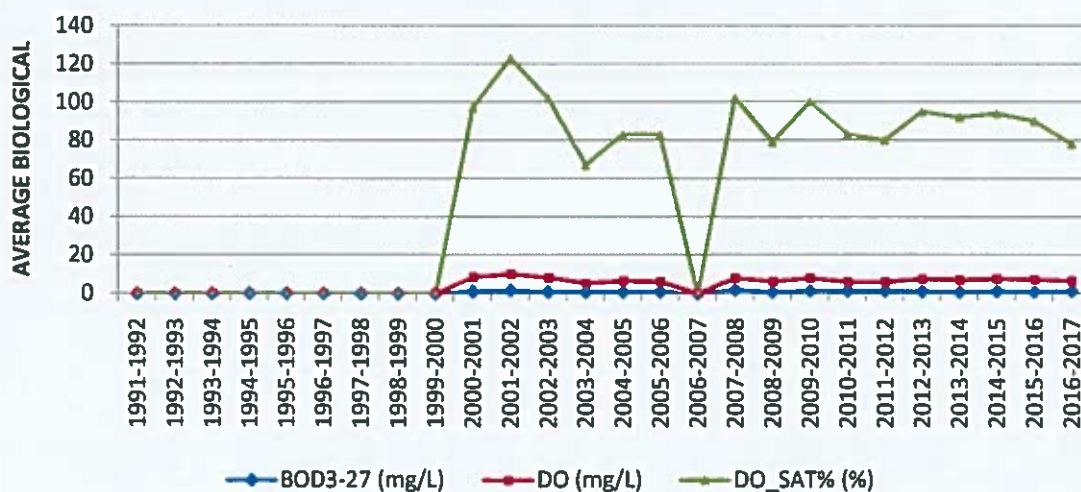
WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH



WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY: SEONATH

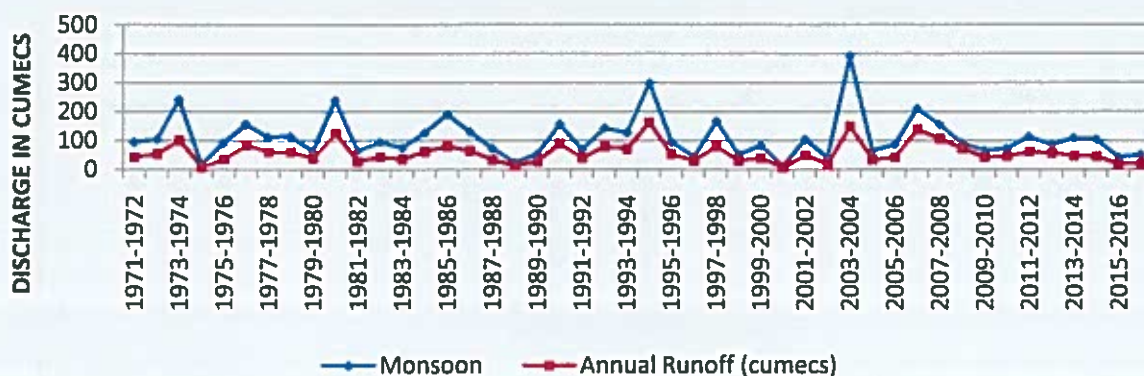


WATER QUALITY PROPERTIES AT SITE JONDHRA, TRIBUTARY:

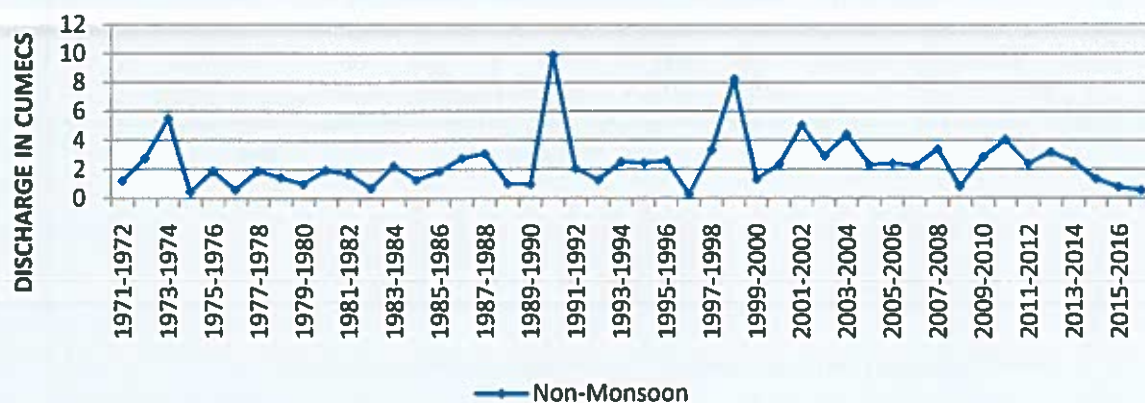


YEAR WISE TREND OF SITE RAMPUR

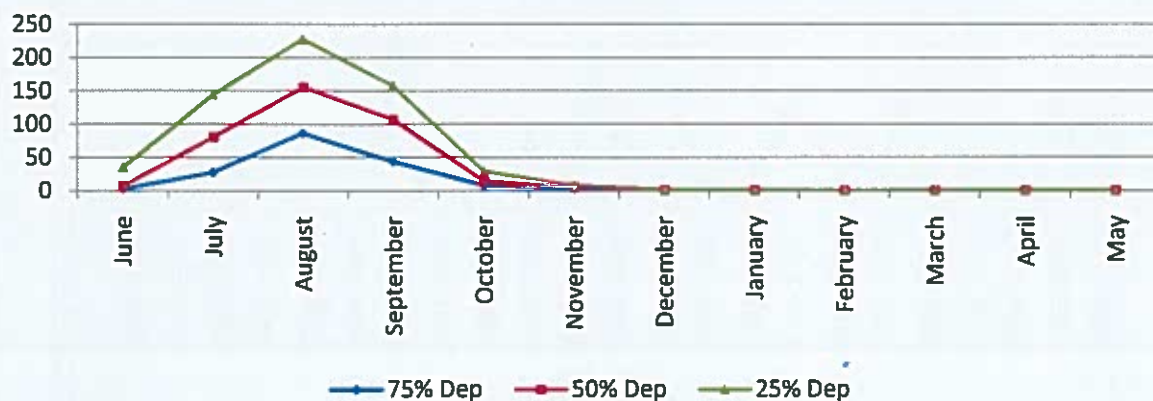
ANNUAL AVERAGE DISCHARGE SITE RAMPUR, TRIBUTARY: JONK



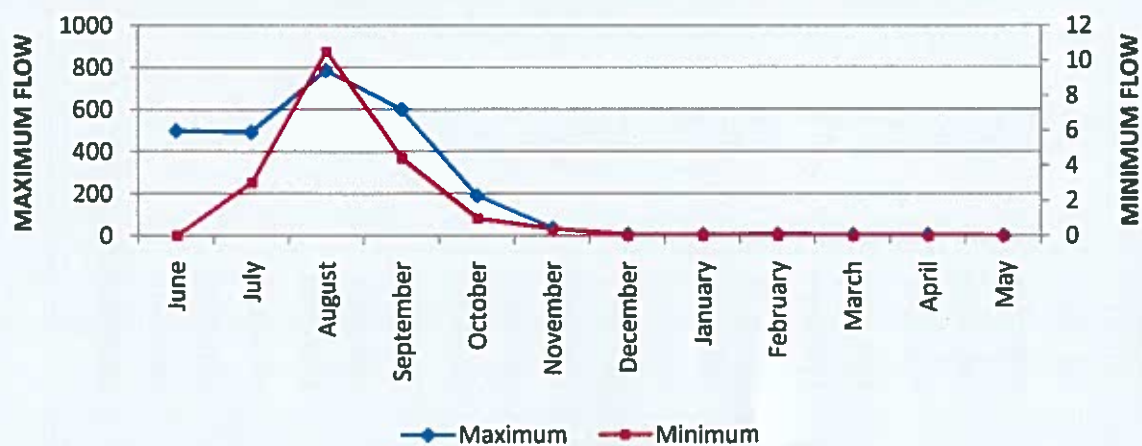
TOTAL AVERAGE DISCHARGE SITE RAMPUR, TRIBUTARY: JONK



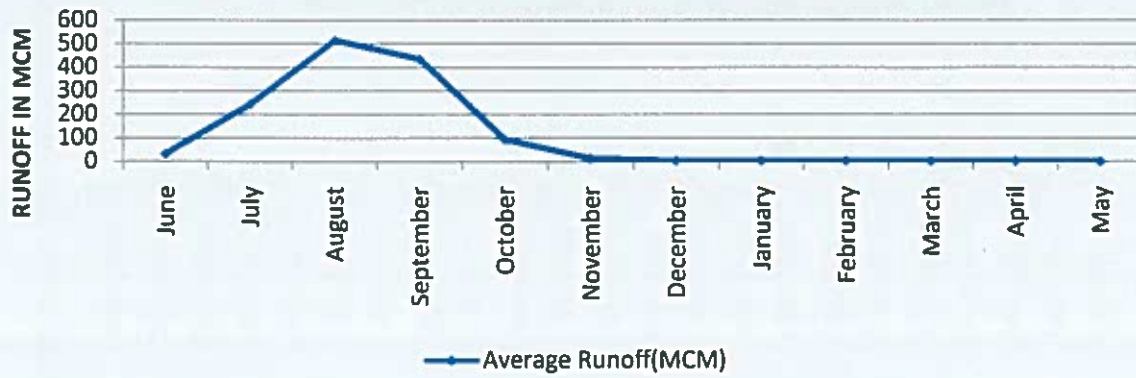
DEPENDABILITY FLOW FROM JUNE TO MAY SITE RAMPUR, TRIBUTARY: JONK



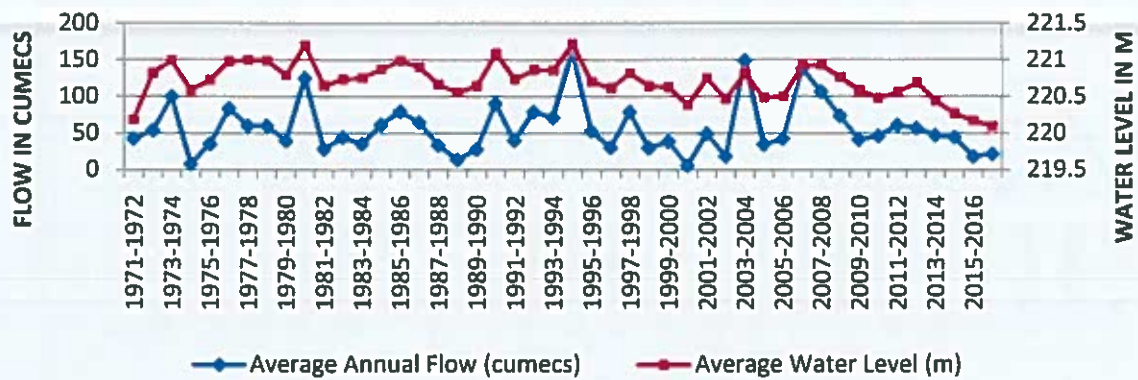
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE RAMPUR, TRIBUTARY: JONK



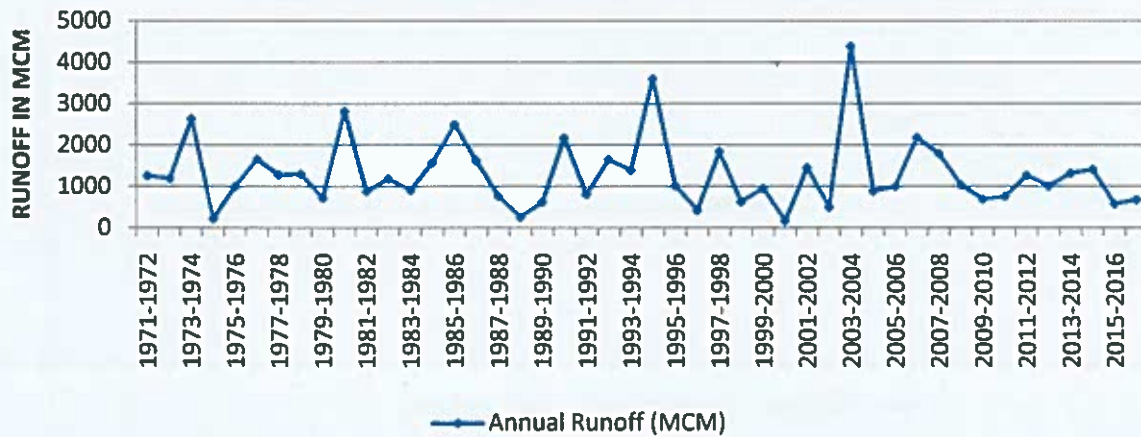
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:RAMPUR,TRIBUTARY:JONK



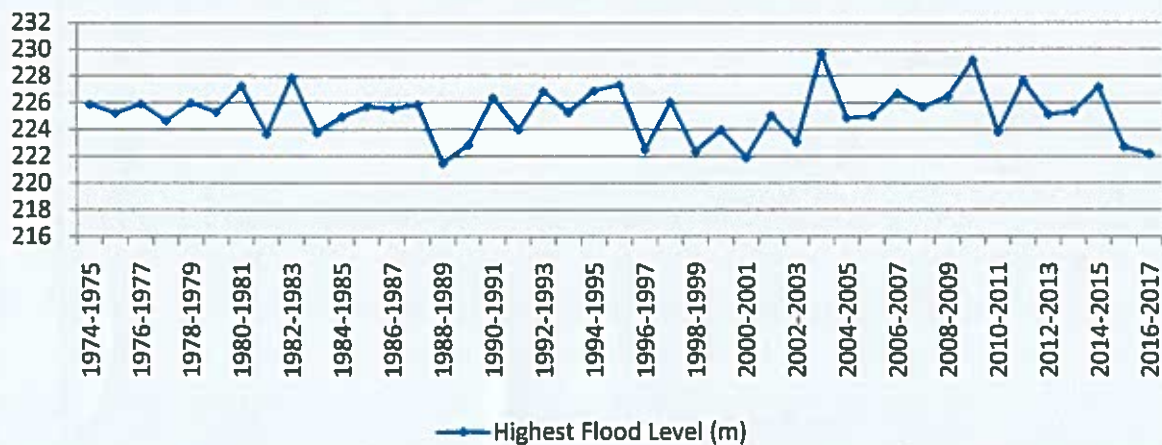
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE RAMPUR, TRIBUTARY: JONK



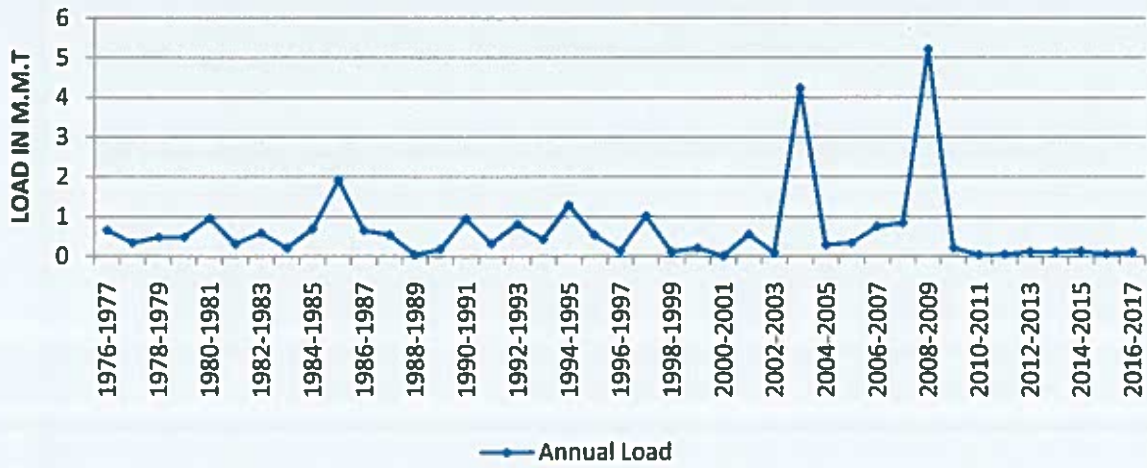
ANNUAL RUNOFF(MCM) RAMPUR,TRIBUTARY:JONK



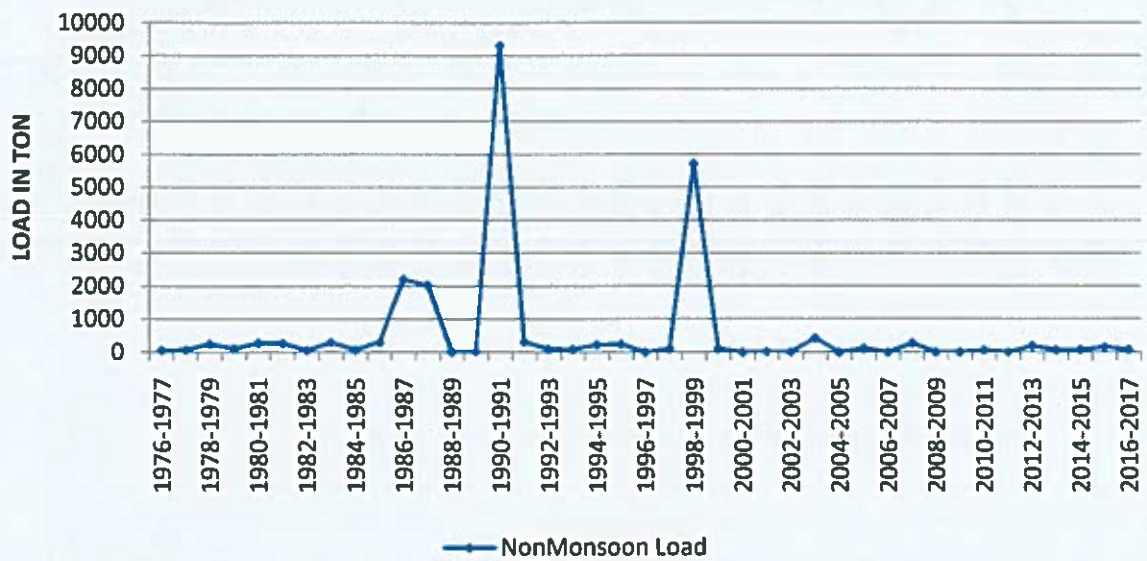
HIGHEST FLOOD LEVEL (m) AT SITE RAMPUR, TRIBUTARY:JONK



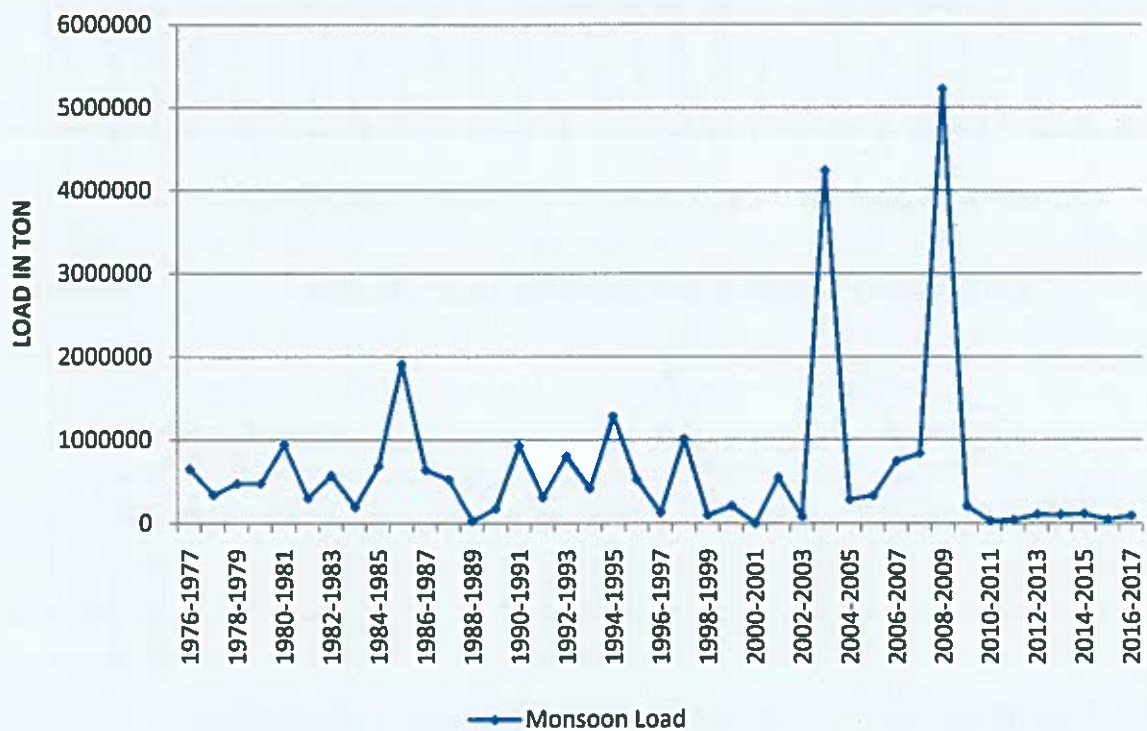
ANNUAL LOAD (MILLION M.T) AT SITE RAMPUR,TRIBUTARY:JONK



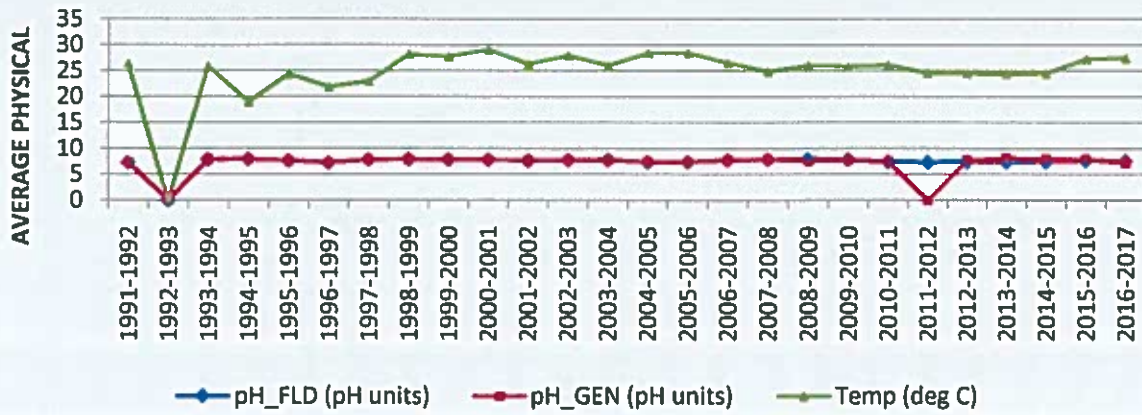
NON MONSOON LOAD AT SITE RAMPUR,TRIBUTARY:JONK



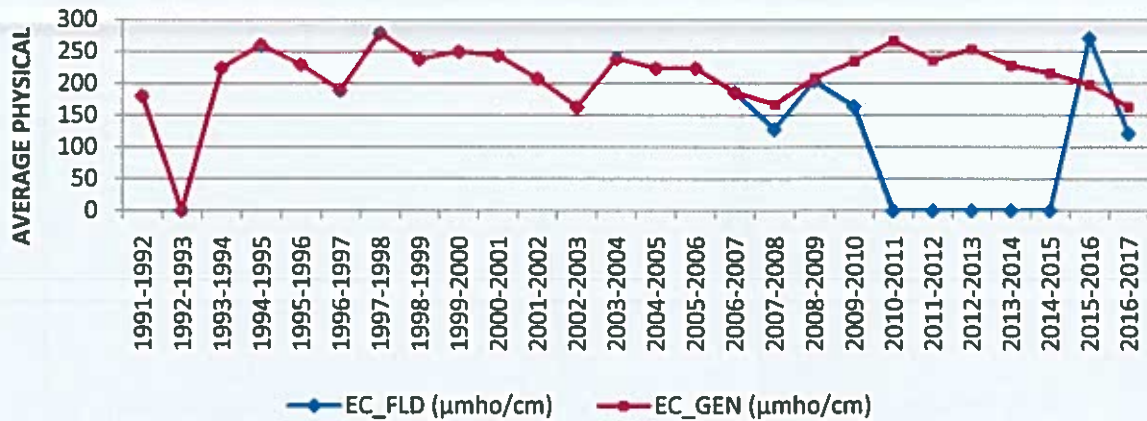
MONSOON LOAD AT SITE RAMPUR,TRIBUTARY:JONK



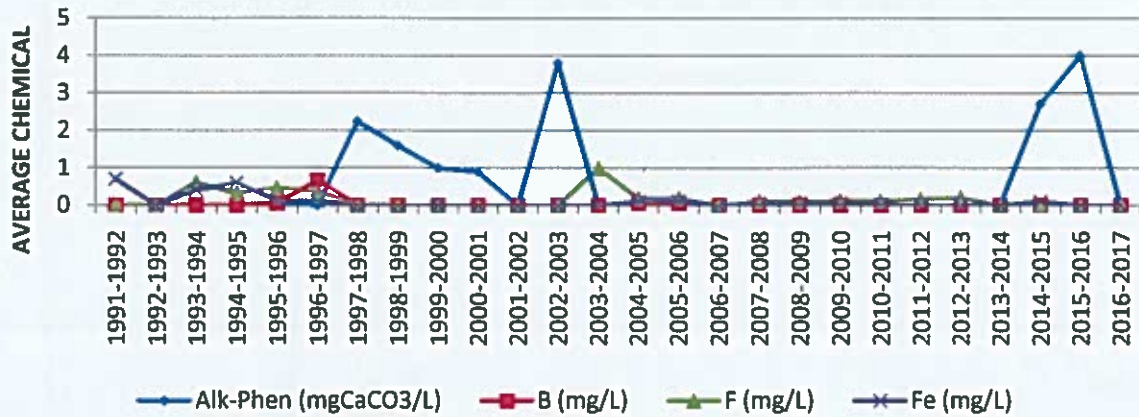
WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK



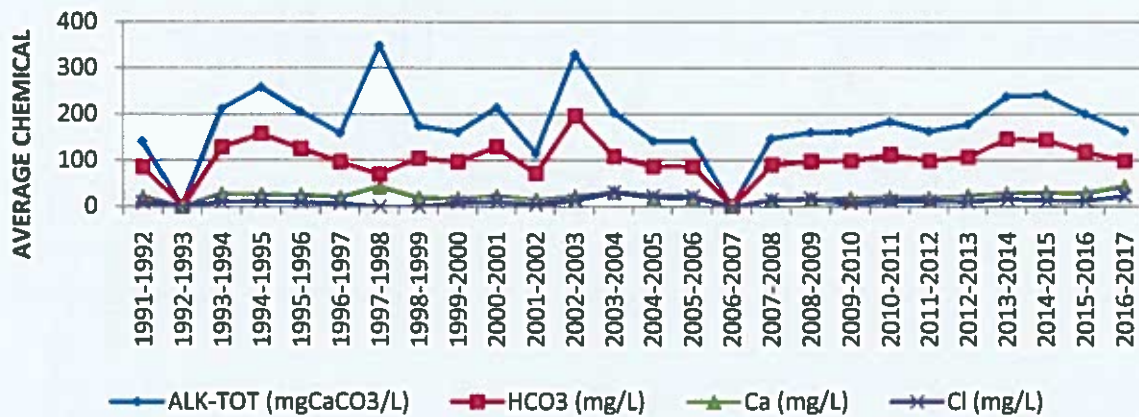
WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK



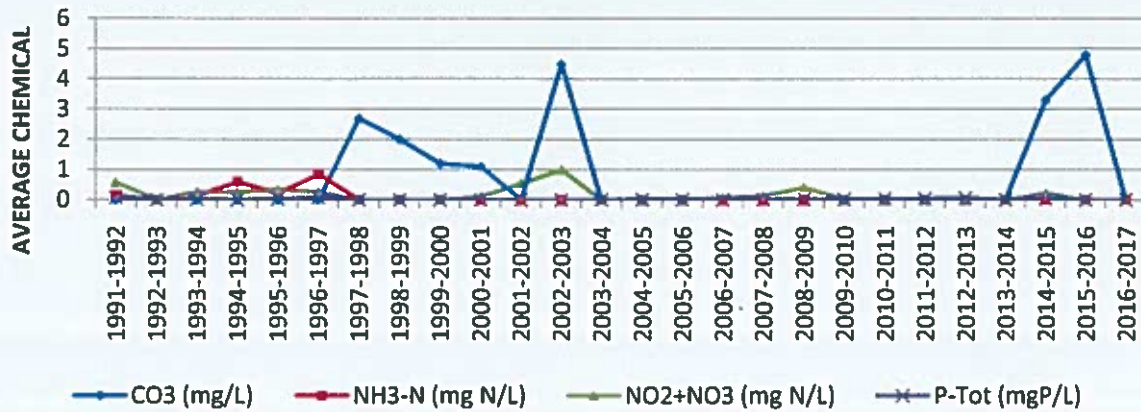
WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK



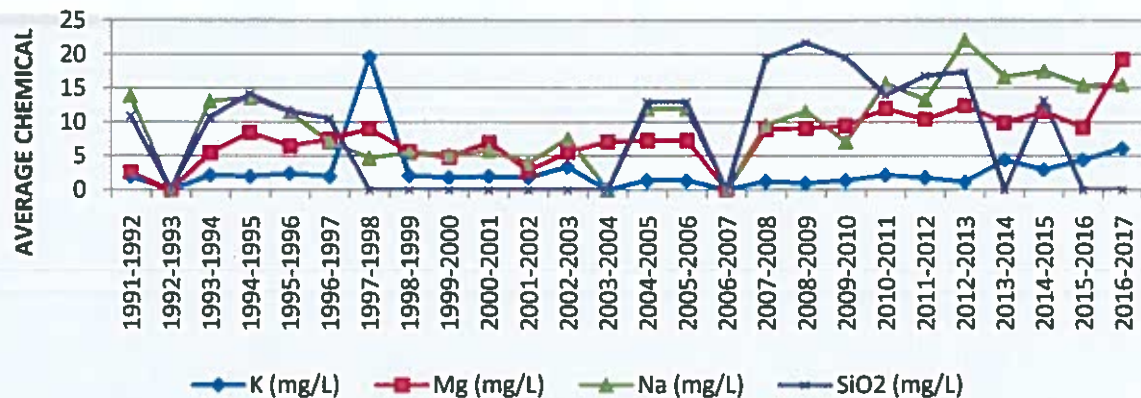
WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK



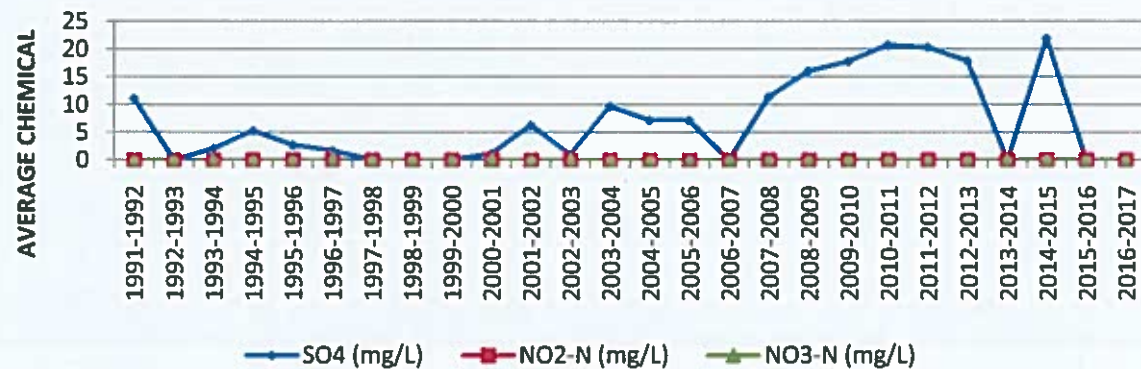
WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK



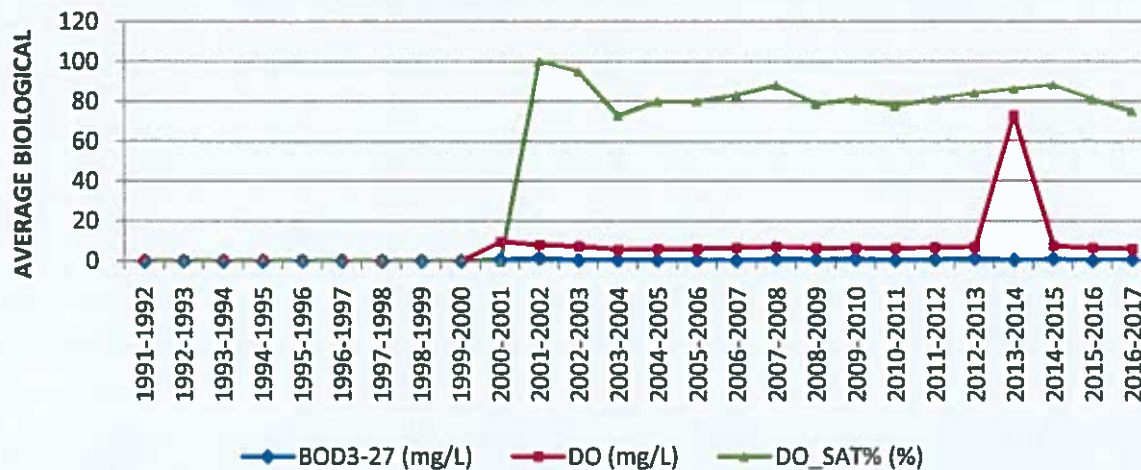
WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK



WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK

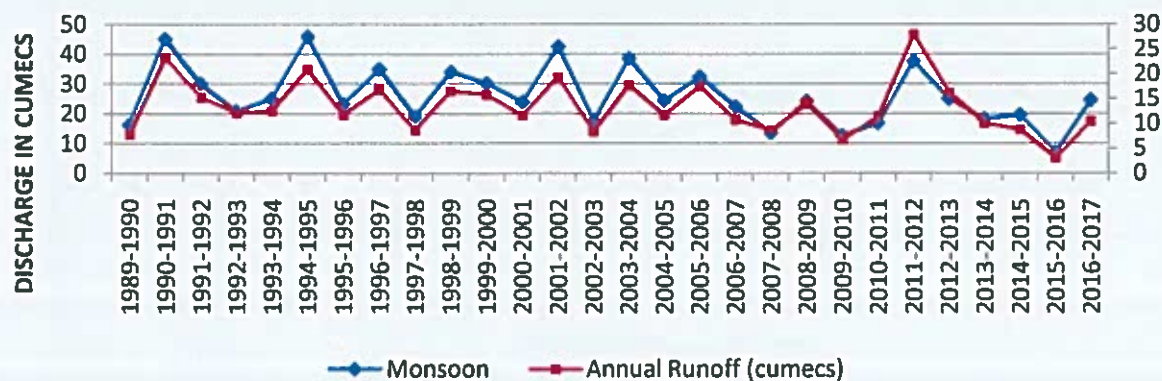


WATER QUALITY PROPERTIES AT SITE RAMPUR, TRIBUTARY: JONK

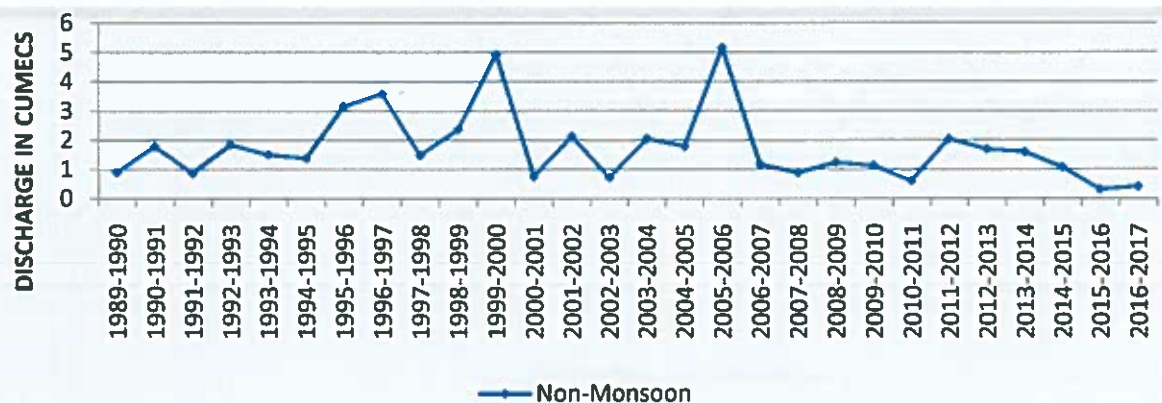


YEAR WISE TREND OF SITE MANENDRAGARH

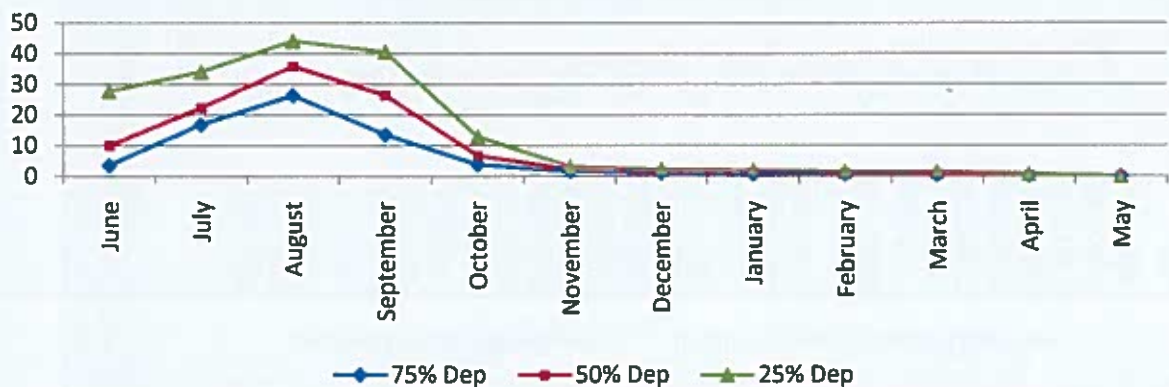
ANNUAL AVERAGE DISCHARGE SITE MANENDRAGARH, TRIBUTARY:HASDEO



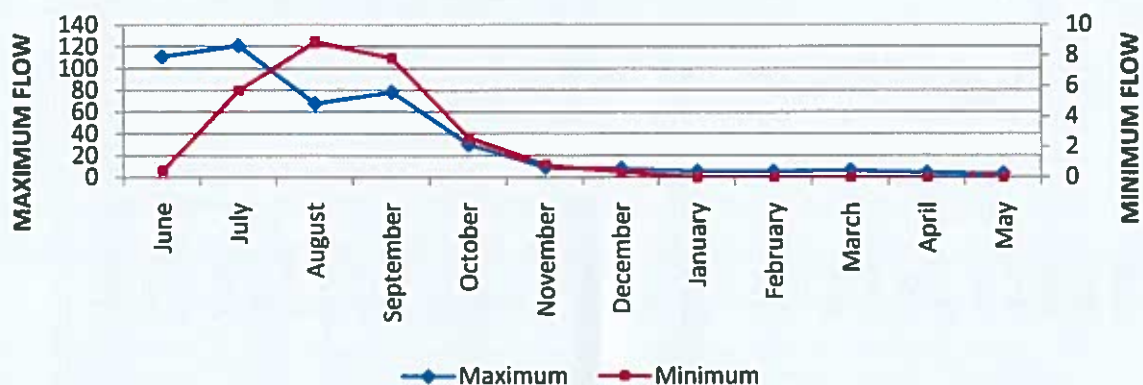
TOTAL ANNUAL DISCHARGE SITE MANENDRAGARH, TRIBUTARY:HASDEO



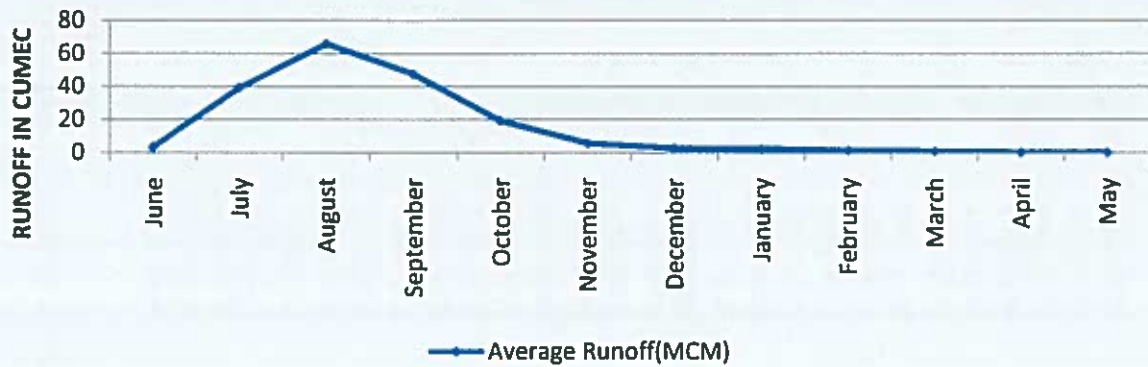
DEPEENDEBILITY FLOW FROM JUNE TO MAY SITE MANENDRAGARH, TRIBUTARY:HASDEO



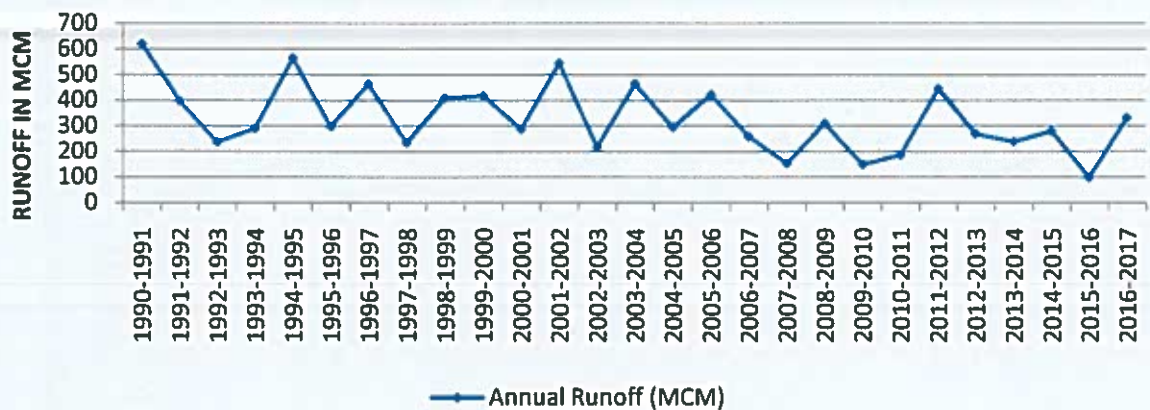
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE MANENDRAGARH, TRIBUTARY:HASDEO



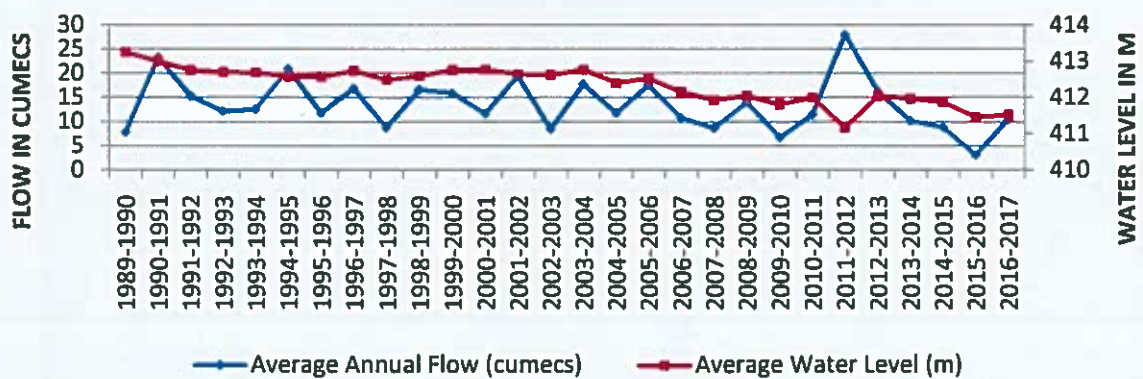
AVERAGE RUNOFF(MCM) PERIOD:1993-2017
SITE:MANENDRAGARH,TRIBUTARY:HASDEO



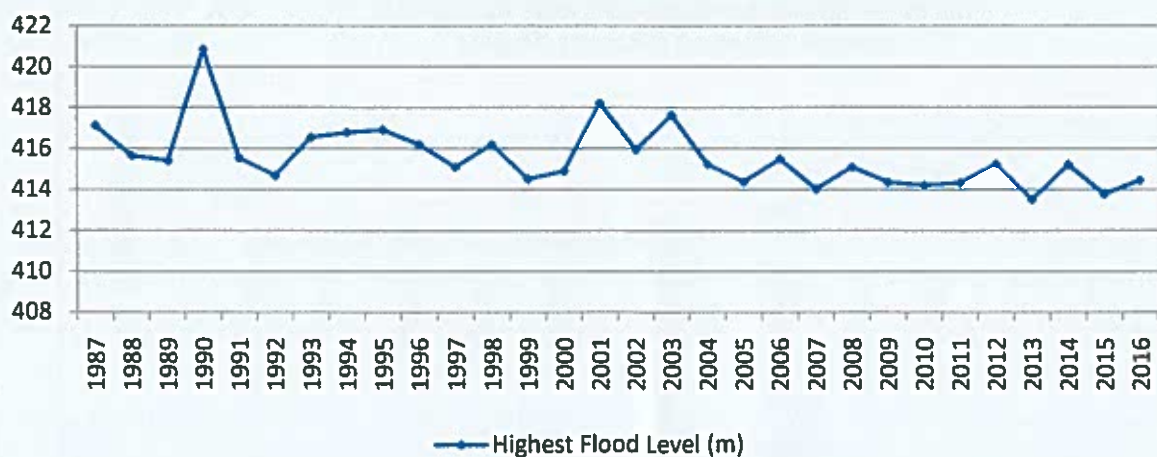
ANNUAL RUNOFF(MCM) SITE MANENDRAGARH,TRIBUTARY:HASDEO



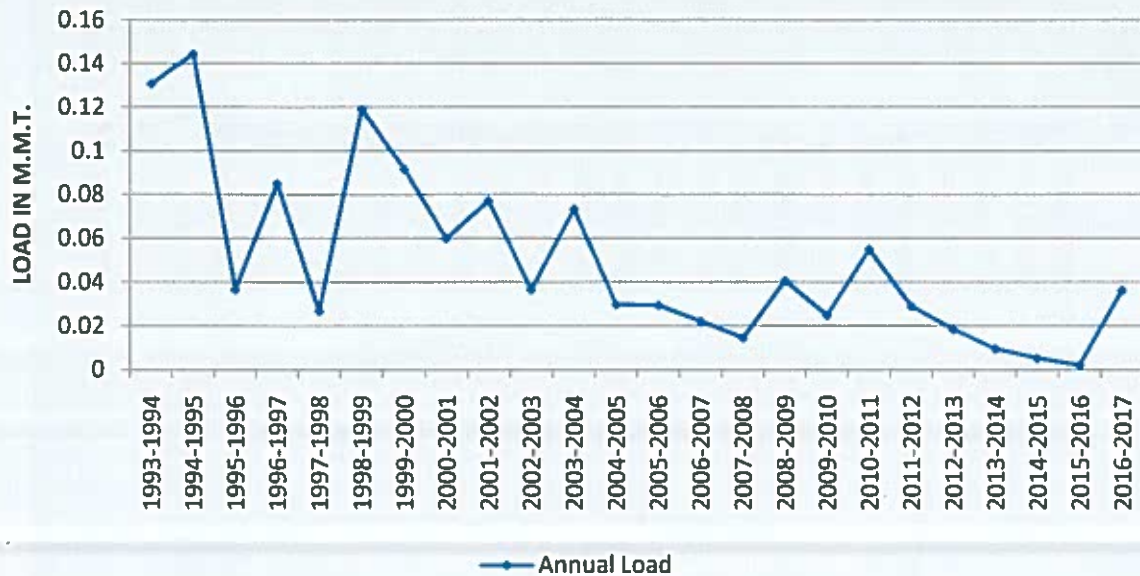
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE
MANENDRAGARH,TRIBUTARY: HASDEO



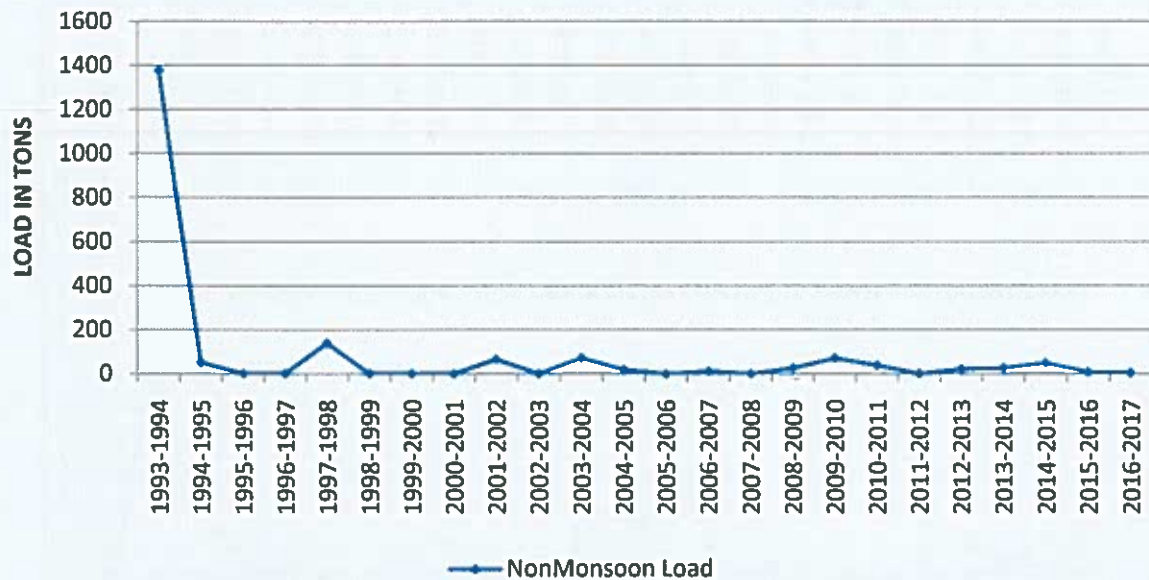
HIGHEST FLOOD LEVEL (m) AT SITE MANENDRAGARH,TRIBUTARY:HASDEO



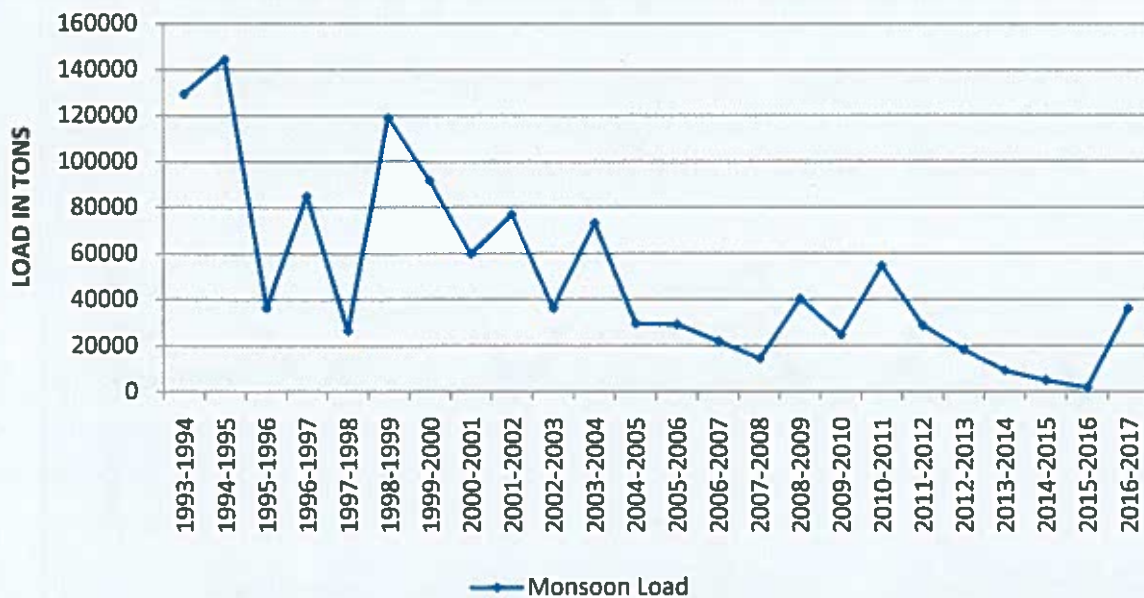
ANNUAL LOAD (MILLION M.T.) AT SITE MANENDRAGARH, TRIBUTARY:HASDEO



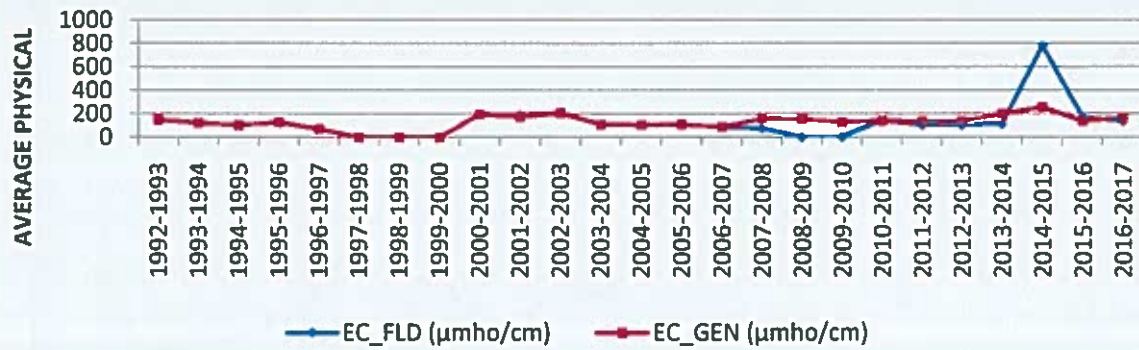
NON MONSOON LOAD AT SITE MANENDRAGARH, TRIBUTARY:HASDEO



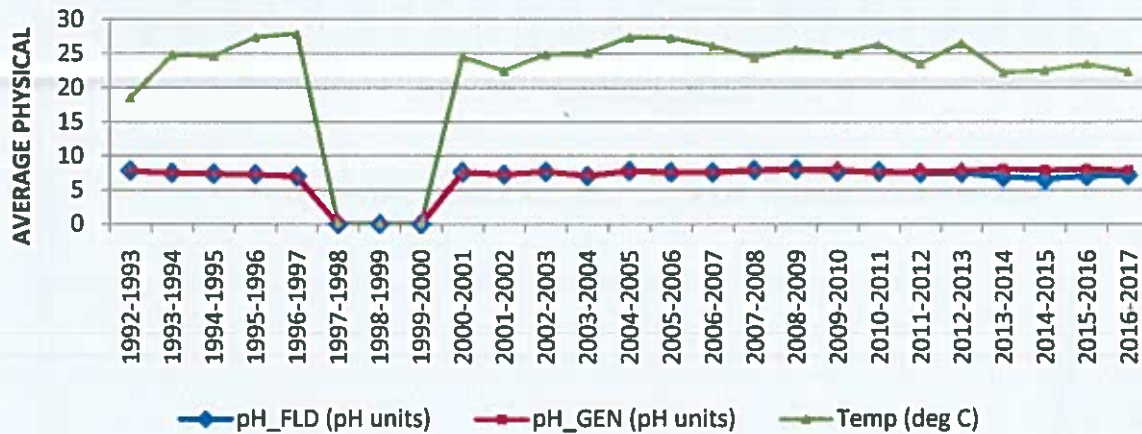
MONSOON LOAD AT SITE MANENDRAGARH, TRIBUTARY:HASDEO



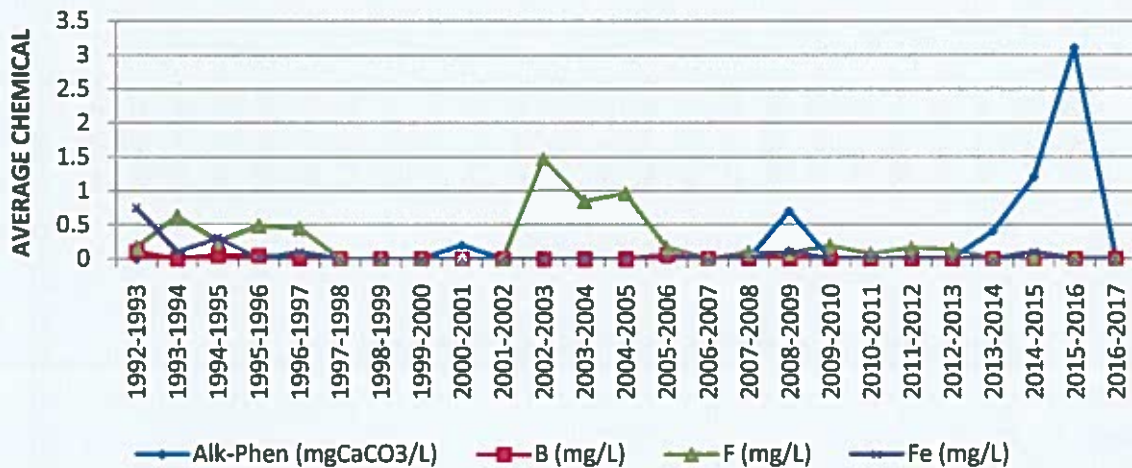
WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO



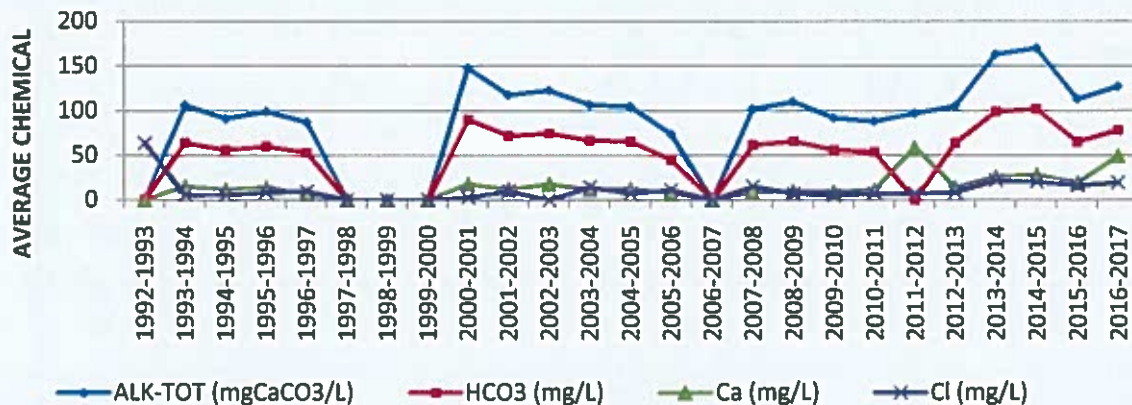
WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO



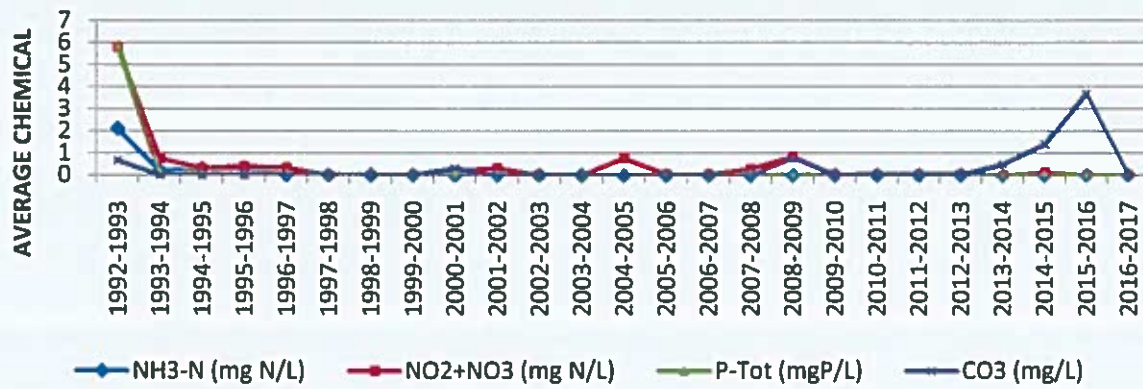
WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO



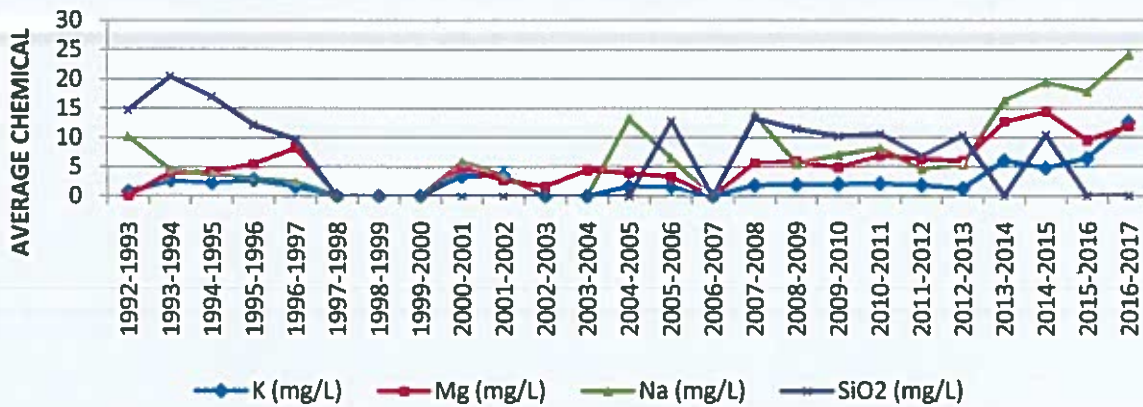
WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO



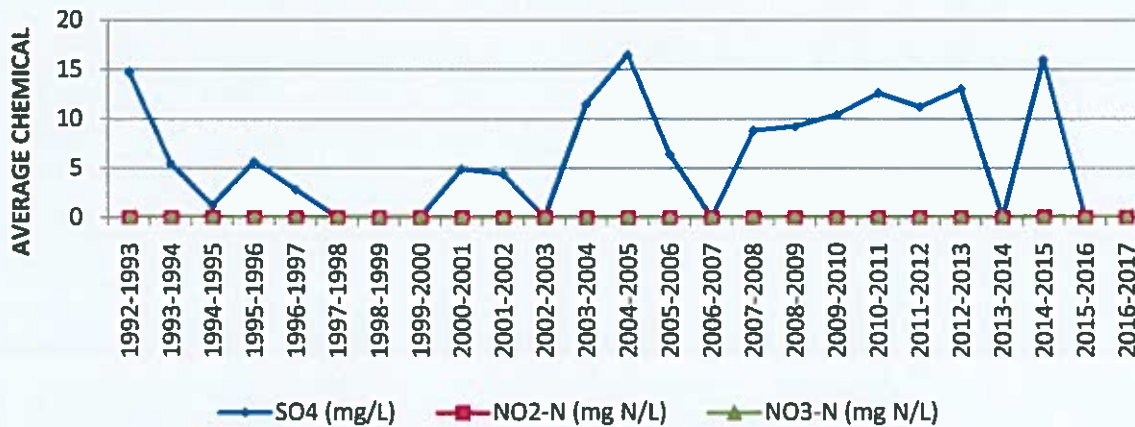
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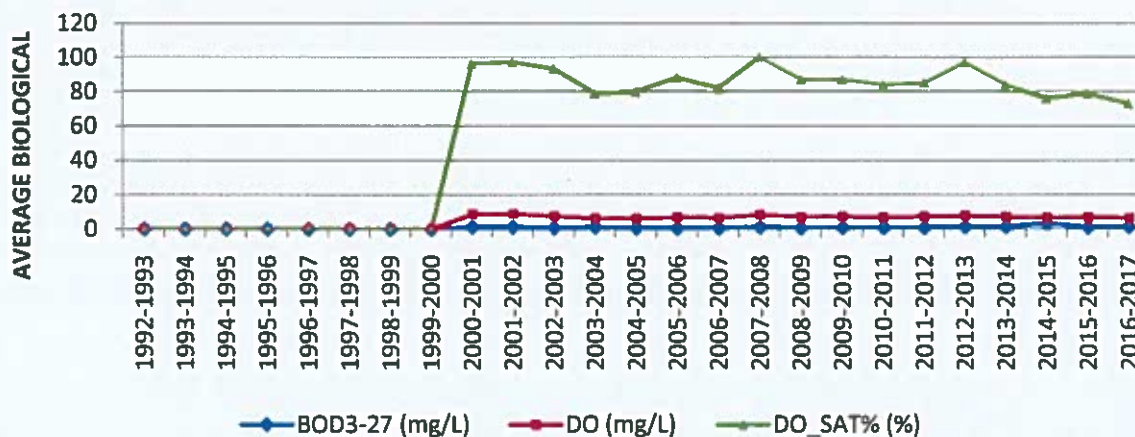
WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO



WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO

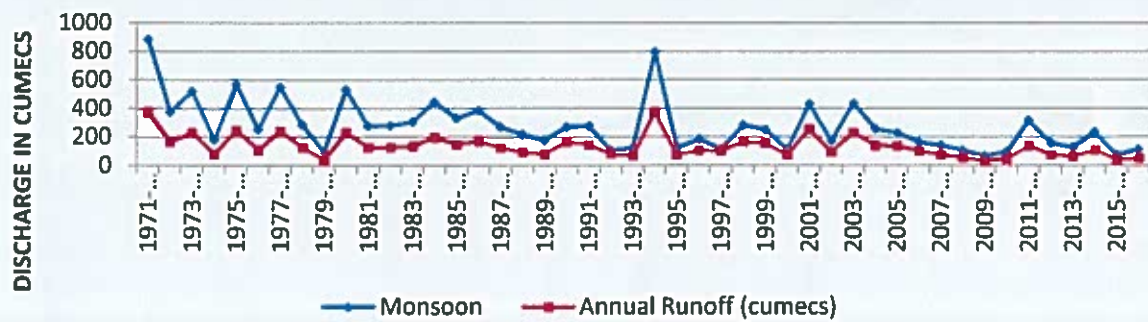


WATER QUALITY PROPERTIES AT SITE MANENDRAGARH, TRIBUTARY: HASDEO

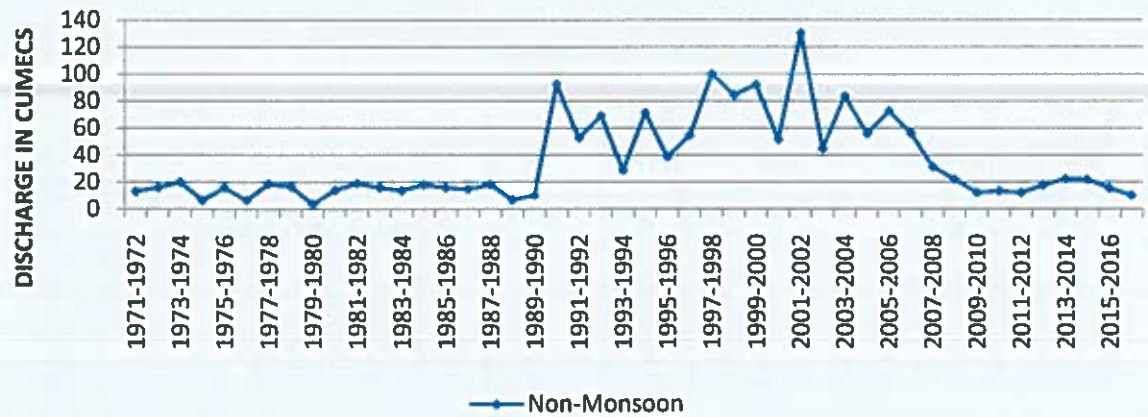


YEAR WISE TREND OF SITE BAMNIDHI

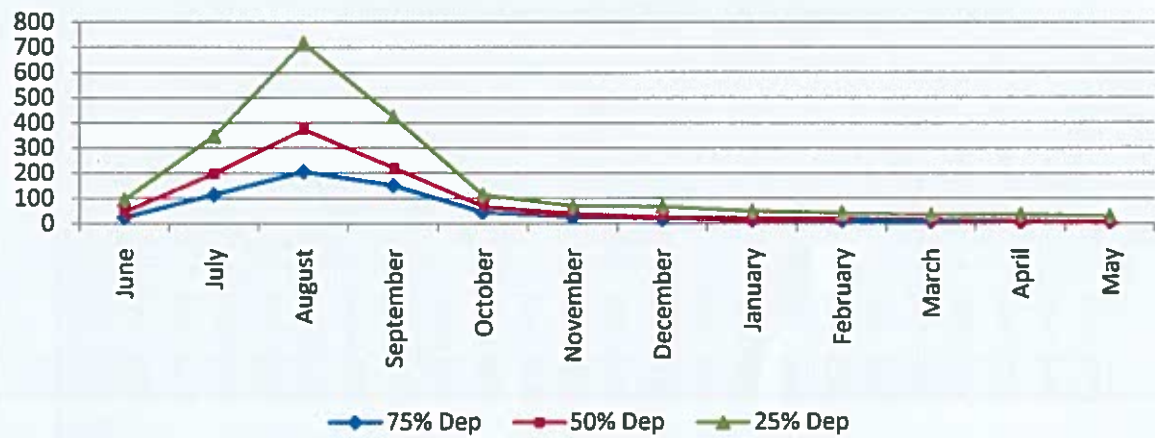
ANNUAL AVERAGE DISCHARGE SITE BAMNIDHI,TRIBUTARY:HASDEO



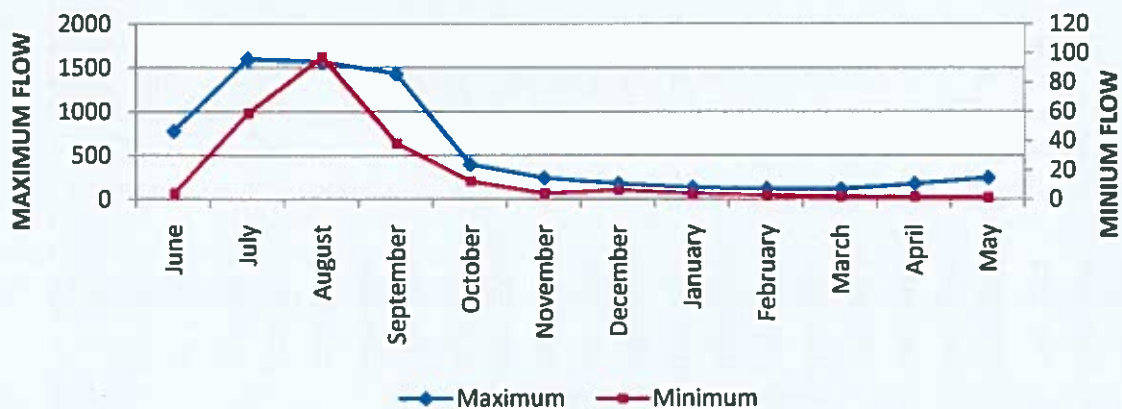
TOTAL ANNUAL DISCHARGE AT SITE BAMNIDHI,TRIBUTARY:HASDEO



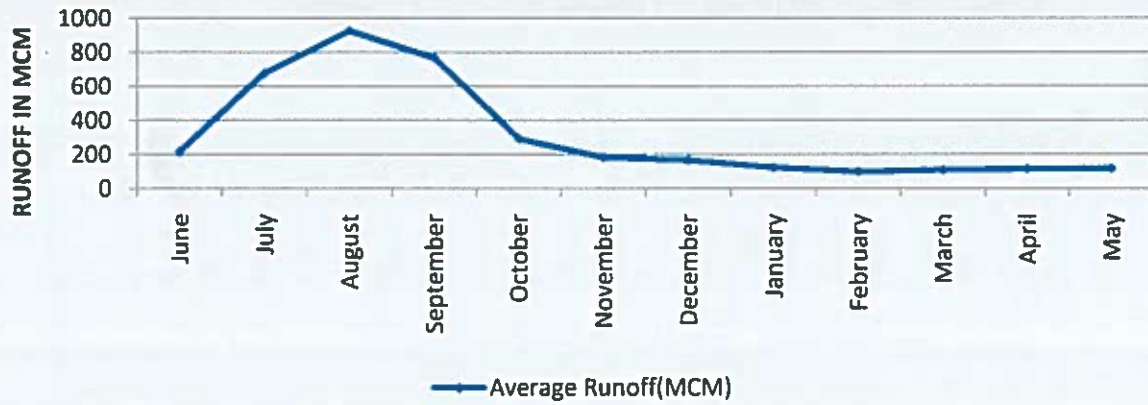
DEPENDABILITY FLOW FROM JUNE TO MAY SITE BAMNIDHI,TRIBUTARY:HASDEO



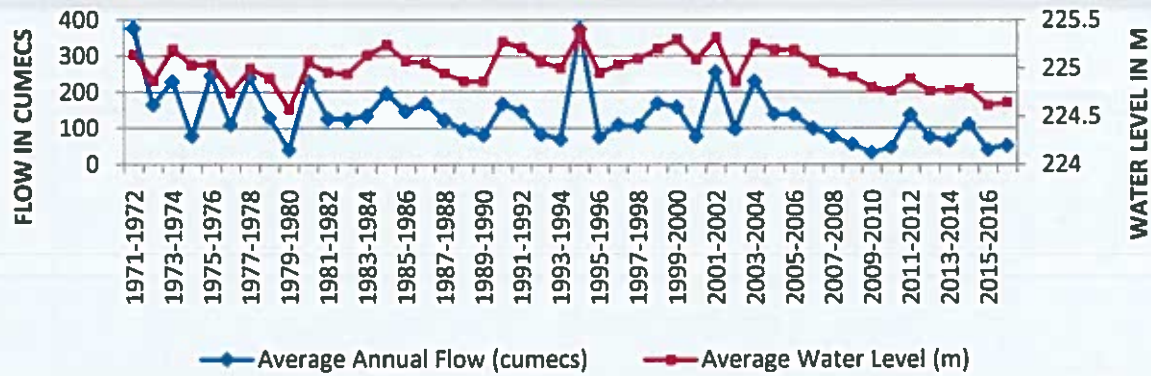
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE BAMNIDHI,TRIBUTARY:HASDEO



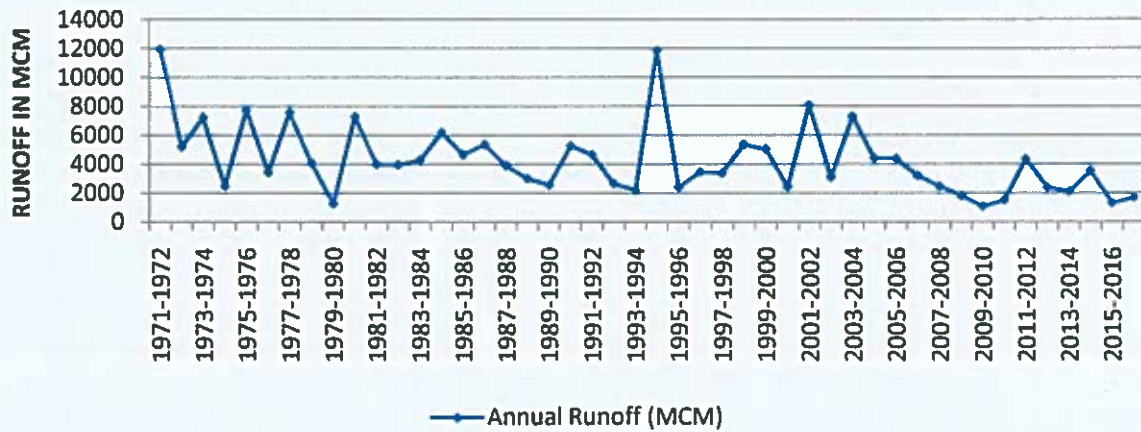
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:BAMNIDHI,TRIBUTARY:HASDEO



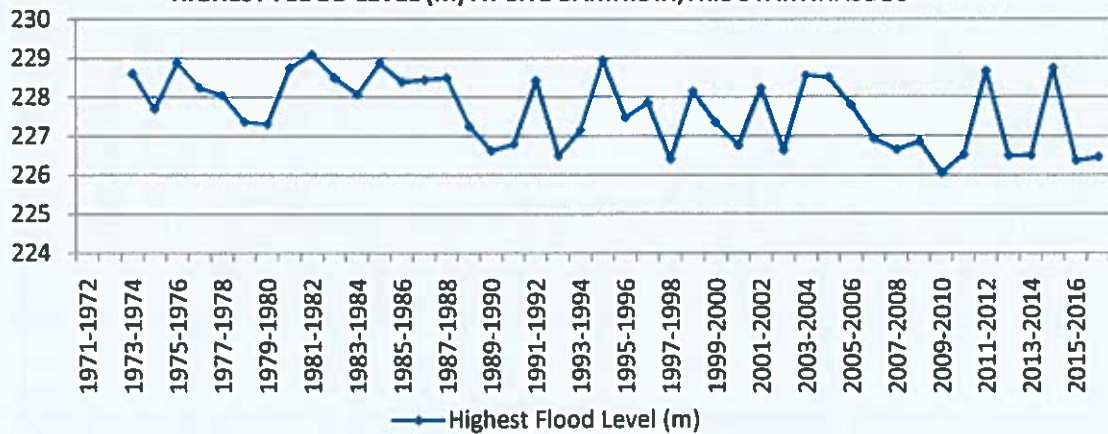
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE BAMNIDHI,TRIBUTARY:HASDEO



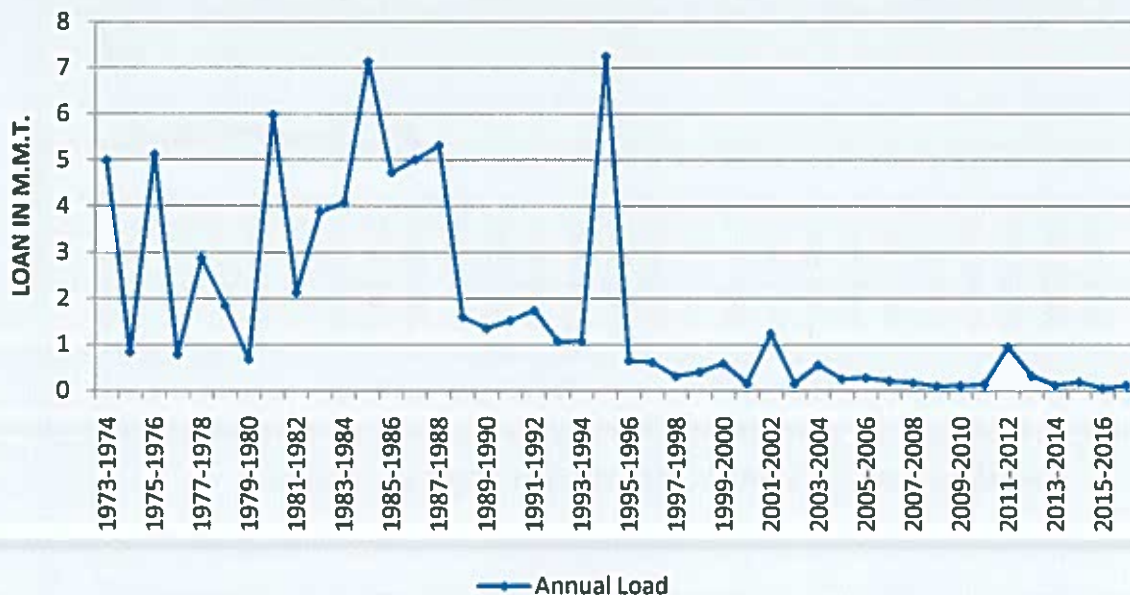
ANNUAL RUNOFF(MCM)SITE BAMNIDHI,TRIBUTARY:HASDEO



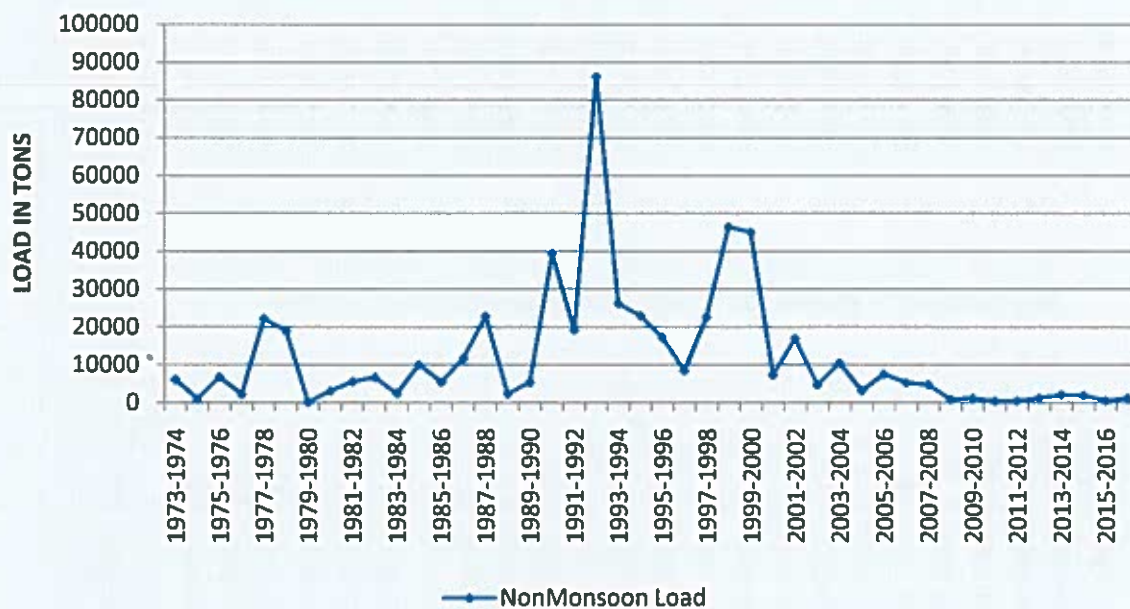
HIGHEST FLOOD LEVEL (M) AT SITE BAMNIDIH,TRIBUTARY:HASDEO



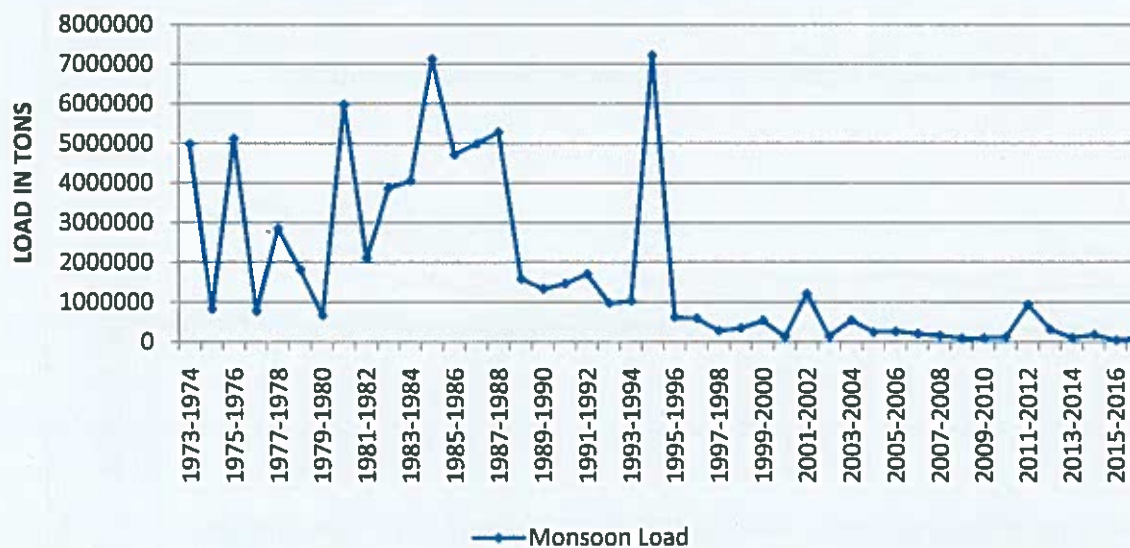
ANNUAL LOAD (MILLION M.T.) AT SITE BAMNIDHI, TRIBUTARY: HASDEO



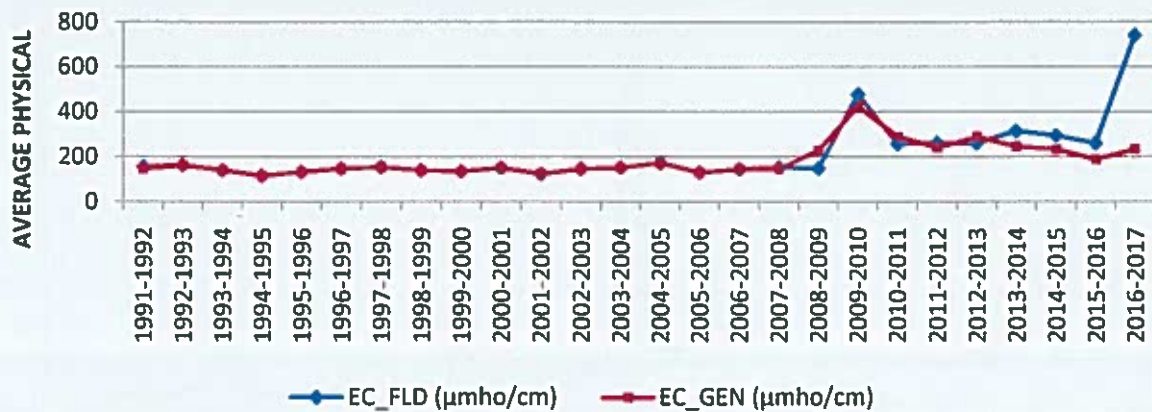
NON MONSOON LOAD AT SITE BAMNIDHI, TRIBUTARY: HASDEO



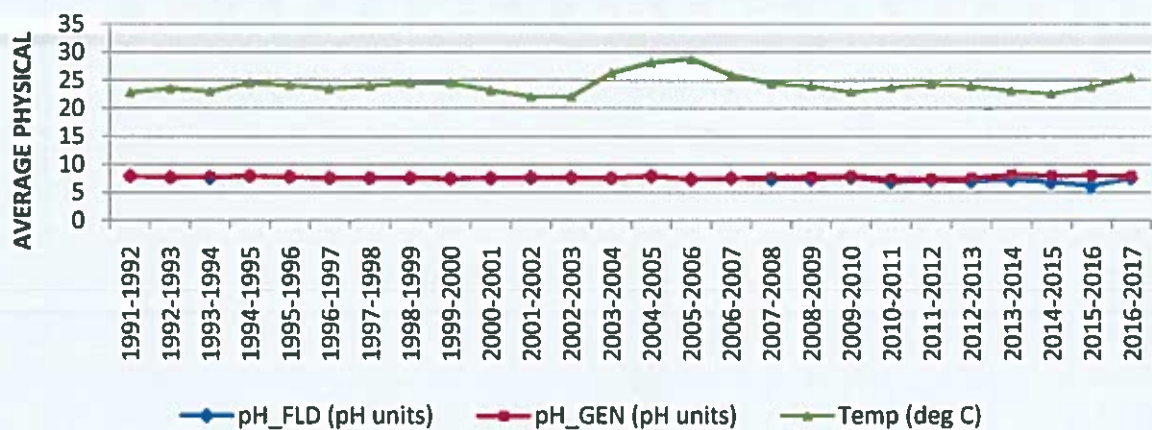
MONSOON LOAD AT SITE BAMNIDHI, TRIBUTARY: HASDEO



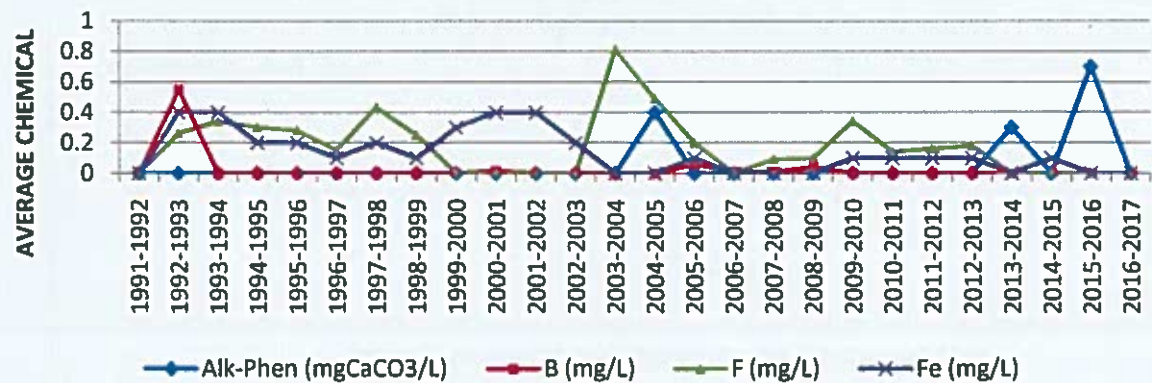
WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO



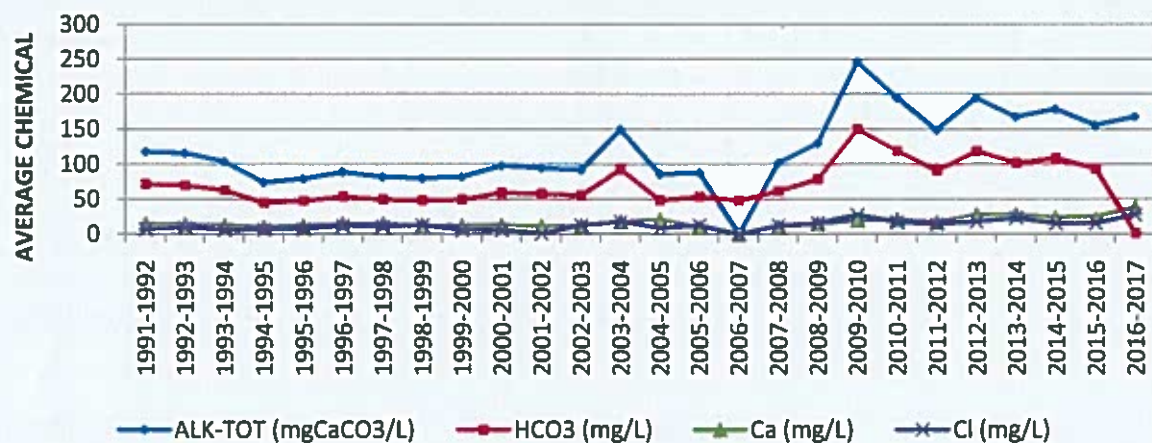
WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO



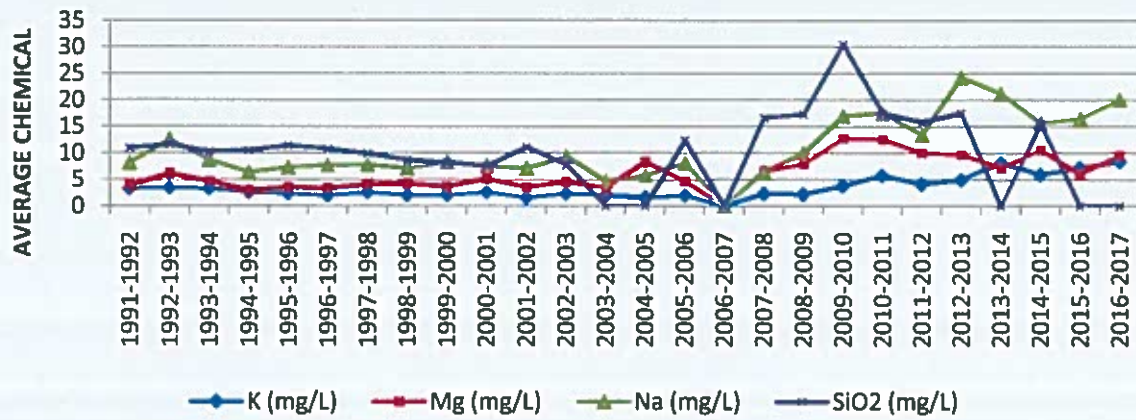
WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO



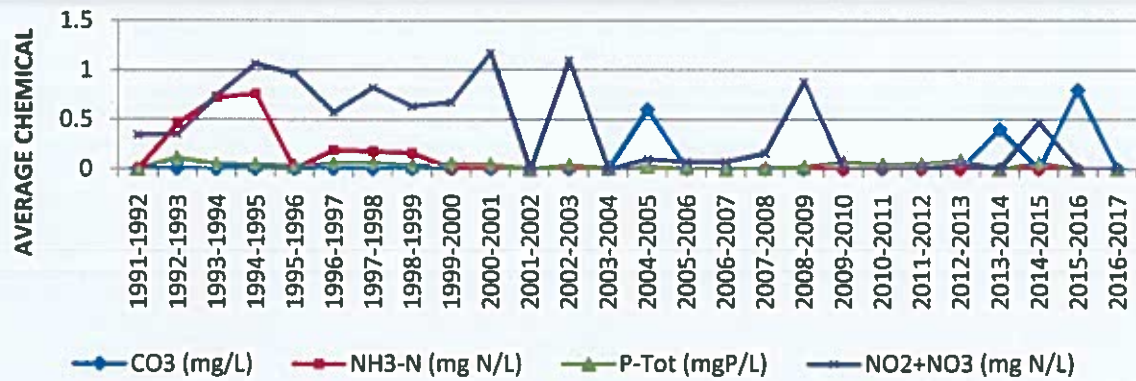
WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO



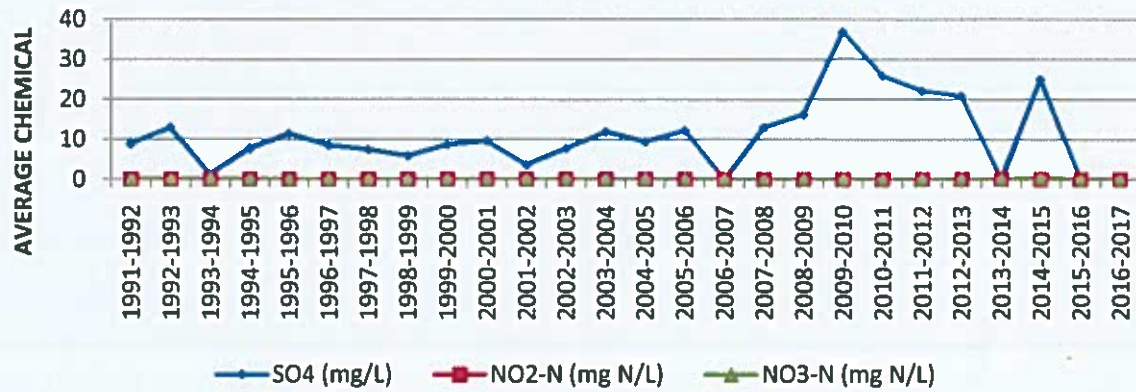
WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO



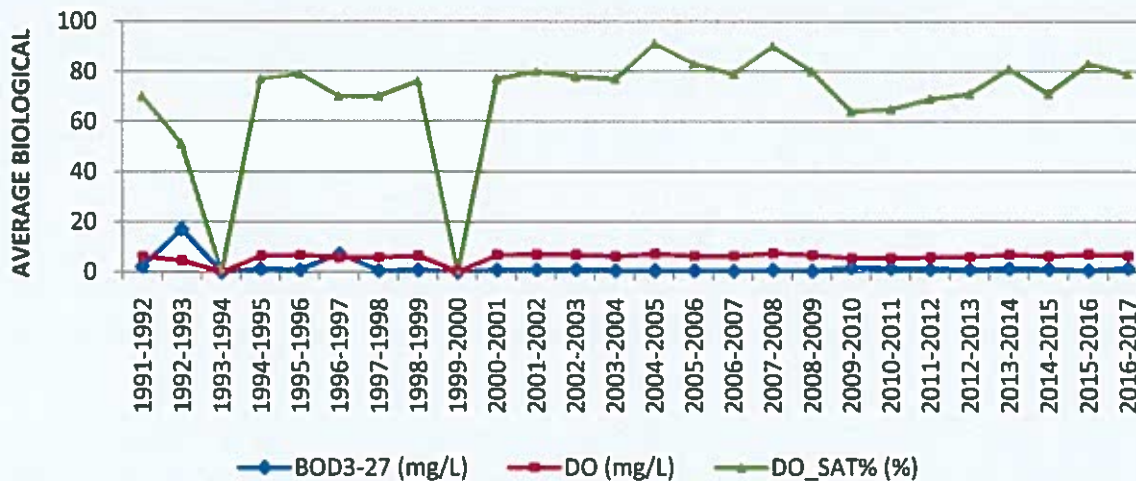
WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO



WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO

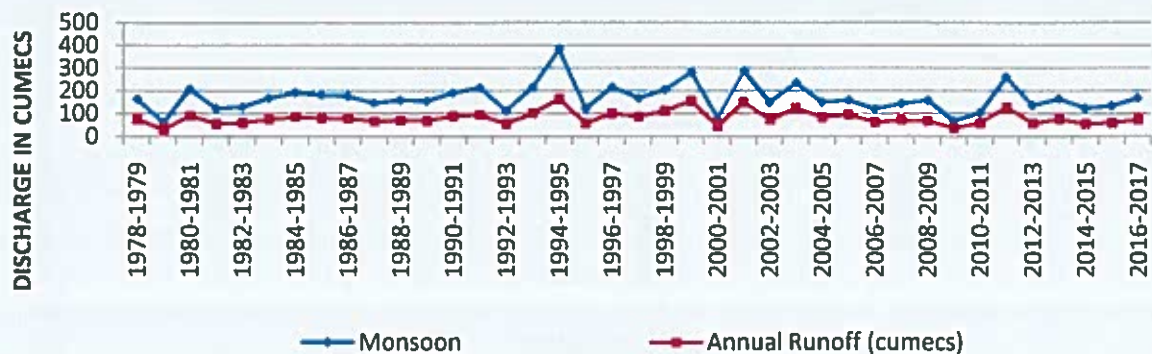


WATER QUALITY PROPERTIES AT SITE BAMNIDHI, TRIBUTARY: HASDEO

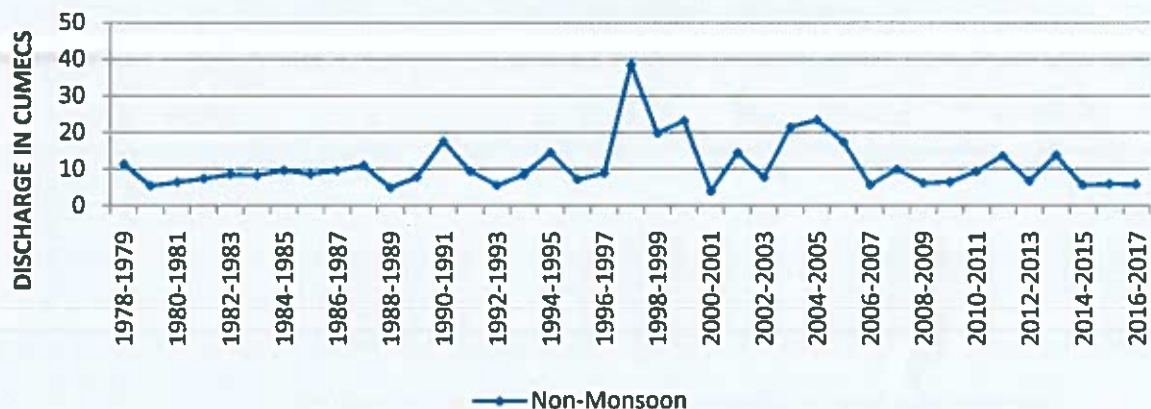


YEAR WISE TREND OF SITE KURUBHATA

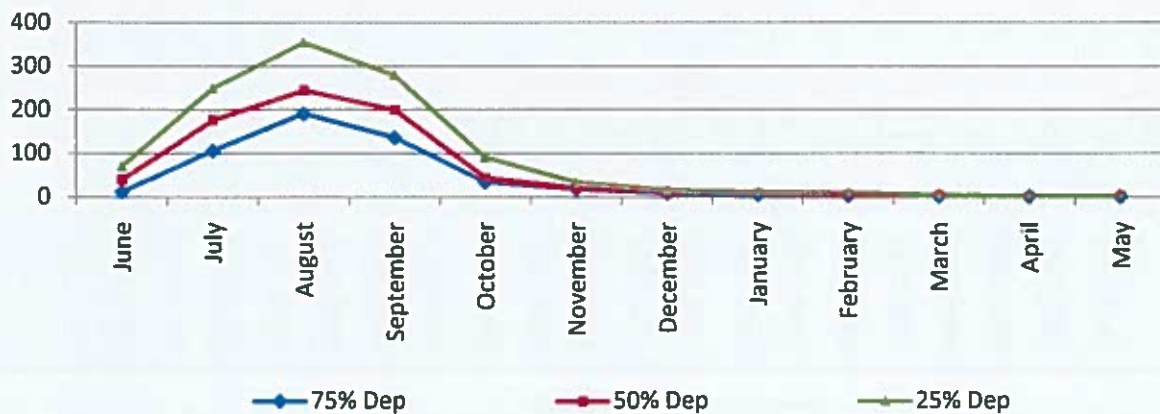
ANNUAL AVERAGE DISCHARGE SITE KURUBHATA, TRIBUTARY:MAND



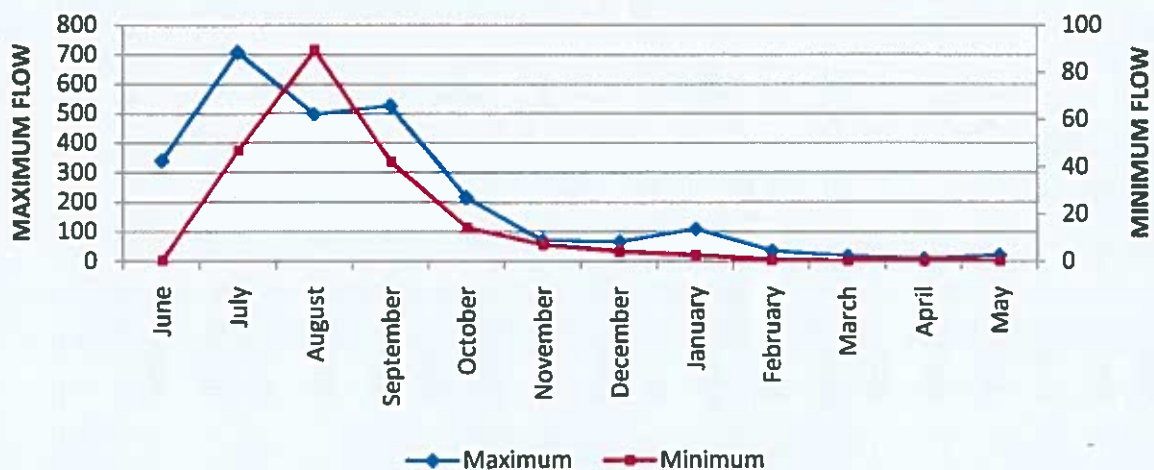
TOTAL AVERAGE DISCHARGE SITE KURUBHATA, TRIBUTARY:MAND



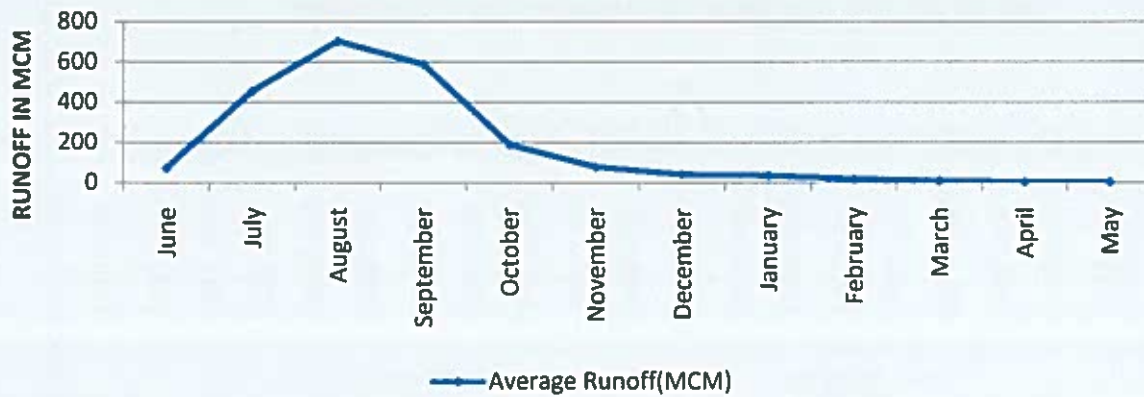
DEPENDABILITY FLOW FROM JUNE TO MAY SITE KURUBHATA, TRIBUTARY:MAND



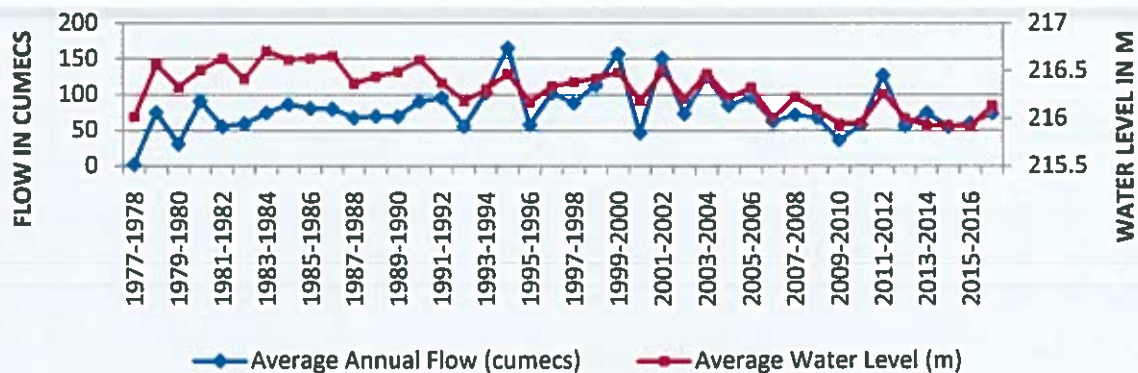
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY, TRIBUTARY:MAND



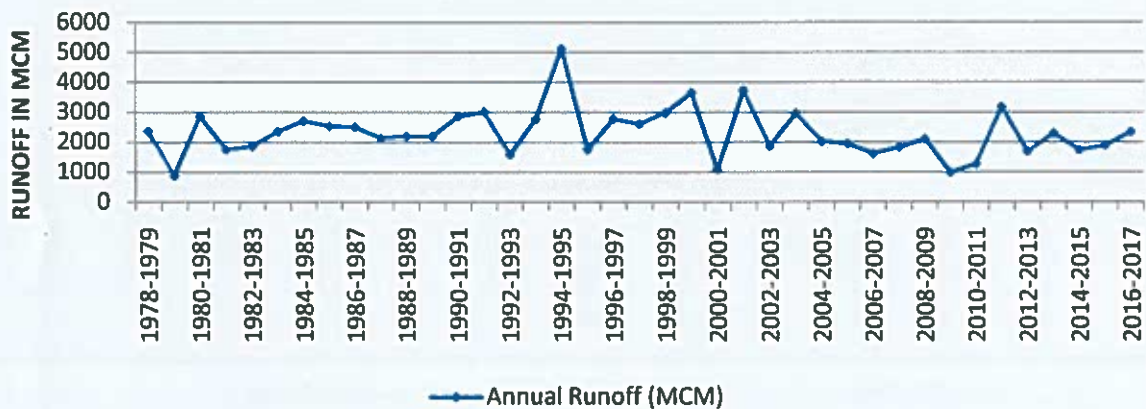
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:KURUBHATA,TRIBUTARY:MOND



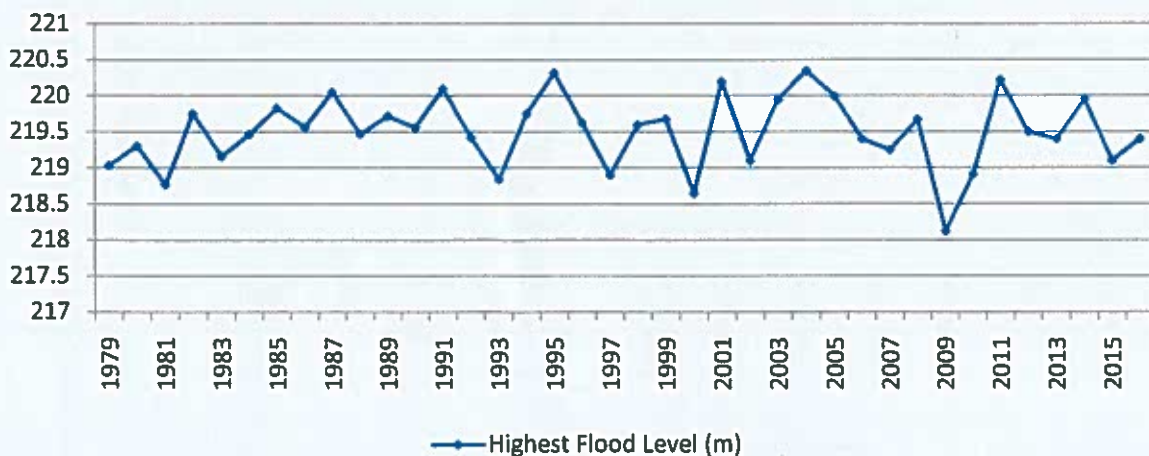
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE KURUBHATA, TRIBUTARY: MAND



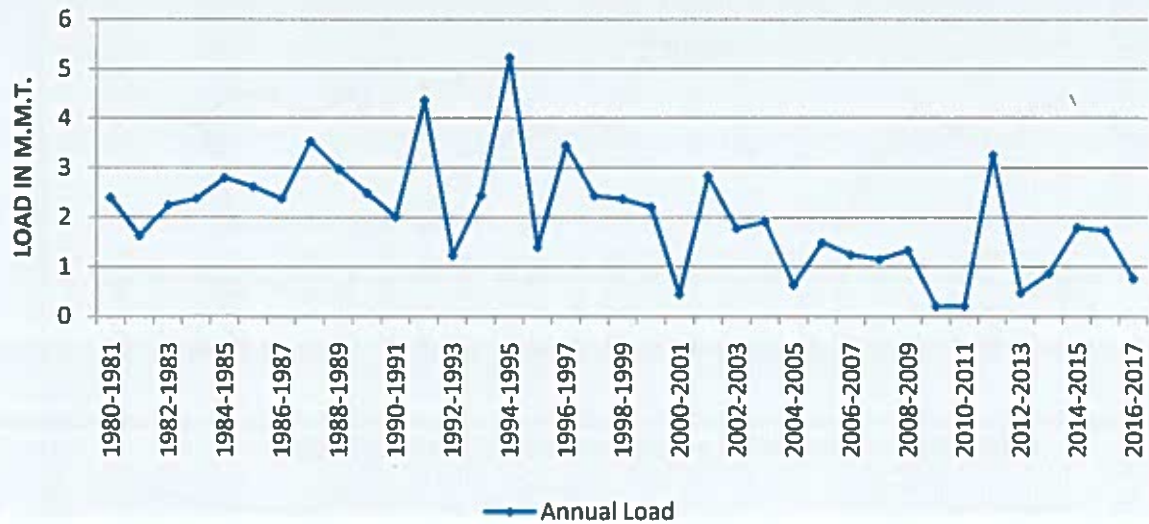
ANNUAL RUNOFF IN (MCM) SITE KURUBHATA, TRIBUTARY:MAND



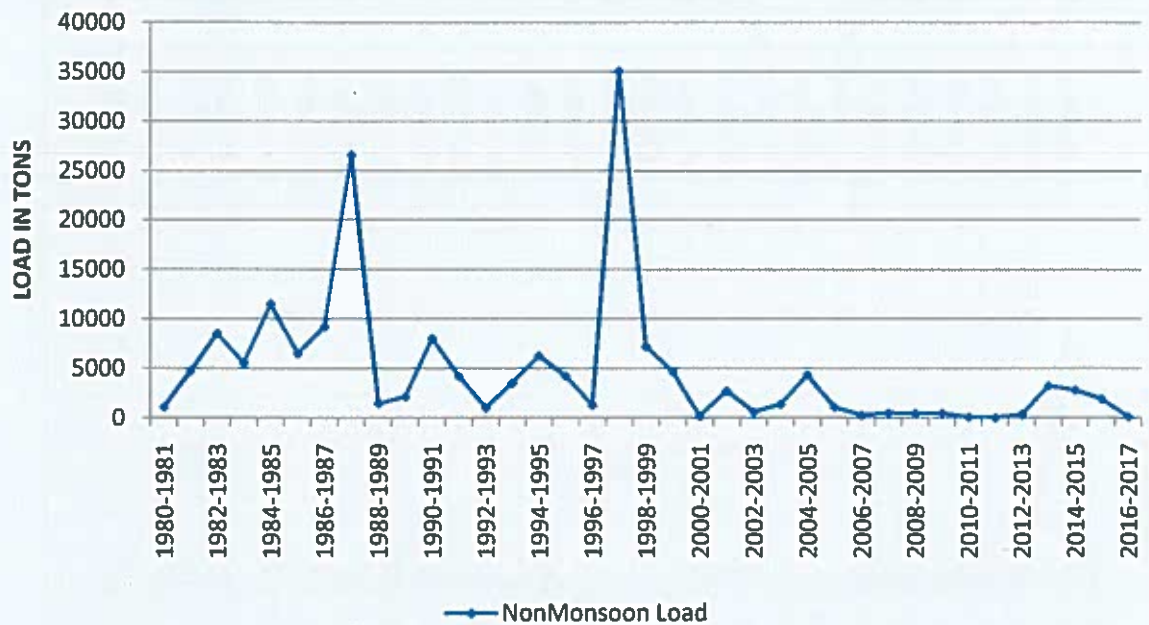
HIGHEST FLOOD LEVEL (m) AT SITE KURUBHATA, TRIBUTARY: MAND



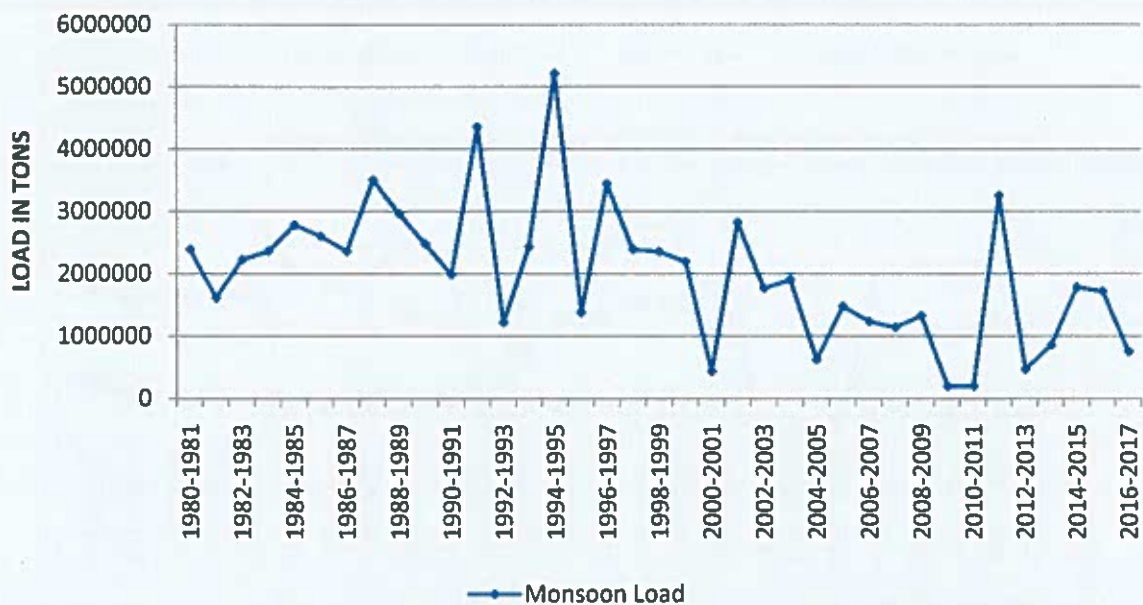
ANNUAL LOAD (MILLION M.T.) AT SITE KURUBHATA,TRIBUTARY:MAND



NON MONSOON LOAD AT SITE KURUBHATA,TRIBUTARY: MAND



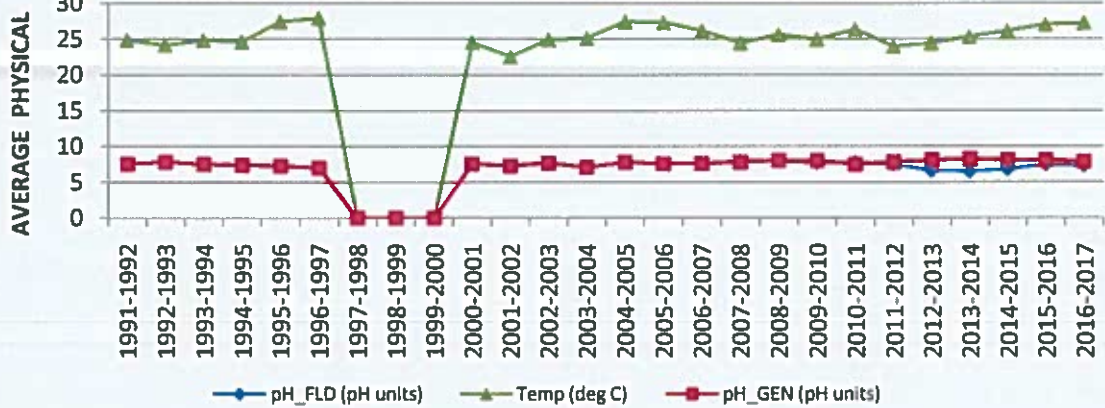
MONSOON LOAD AT SITE KURUBHATA,TRIBUTARY:MAND



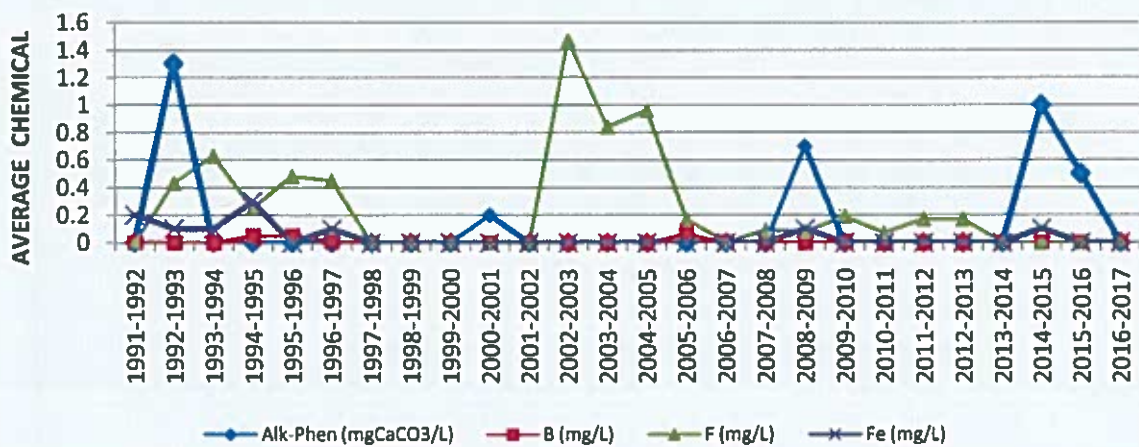
WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND



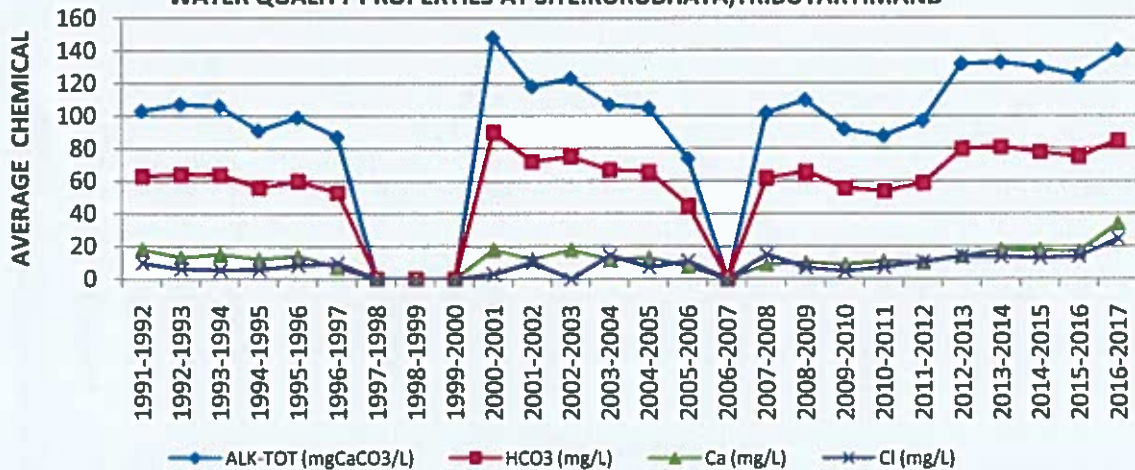
WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND



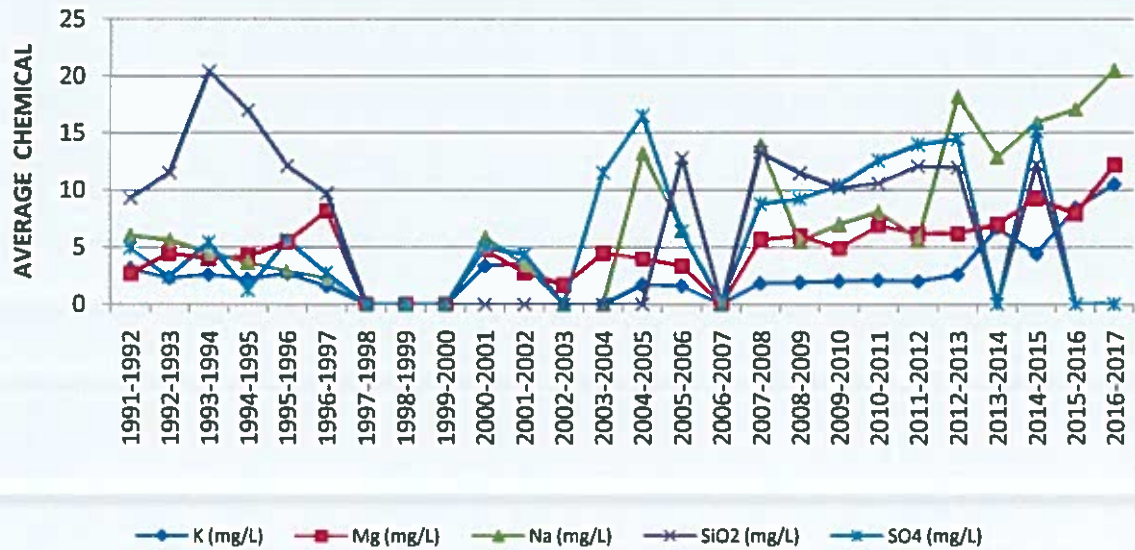
WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND



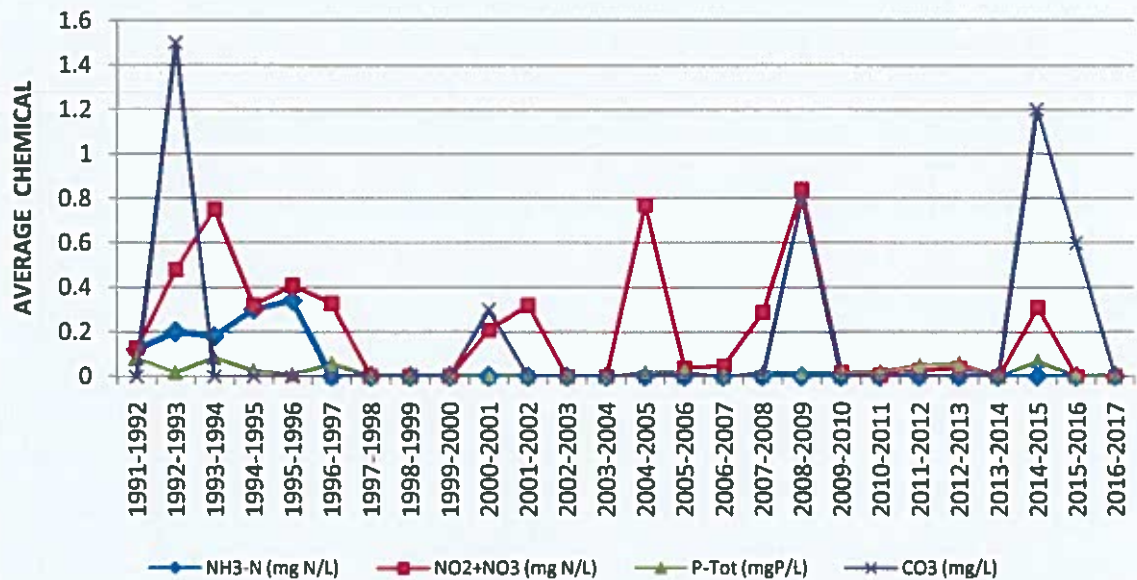
WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND



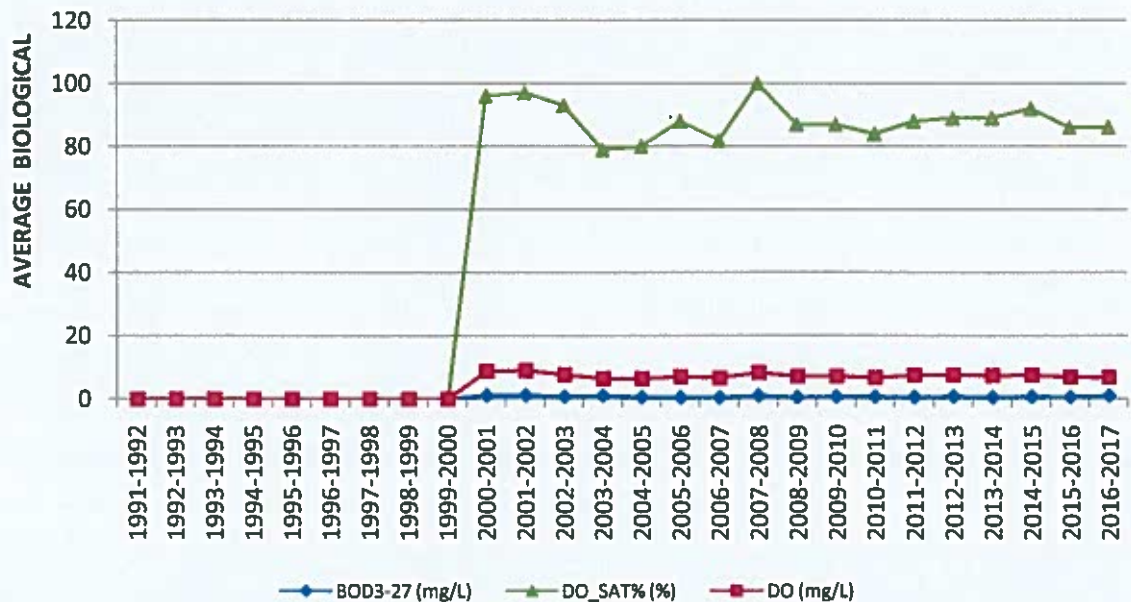
WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND



WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND

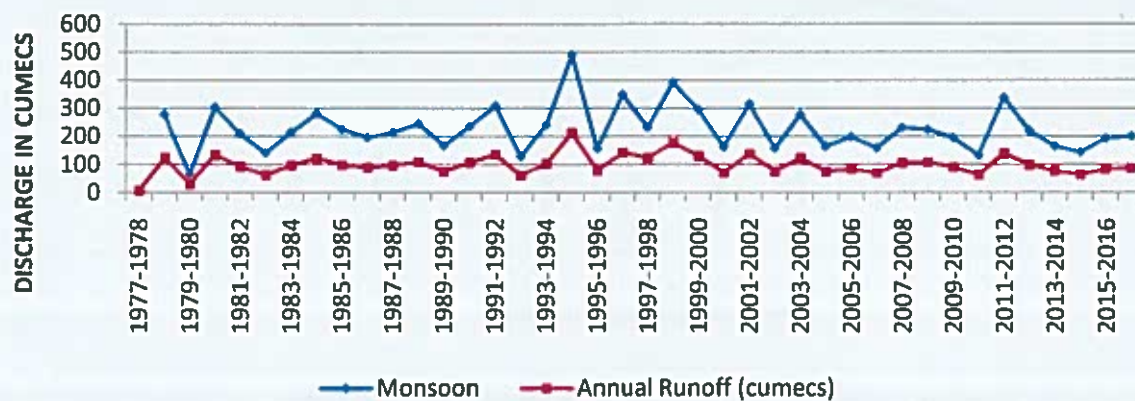


WATER QUALITY PROPERTIES AT SITE:KURUBHATA,TRIBUTARY:MAND

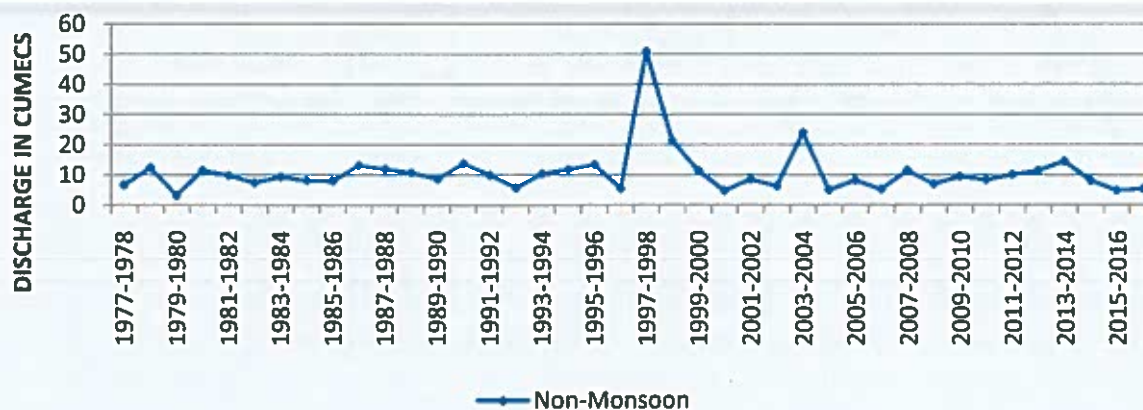


YEAR WISE TREND OF SITE SUNDARGARH

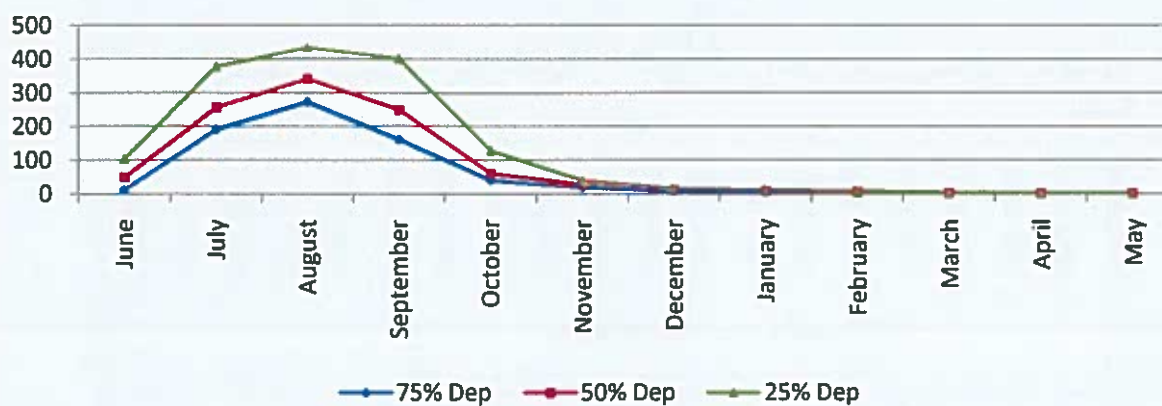
ANNUAL AVERAGE DISCHARGE SITE SUNDARGARH, TRIBUTARY: IB



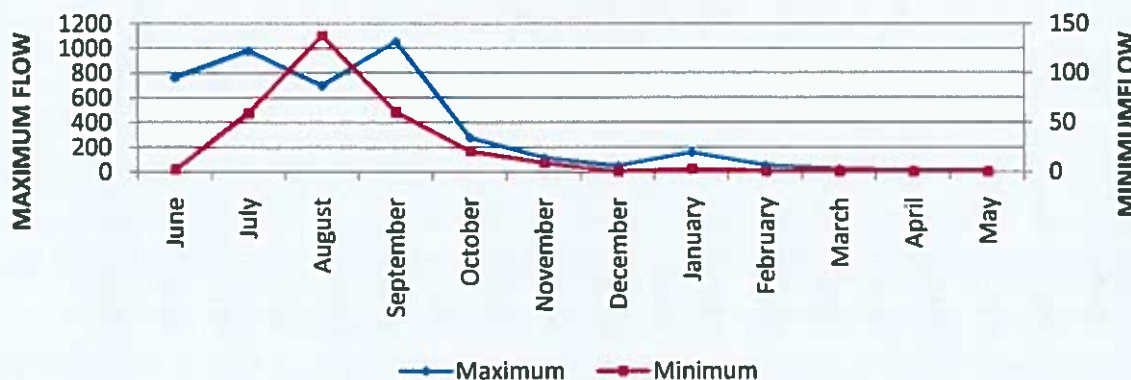
TOTAL ANNUAL DISCHARGE AT SITE SUNDARGARH, TRIBUTARY: IB



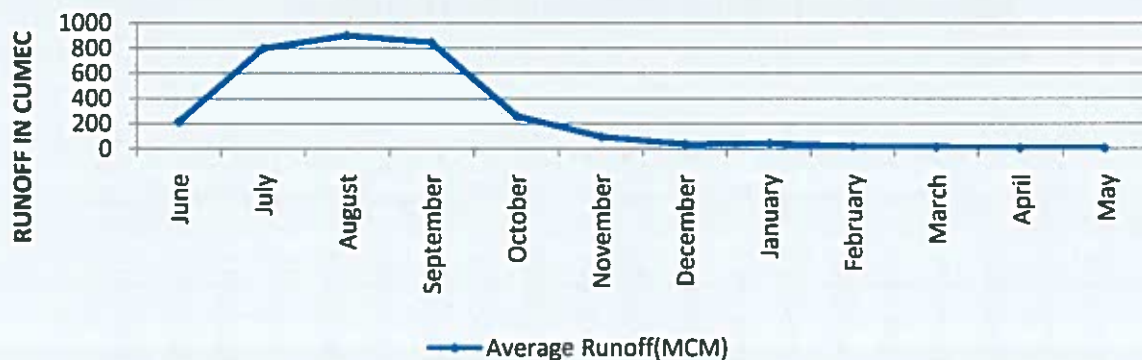
DEPENDABILITY FROM JUNE TO MAY AT SITE SUNDARGARH, TRIBUTARY: IB



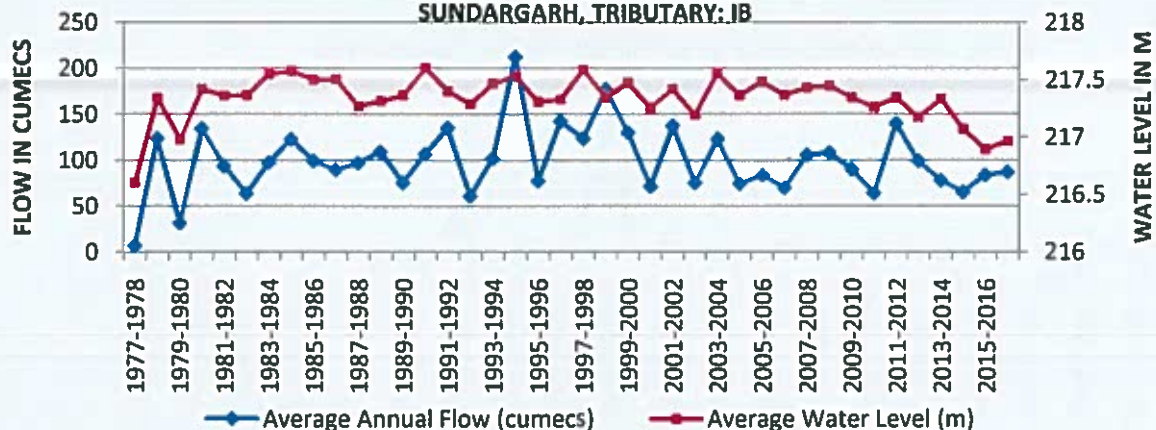
MAXIMUM & MINIMUM FLOW FROM JUNE TO MAY AT SITE SUNDARGARH, TRIBUTARY: IB



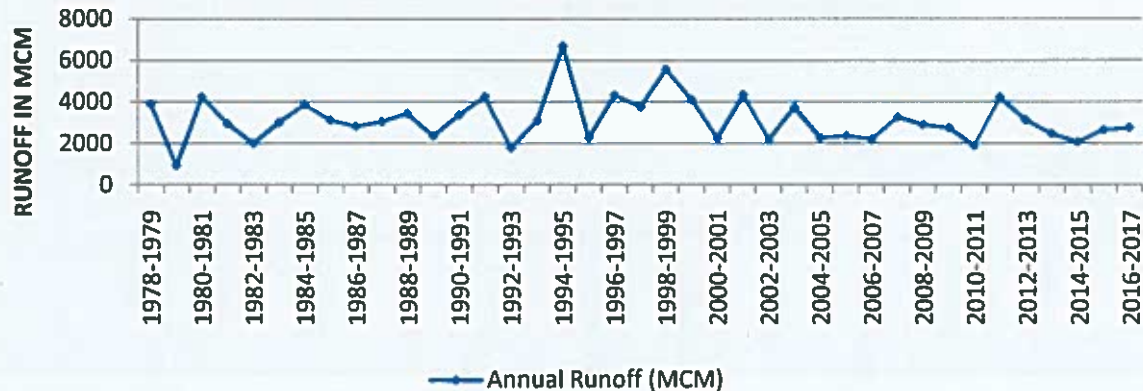
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:SUNDERGARH,TRIBUTARY:IB



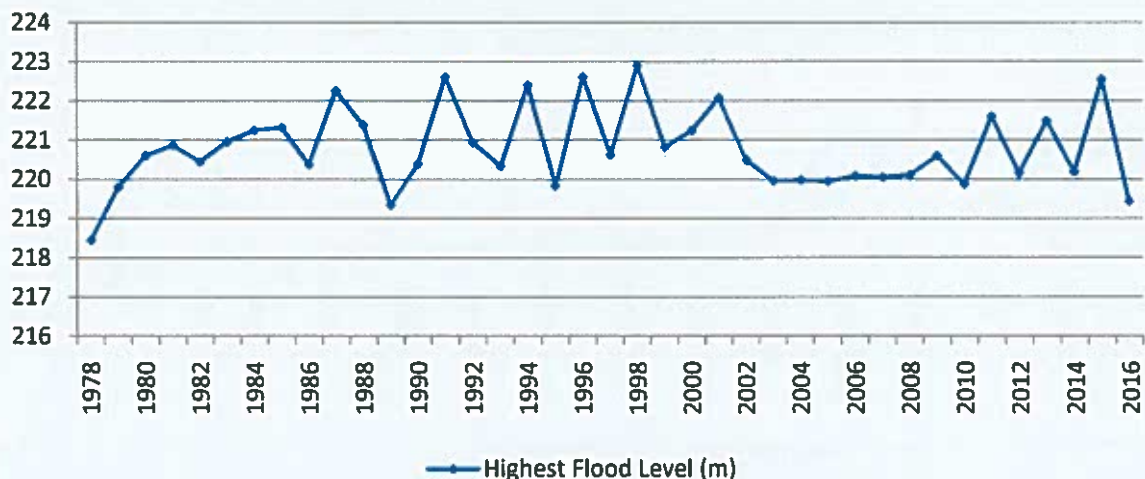
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE SUNDARGARH, TRIBUTARY: IB



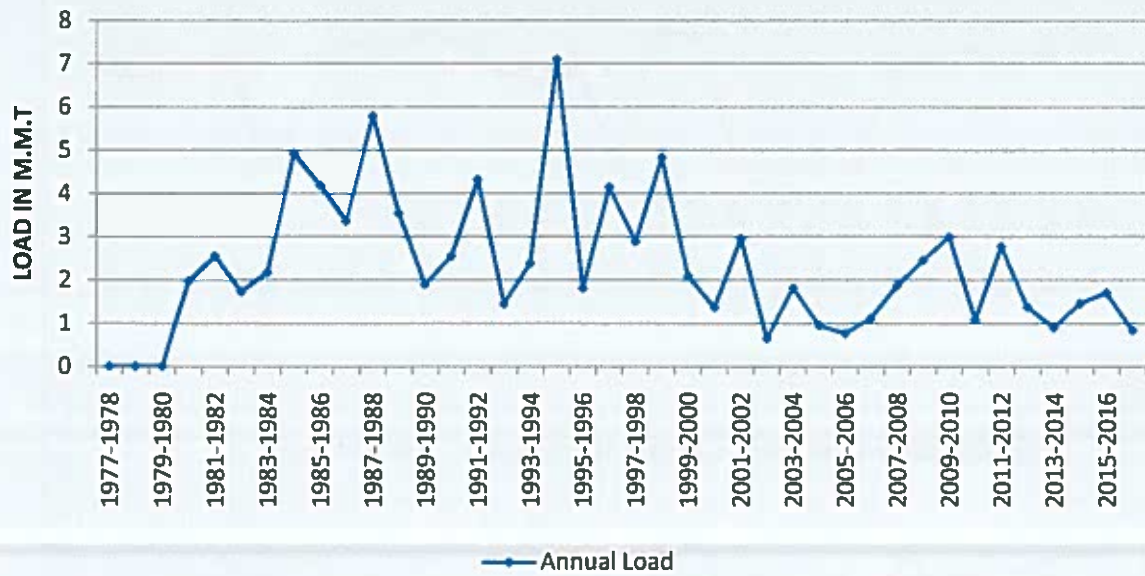
ANNUAL RUNOFF(MCM) SITE SUNDERGARH,TRIBUTARY:IB



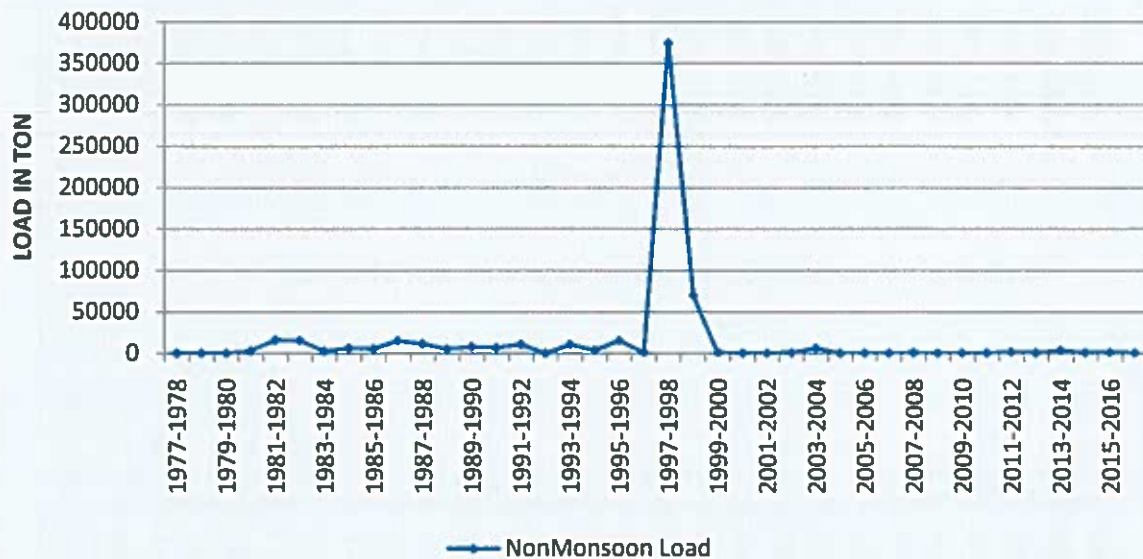
HIGHEST FLOOD LEVEL (m) AT SITE SUNDARGARH,TRIBUTARY: IB



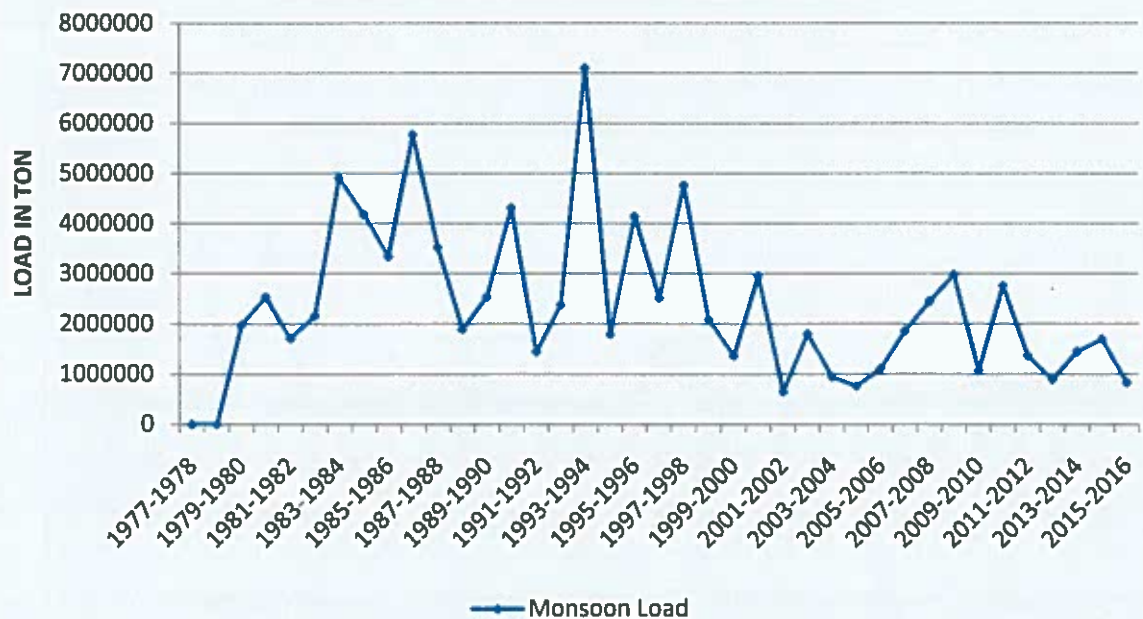
ANNUAL LOAD(MILLION M.T.) AT SITE SUNDERGARH,TRIBUTARY:IB



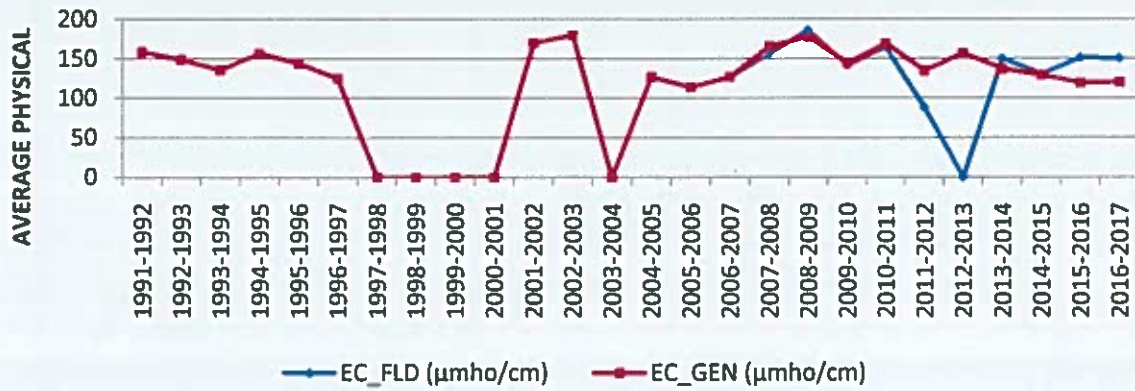
NON MONSOON LOAD AT SITE SUNDERGARH,TRIBUTARY:IB



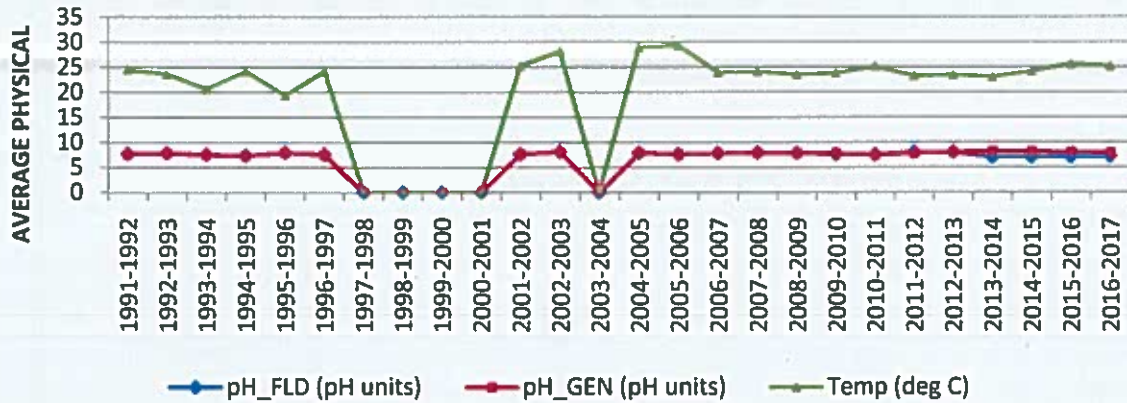
MONSOON LOAD AT SITE SUNDERGARH,TRIBUTARY:IB



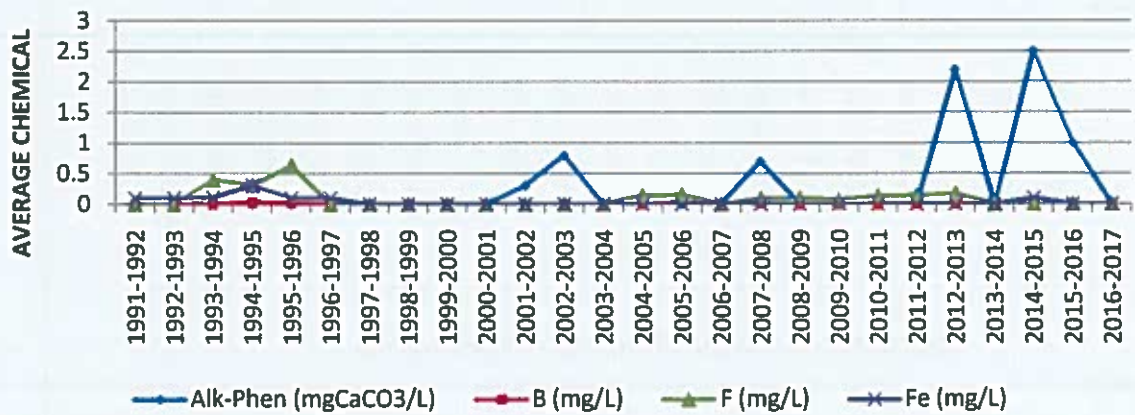
WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB



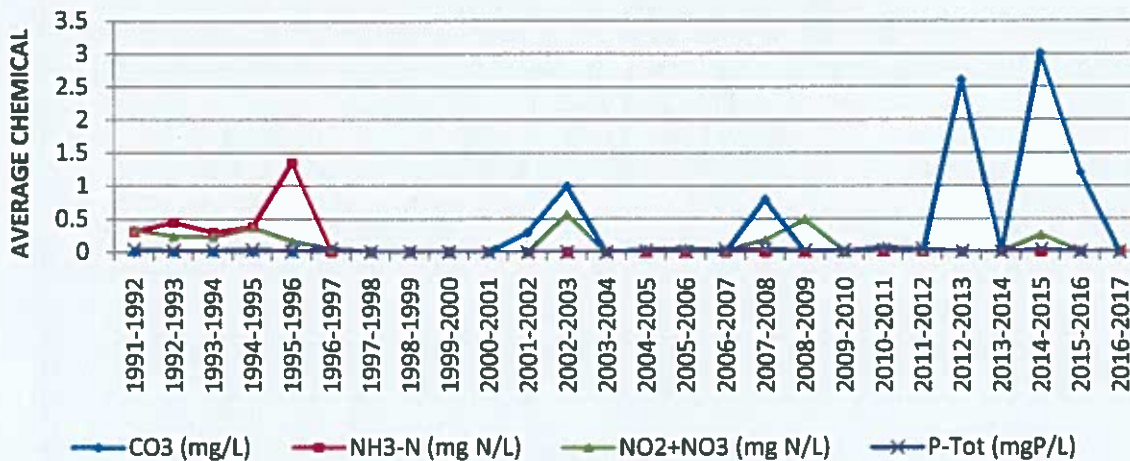
WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB



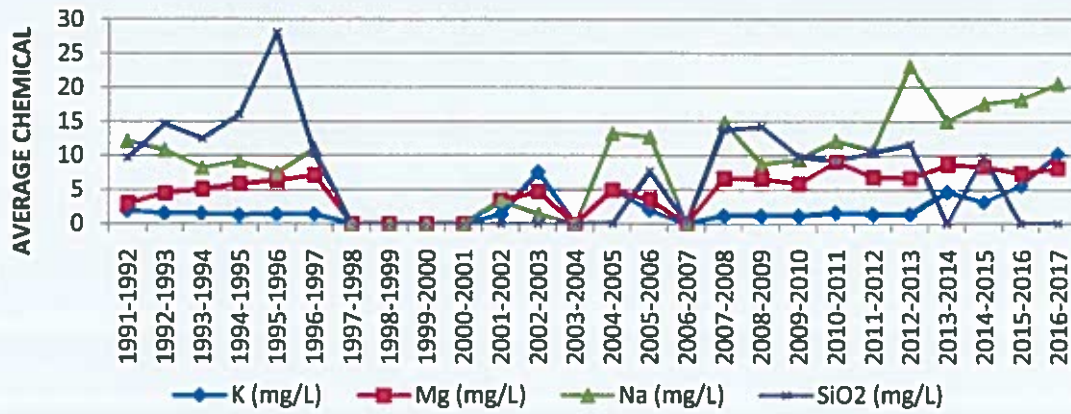
WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB



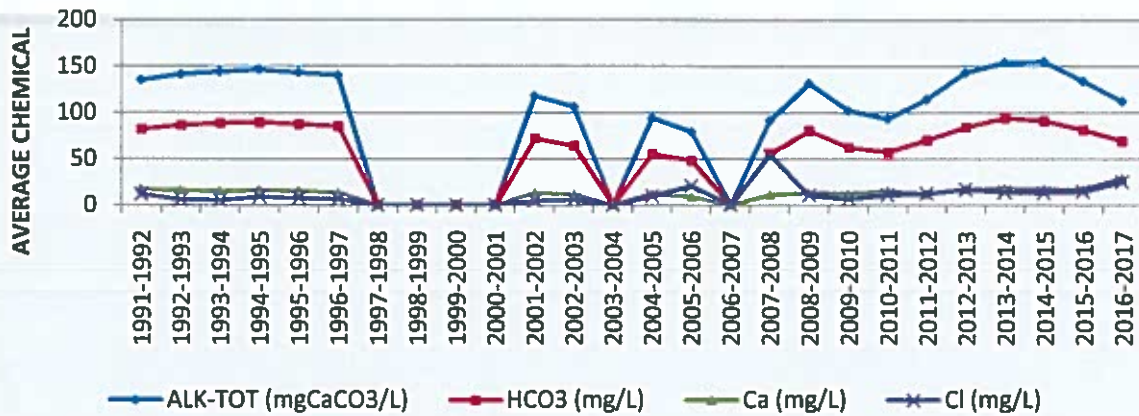
WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB



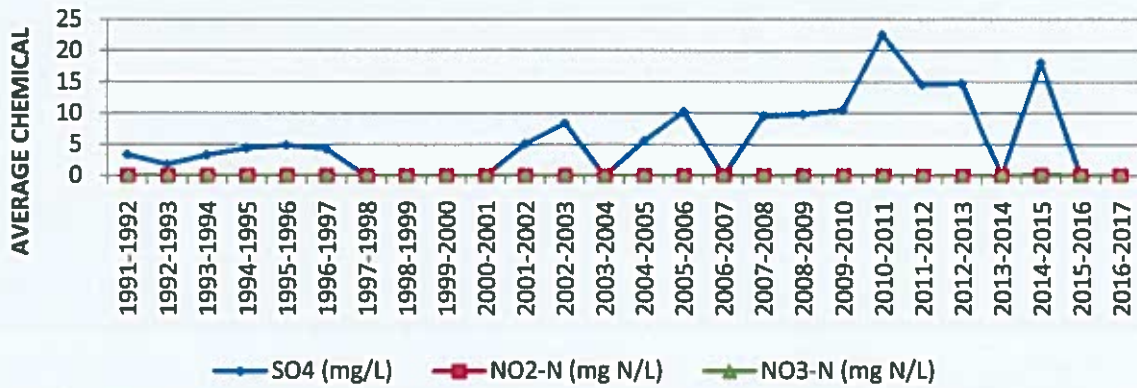
WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB



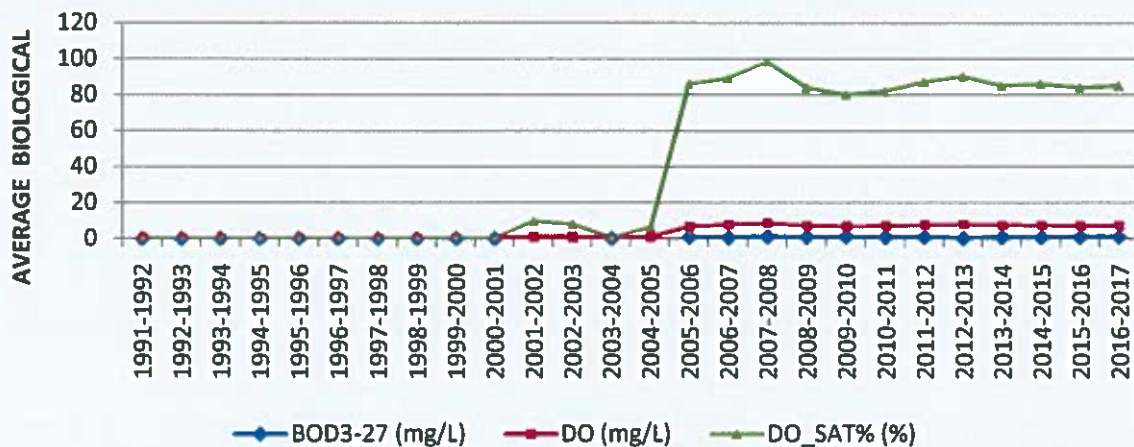
WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB



WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB

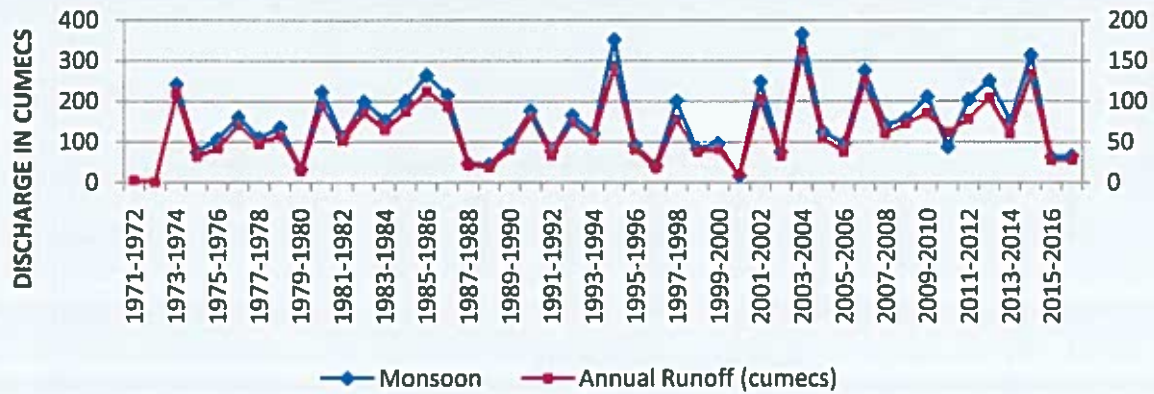


WATER QUALITY PROPERTIES AT SITE SUNDARGARH, TRIBUTARY: IB

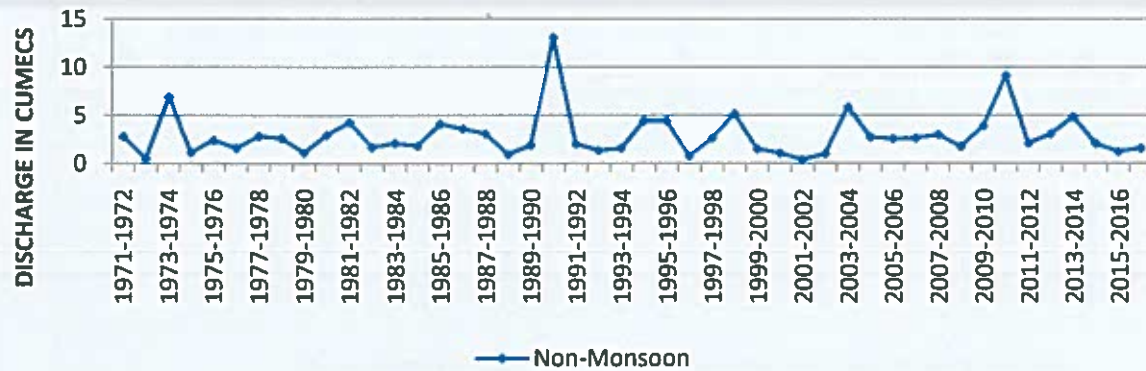


YEAR WISE TREND OF SITE SALEBHATA

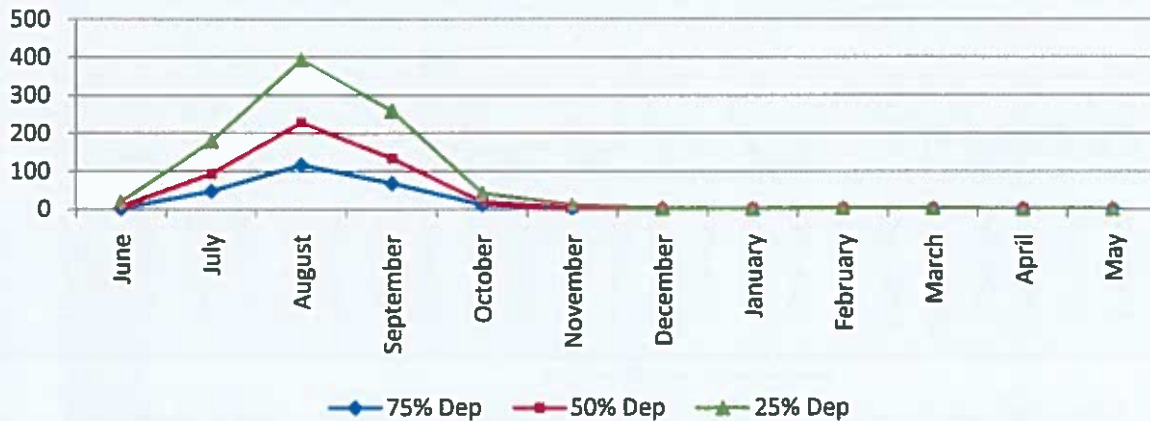
ANNUAL AVERAGE DISCHARGE SITE SALEBHATA, TRIBUTARY:ONG



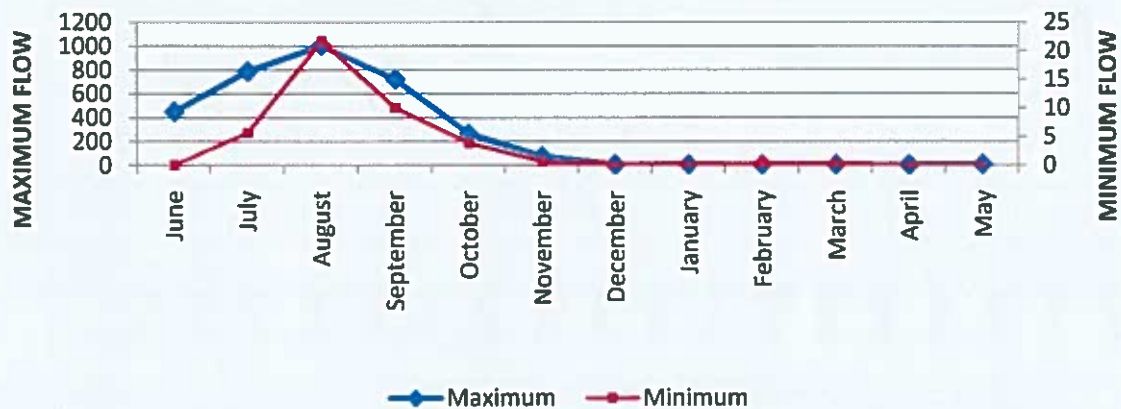
TOTAL ANNUAL DISCHARGE, SITE SALEBHATA, TRIBUTARY: ONG



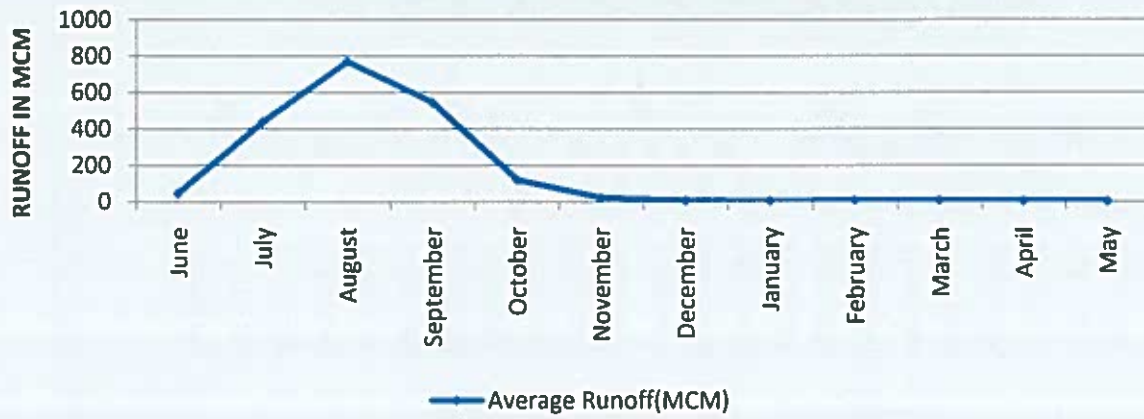
DEPENDABILITY FLOW FROM JUNE TO MAY SITE SALEBHATA, TRIBUTARY:ONG



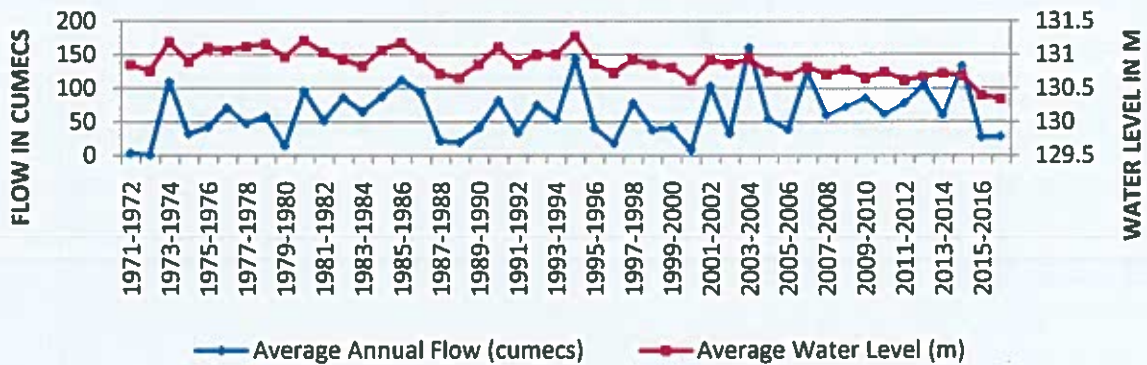
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE SALEBHATA, TRIBUTARY:ONG



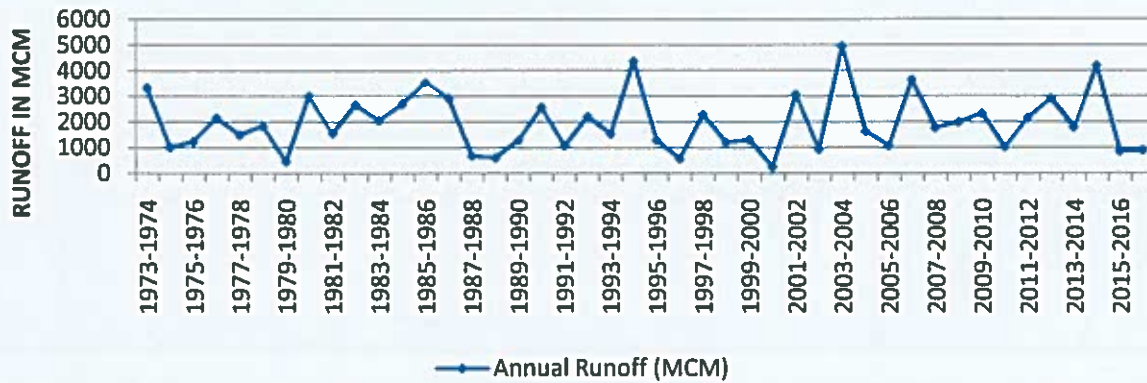
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:SALEBHATA,TRIBUTARY:JONK



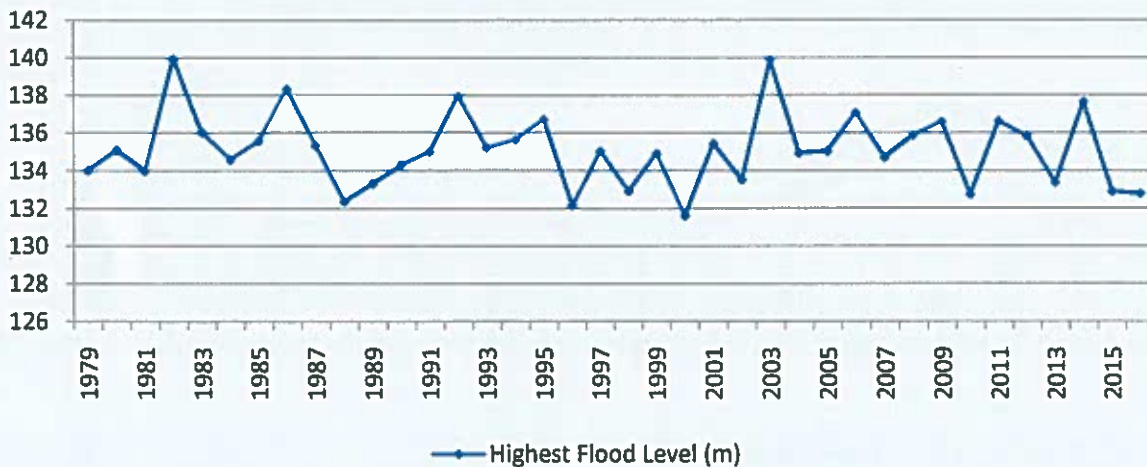
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE SALEBHATA,TRIBUTARY:ONG



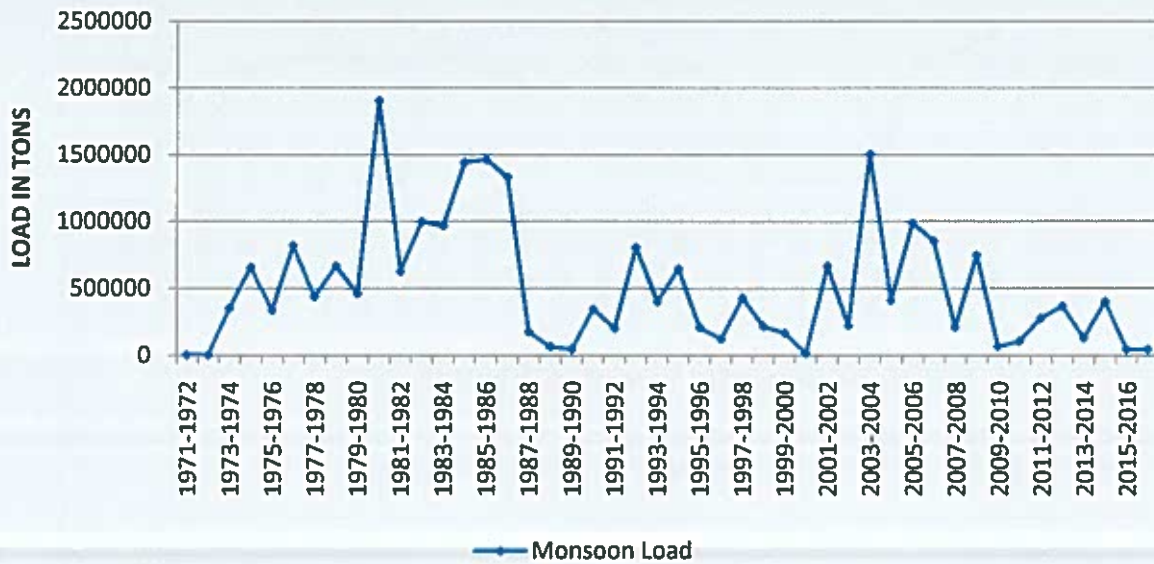
ANNUAL RUNOFF(MCM) SITE SALEBHATA,TRIBUTARY:ONG



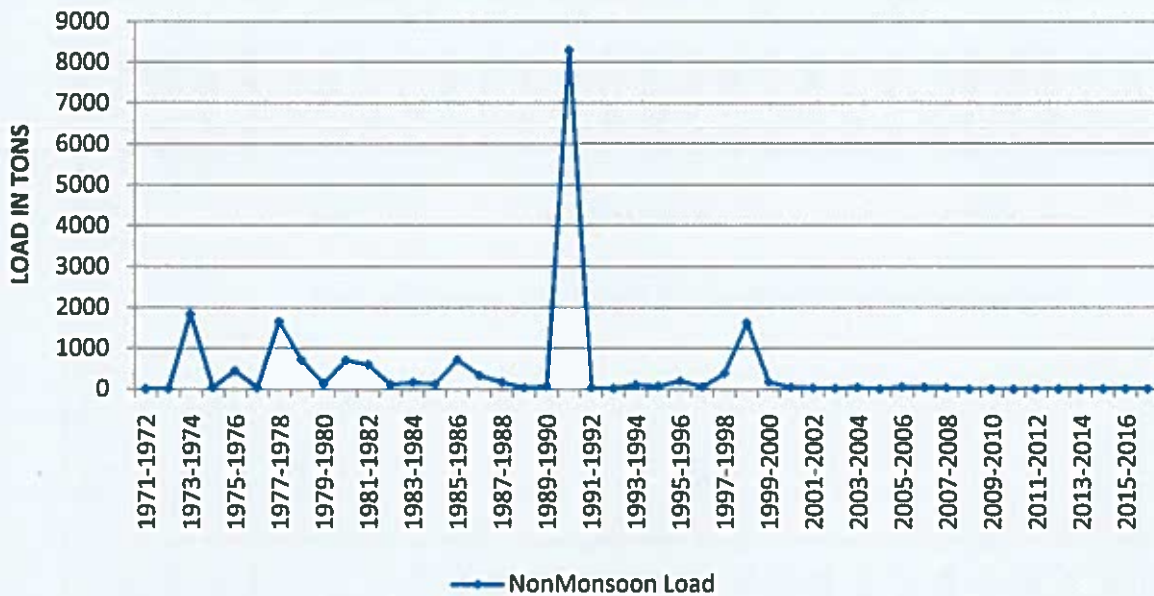
HIGHEST FLOOD LEVEL (m) AT SITE SALEBHATA,TRIBUTARY:ONG



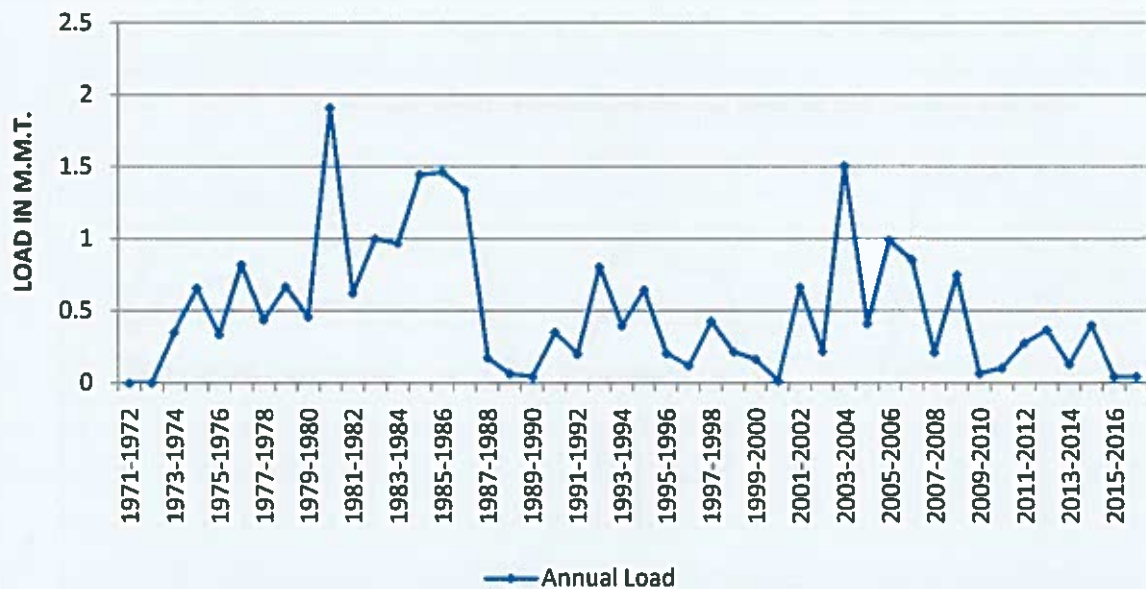
MONSOON LOAD AT SITE SALEBHATA, TRIBUTARY: ONG



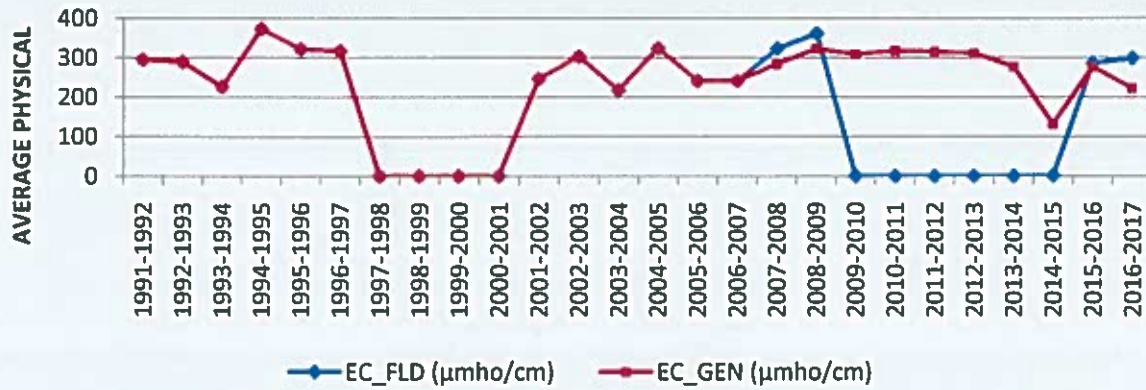
NON MONSOON LOAD AT SITE SALEBHATA, TRIBUTARY:ONG



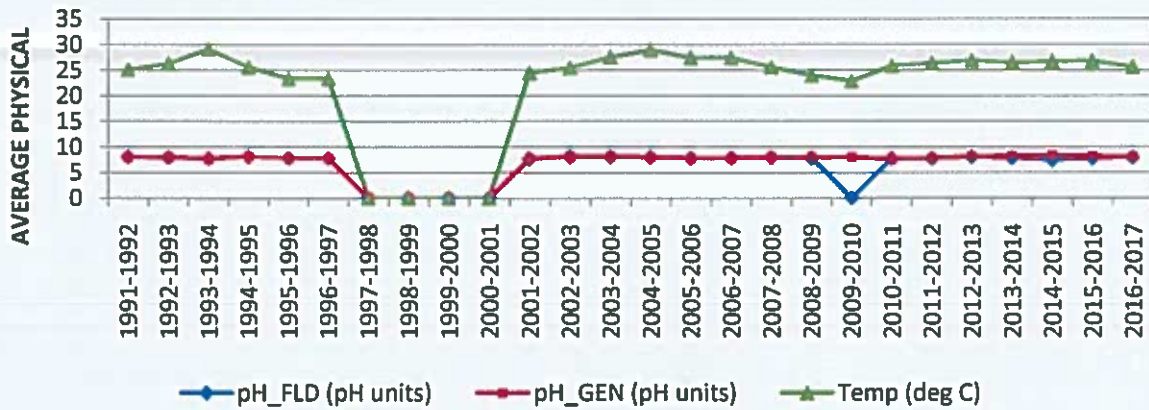
ANNUAL LOAD (MILLION M.T.) AT SITE SALEBHATA,TRIBUTARY:ONG



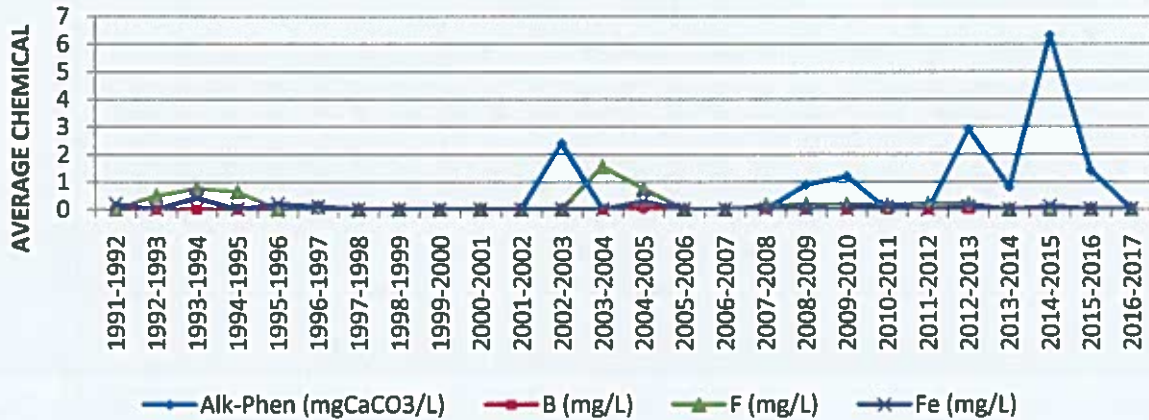
WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG



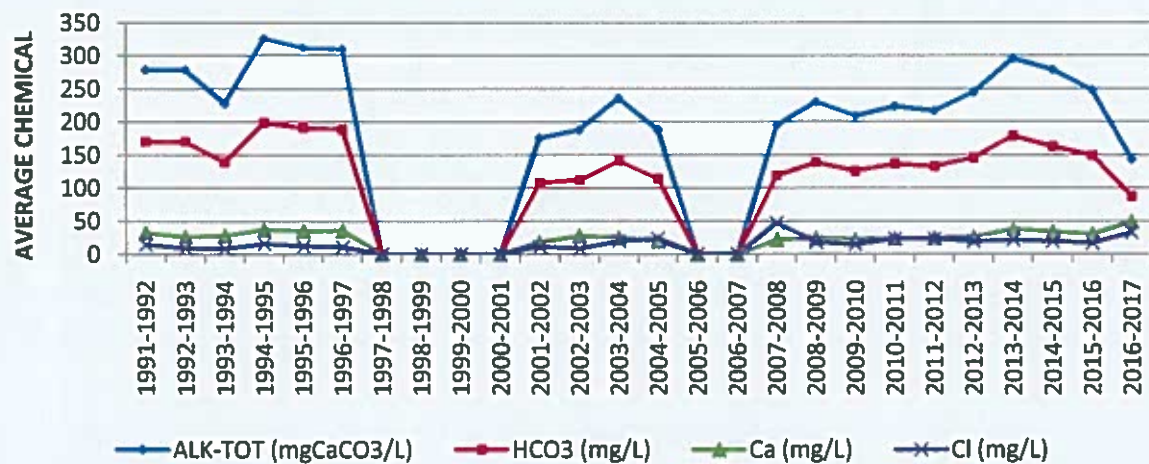
WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG



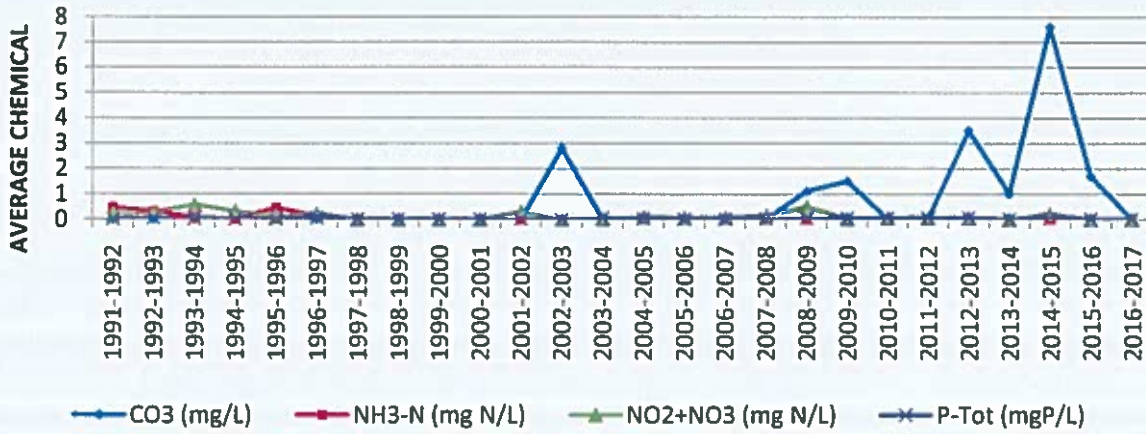
WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG



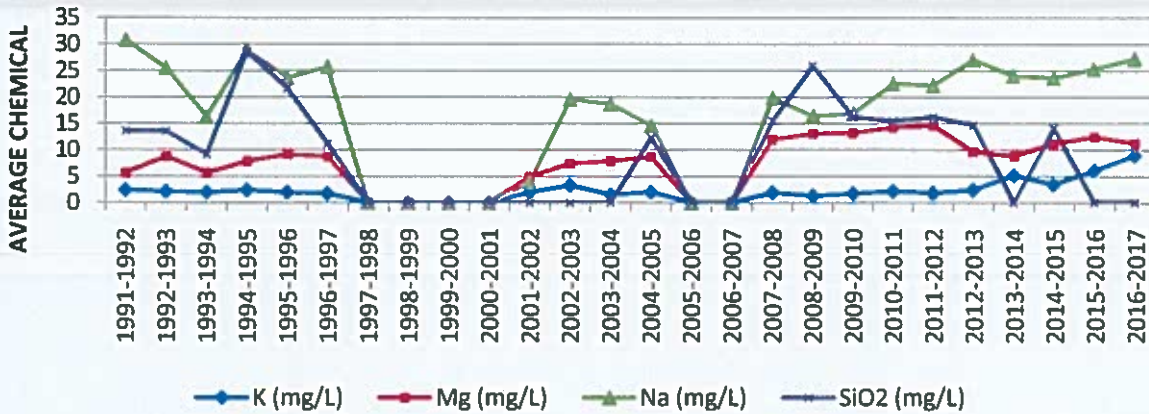
WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG



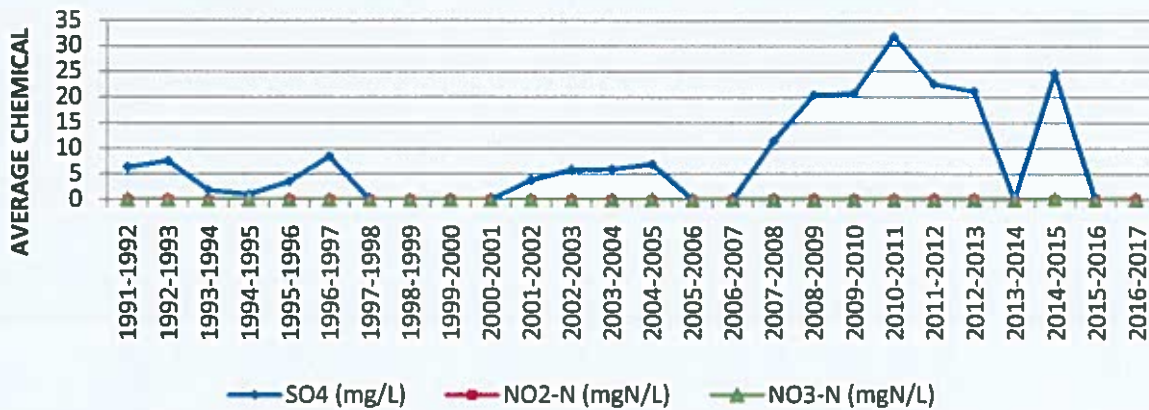
WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG



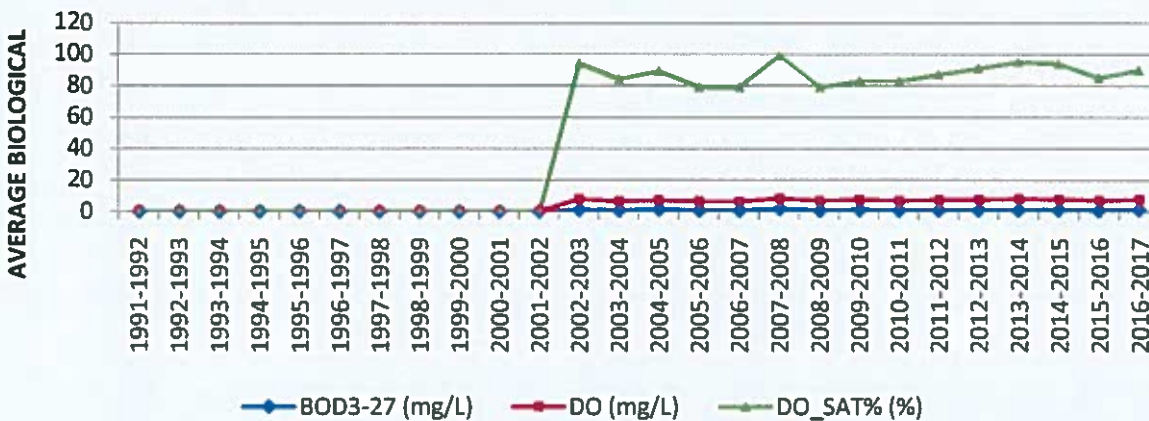
WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY:ONG



WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY: ONG

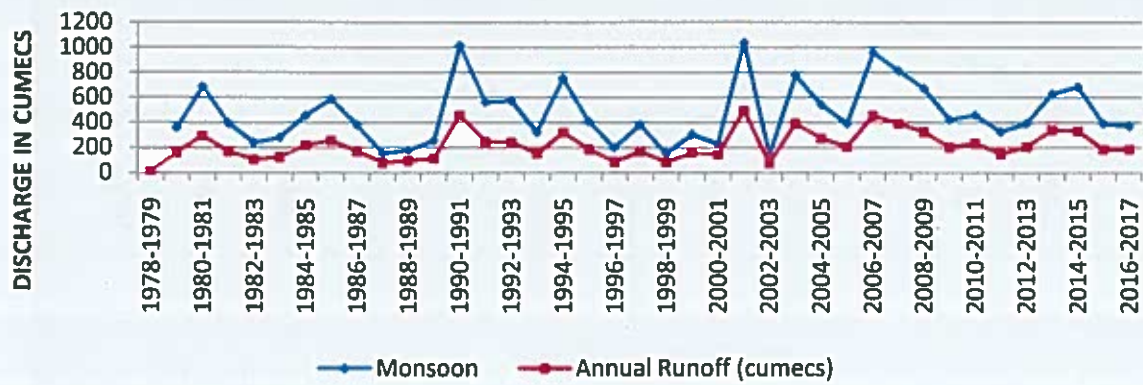


WATER QUALITY PROPERTIES AT SITE SALEBHATA, TRIBUTARY:ONG

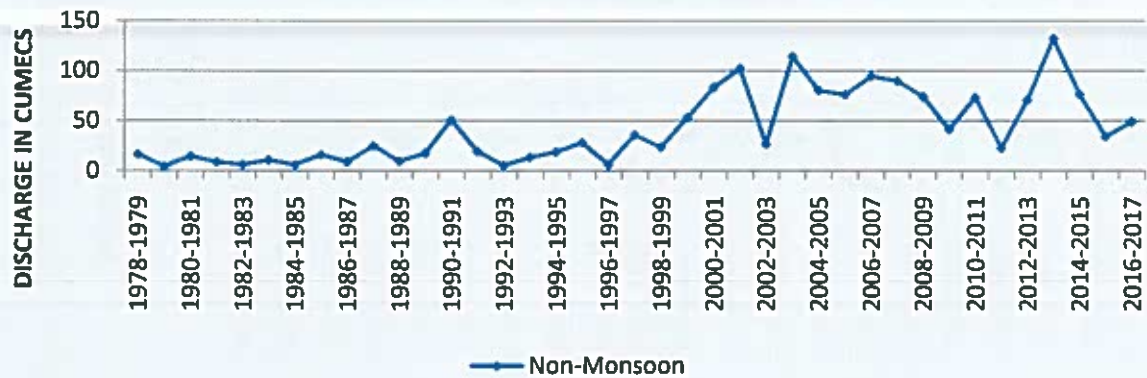


YEAR WISE TREND OF SITE KESINGA

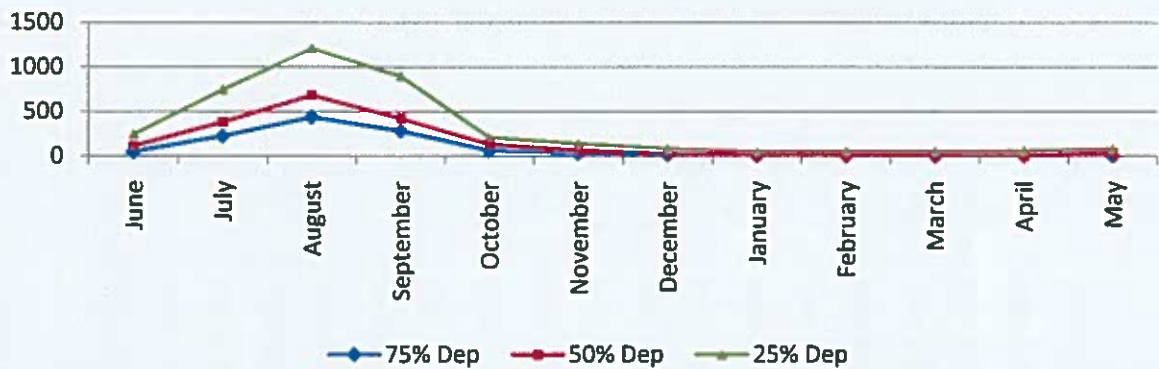
ANNUAL AVERAGE DISCHARGE SITE KESINGA, TRIBUTARY:TEL



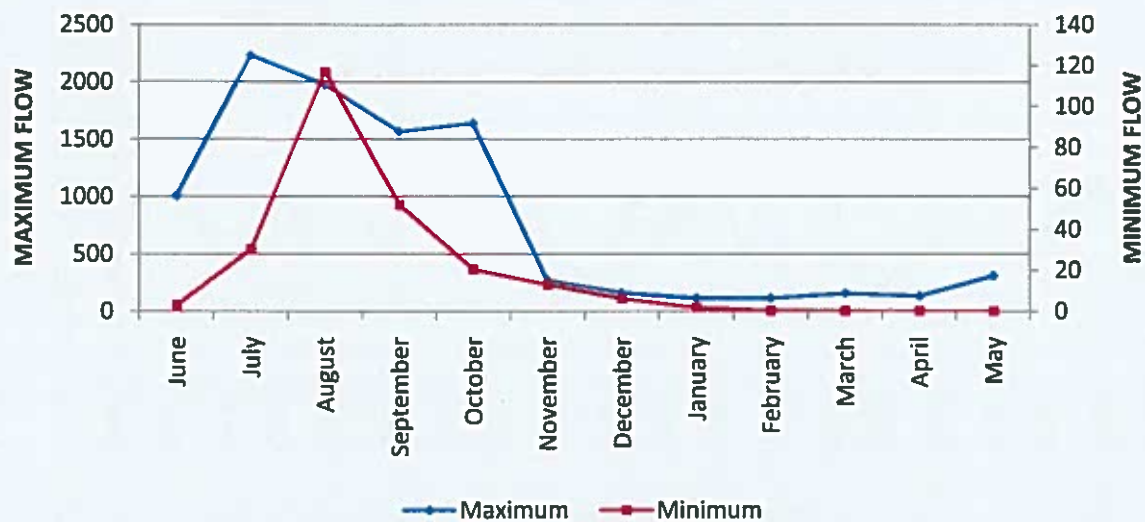
TOTAL AVERAGE DISCHARGE SITE KESINGA, TRIBUTARY:TEL



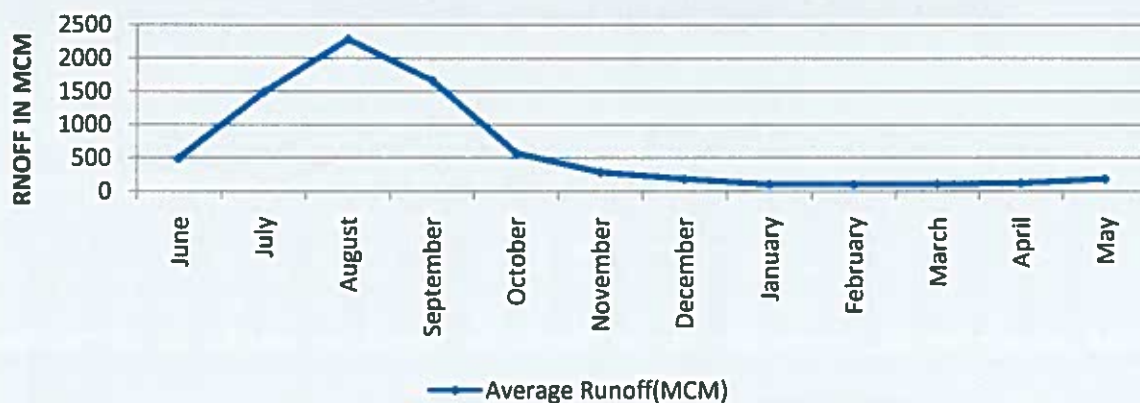
DEPENDABILITY FLOW FROM JUNE TO MAY SITE KESINGA, TRIBUTARY:TEL



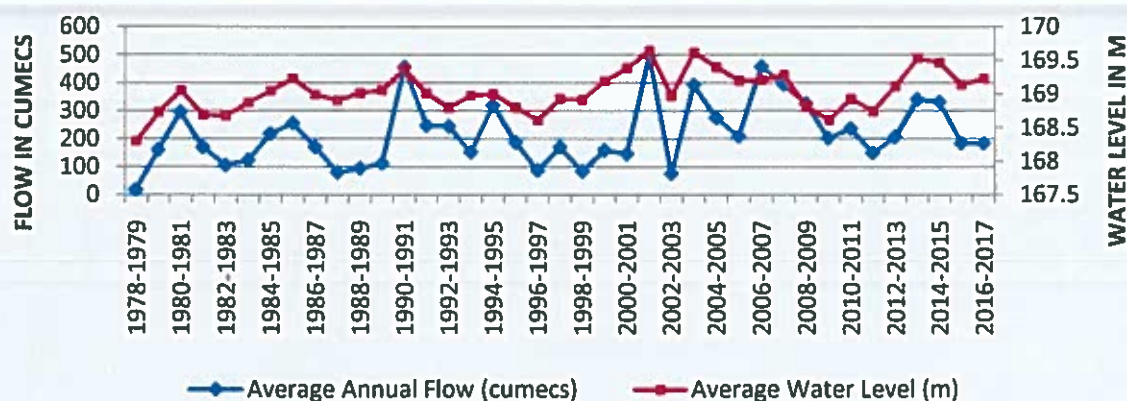
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE KESINGA, TRIBUTARY:TEL



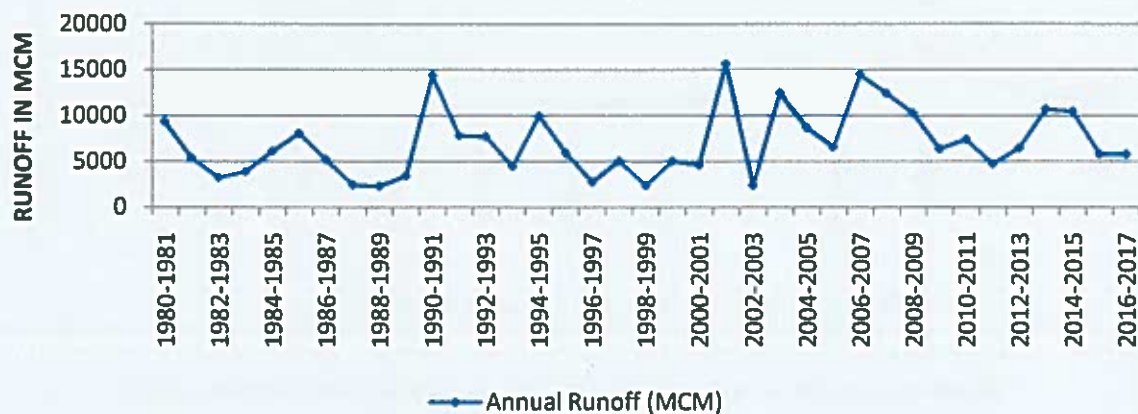
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:JKESINGA,TRIBUTARY:TEL



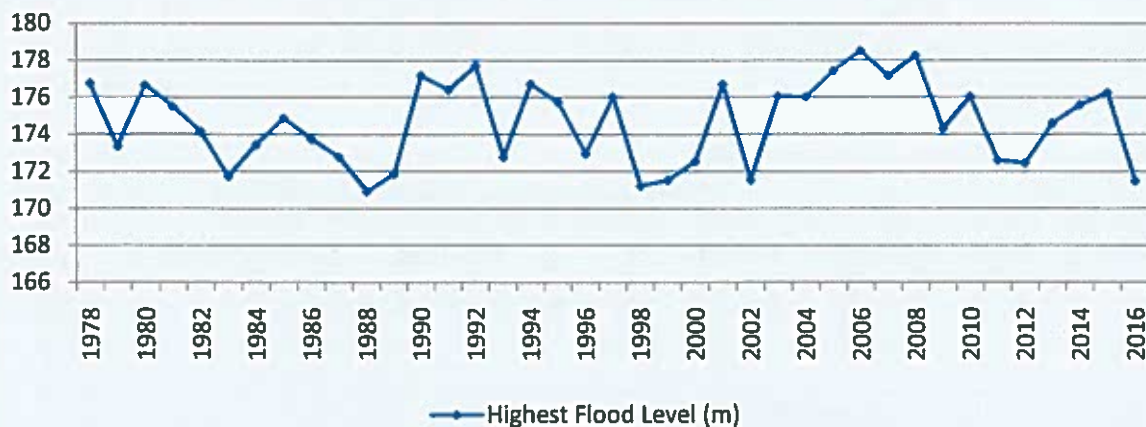
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE KESINGA, TRIBUTARY: TEL



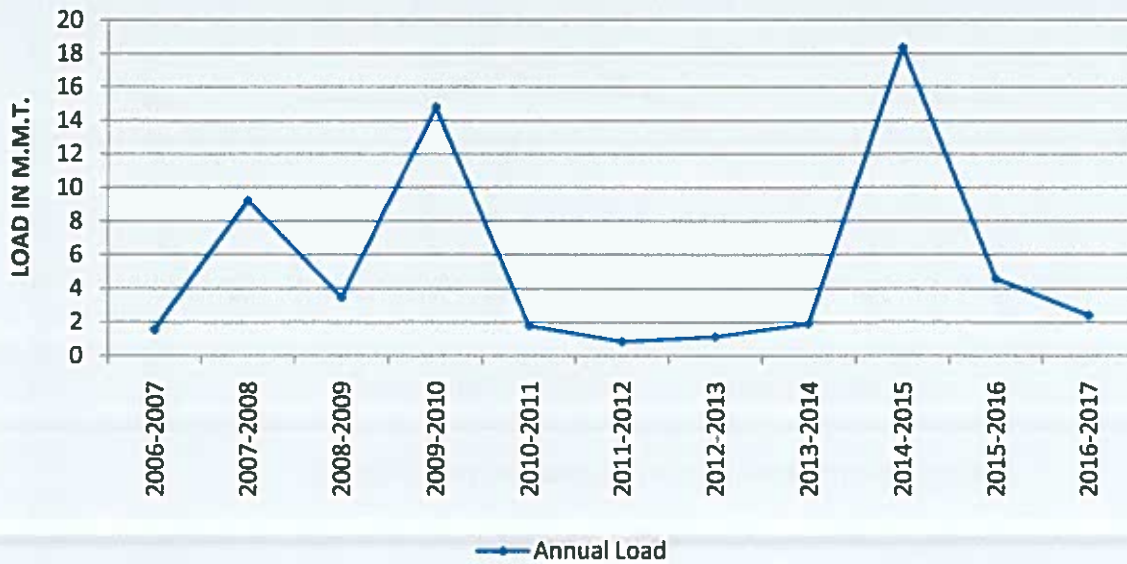
ANNUAL RUNOFF(MCM) SITE KESINGA,TRIBUTARY:TEL



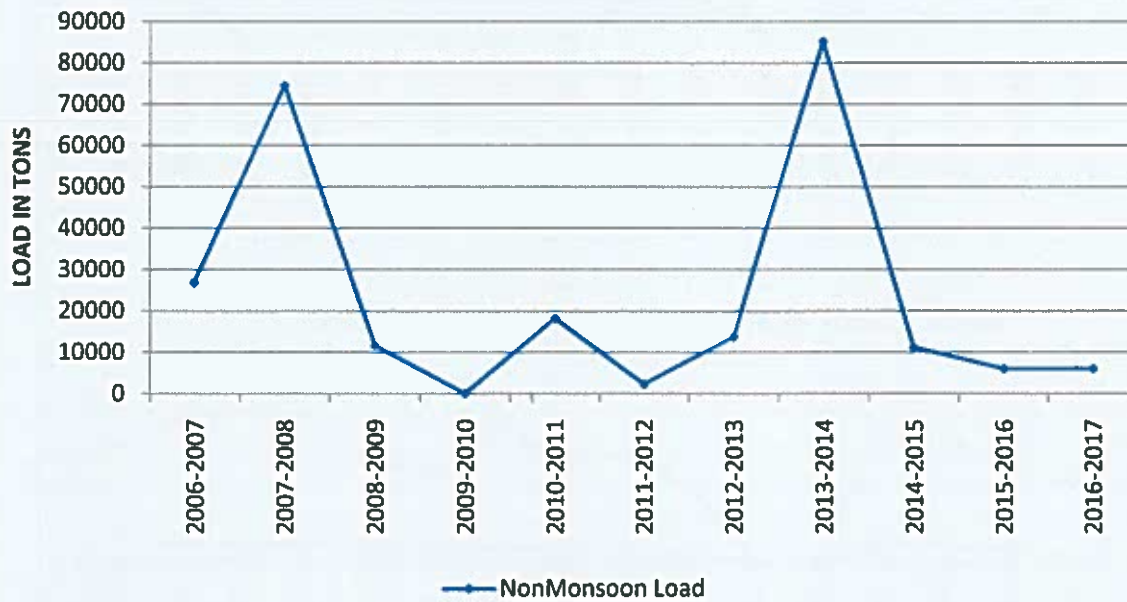
HIGHEST FLOOD LEVEL (M) AT SITE KESINGA, TRIBUTARY: TEL



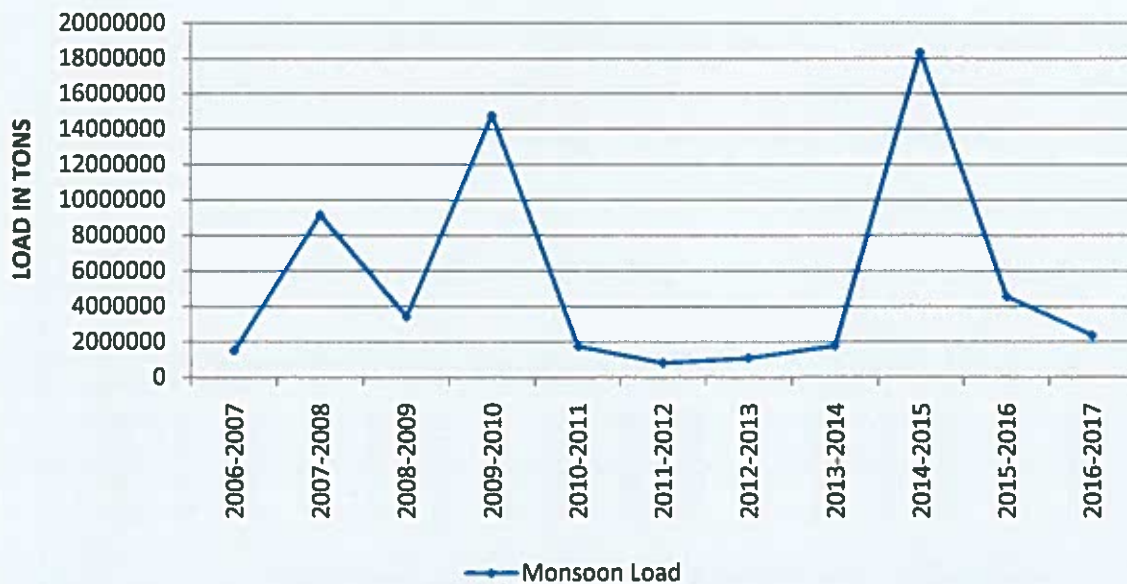
ANNUAL LOAD (MILLION M.T.) AT SITE KESINGA, TRIBUTARY: TEL



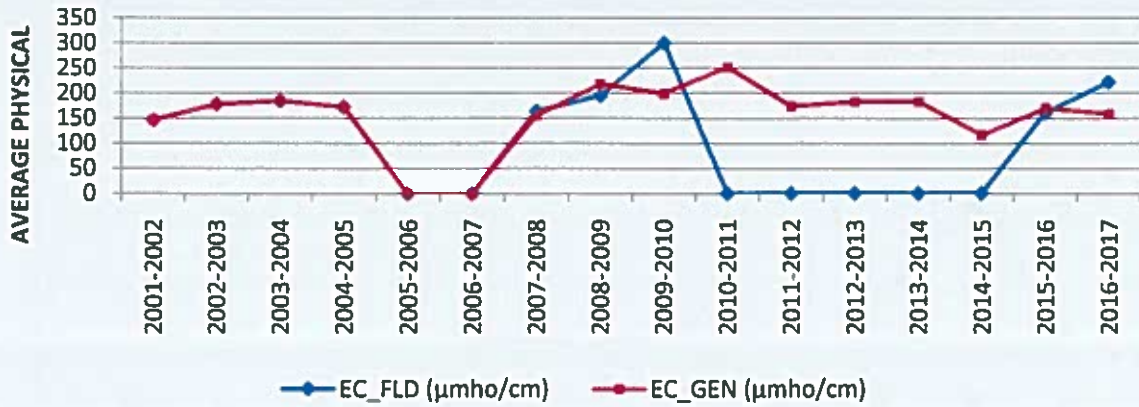
NON MONSOON LOAD AT SITE KESINGA, TRIBUTARY: TEL



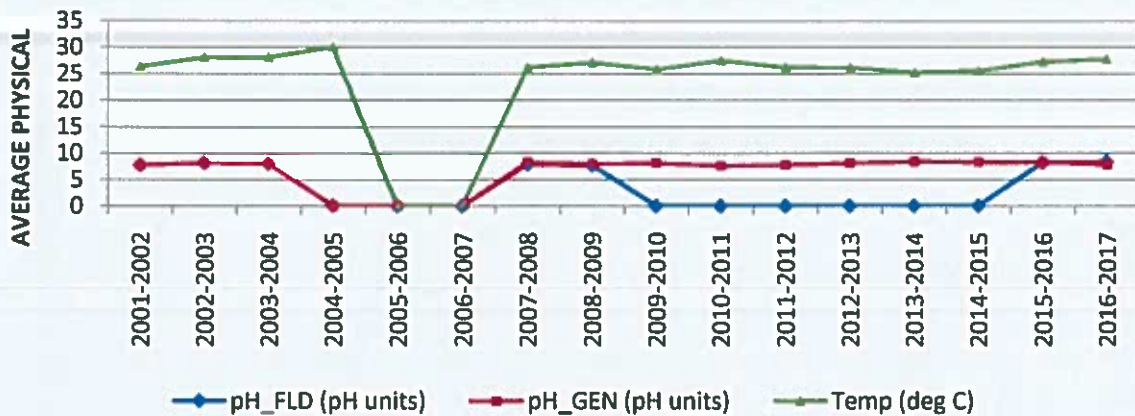
MONSOON LOAD AT SITE KESINGA, TRIBUTARY: TEL



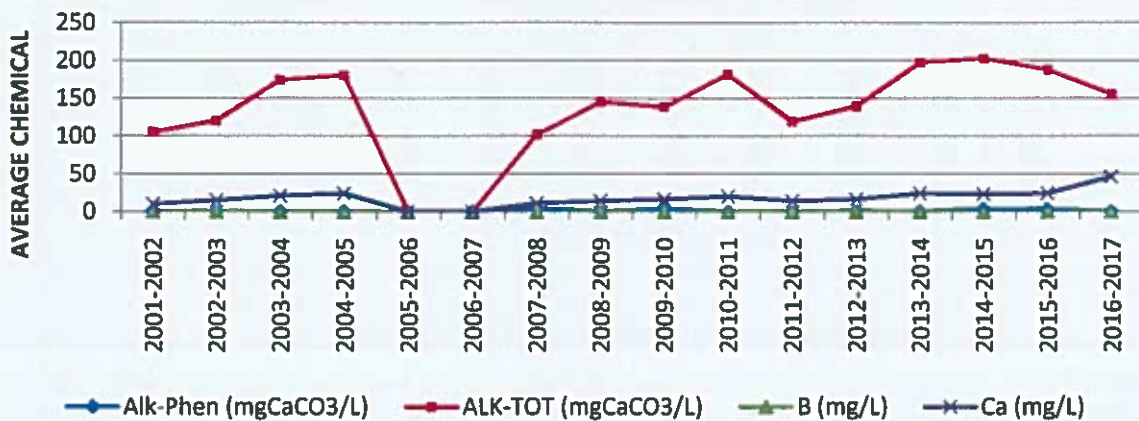
WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL



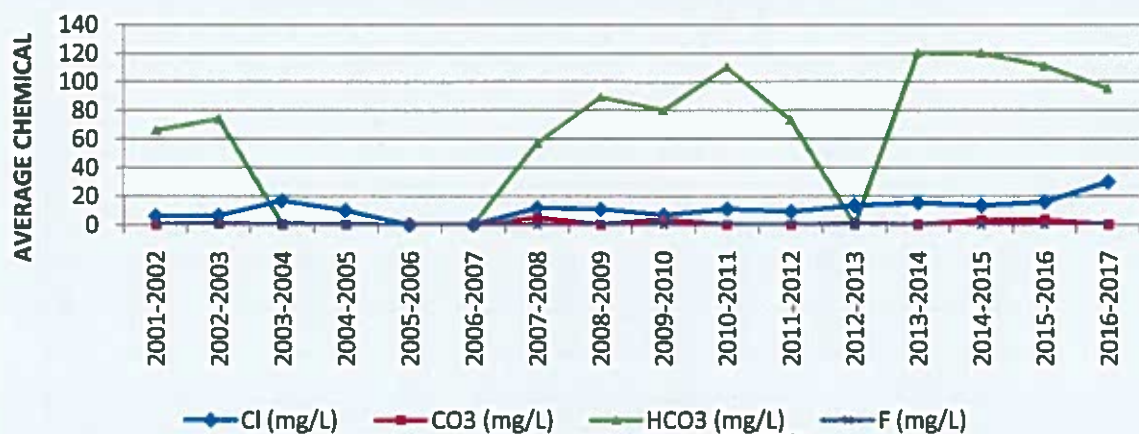
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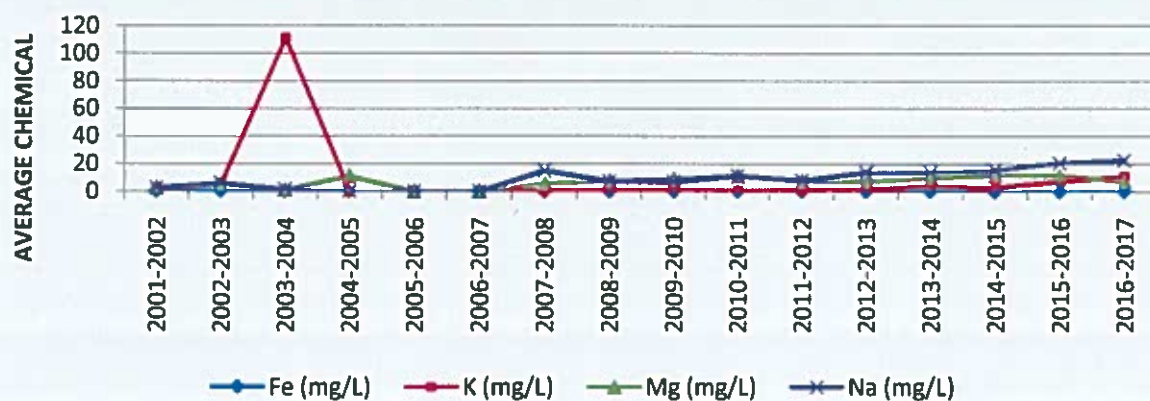
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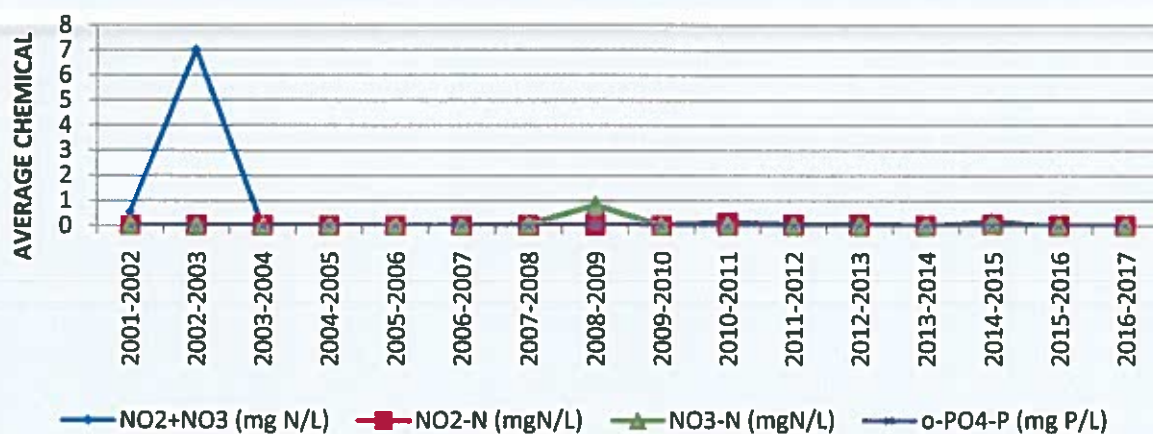
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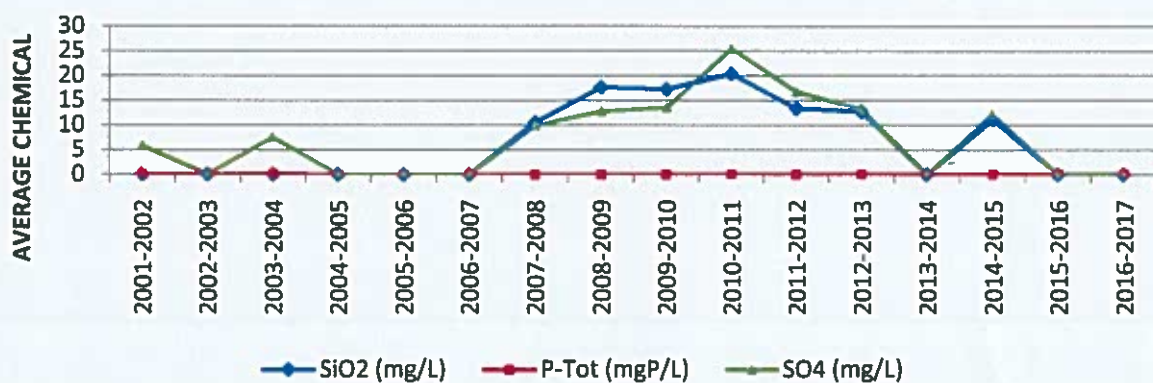
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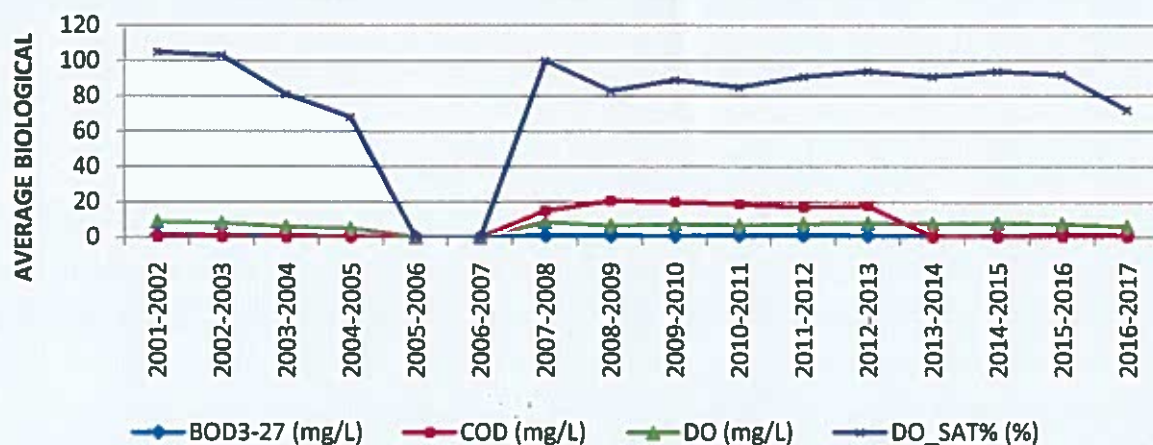
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WATER QUALITY PROPERTIES AT SITE KESINGA, TRIBUTARY: TEL

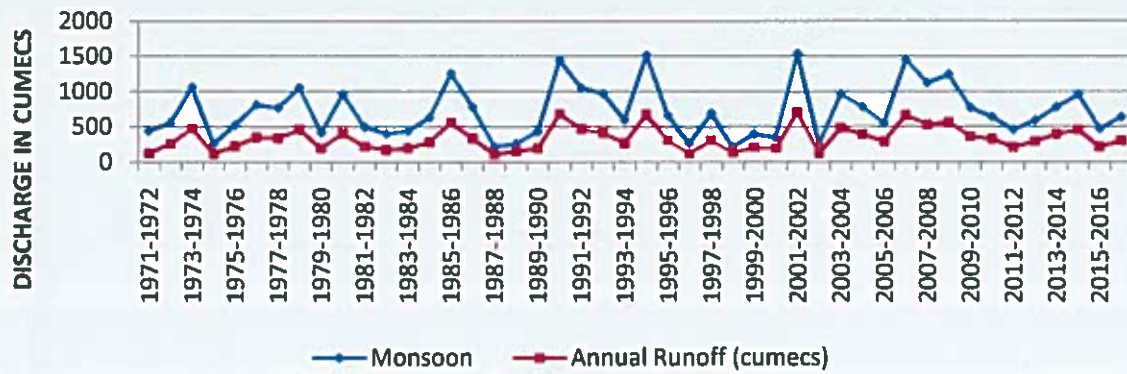


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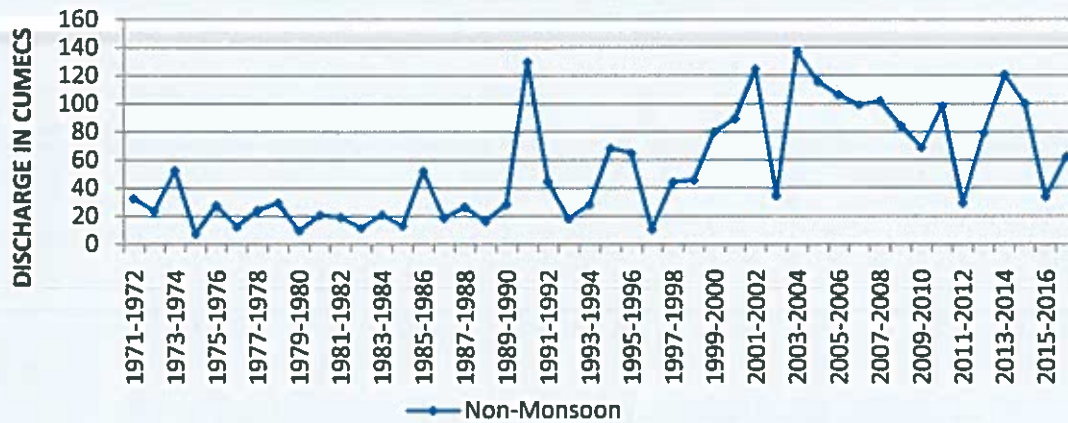


YEAR WISE TREND OF SITE KANTAMAL

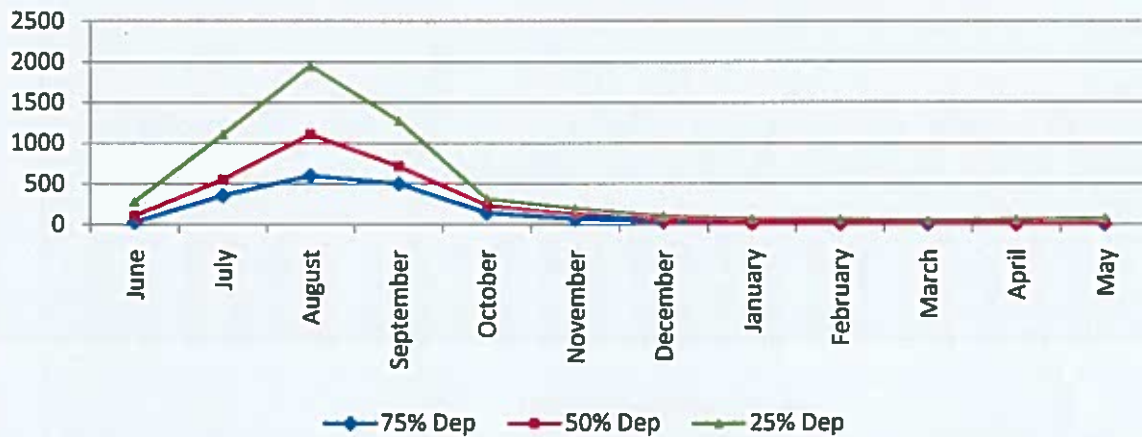
ANNUAL AVERAGE DISCHARGE SITE KANTAMAL,TRIBUTARY:TEL



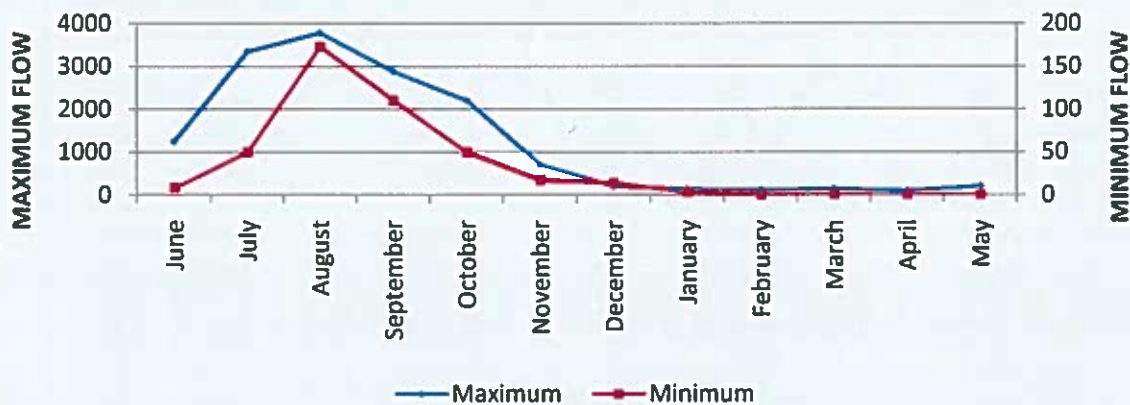
TOTAL AVERAGE DISCHARGE OF SITE KANTAMAL,TRIBUTARY:TEL



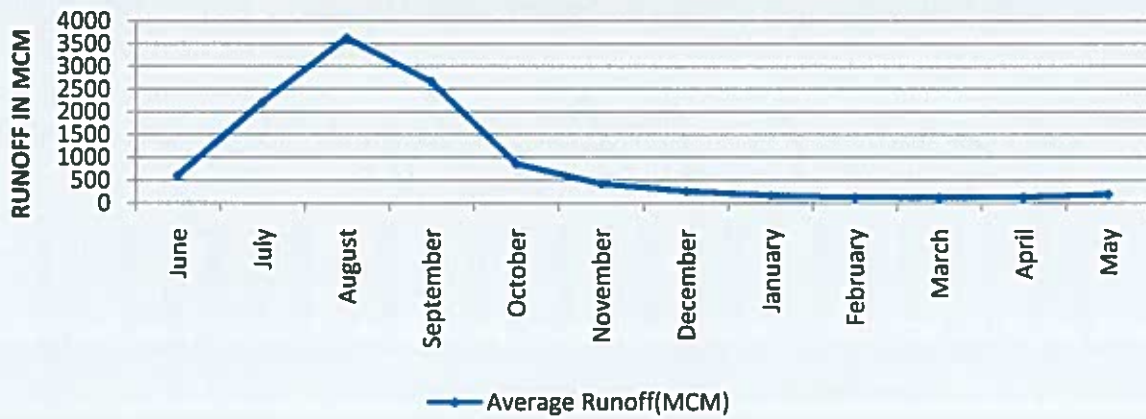
DEPENDABILITY FLOW FROM JUNE TO MAY SITE KANTAMAL,TRIBUTARY:TEL



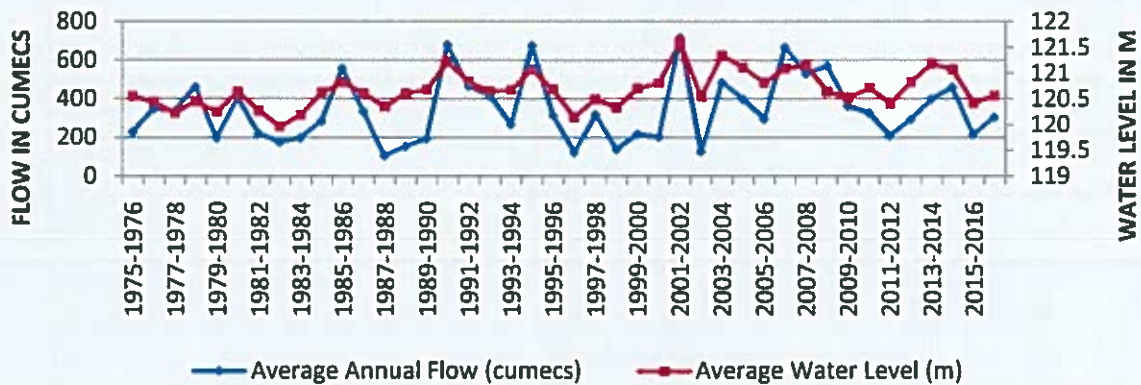
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE KANTAMAL,TRIBUTARY:TEL



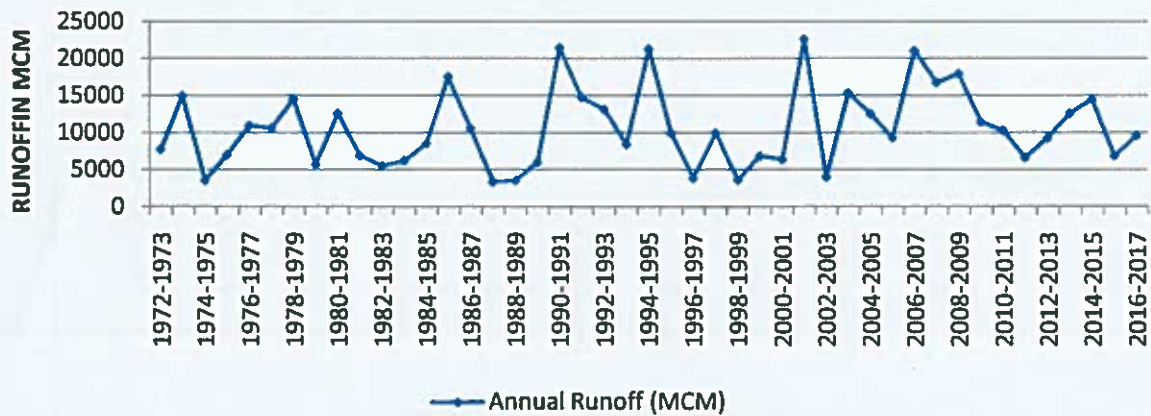
AVERAGE RUNOFF(MCM) PERIOD:1993-2017 SITE:KANTAMAL,TRIBUTARY:TEL



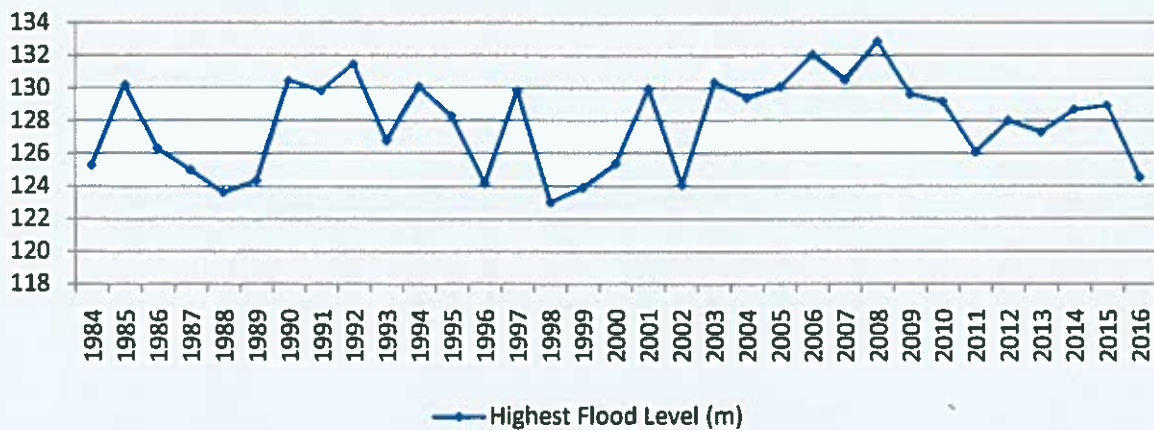
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE KANTAMAL, TRIBUTARY: TEL



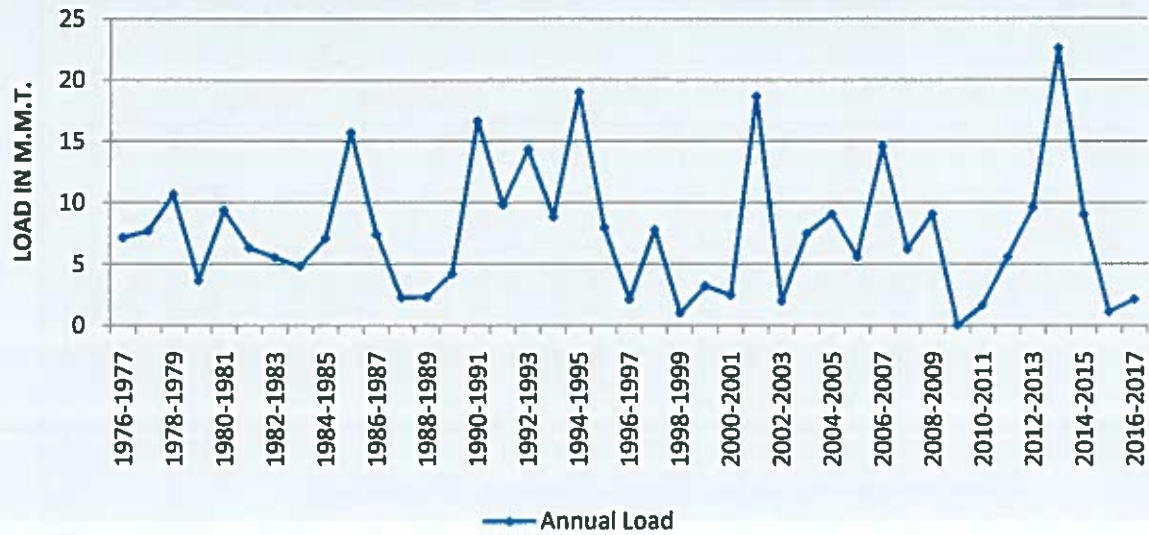
ANNUAL RUNOFF(MCM)SITE KANTAMAL,TRIBUTARY:TEL



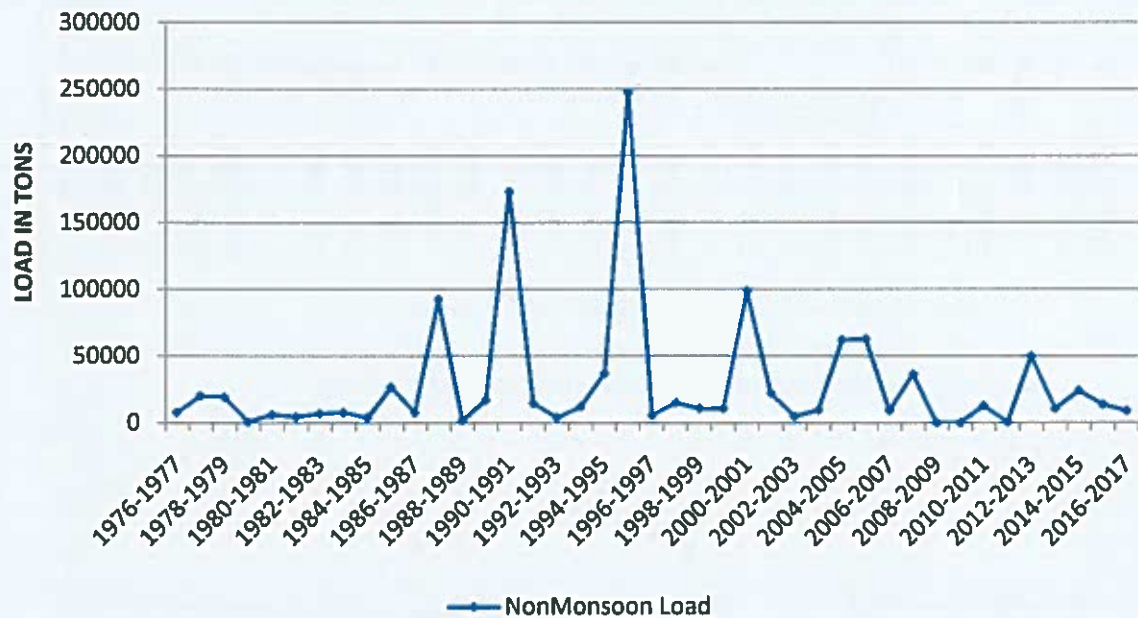
HIGHEST FLOOD LEVEL (m) AT SITE KANTAMAL,TRIBUTARY: TEL



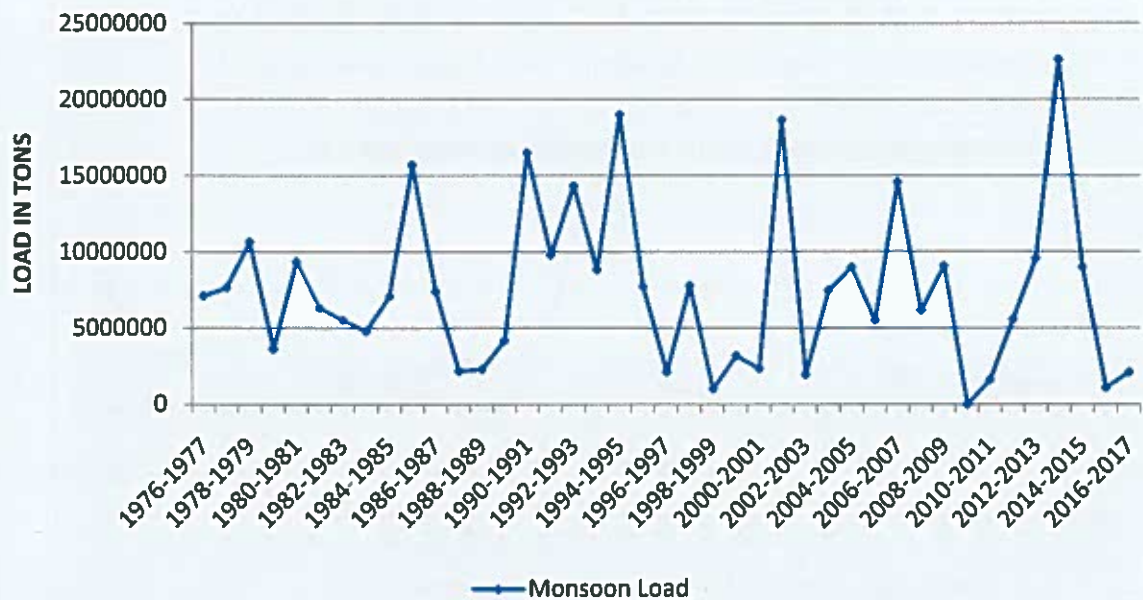
ANNUAL LOAD (MILLION M.T.) AT SITE KANTAMAL, TRIBUTARY:TEL



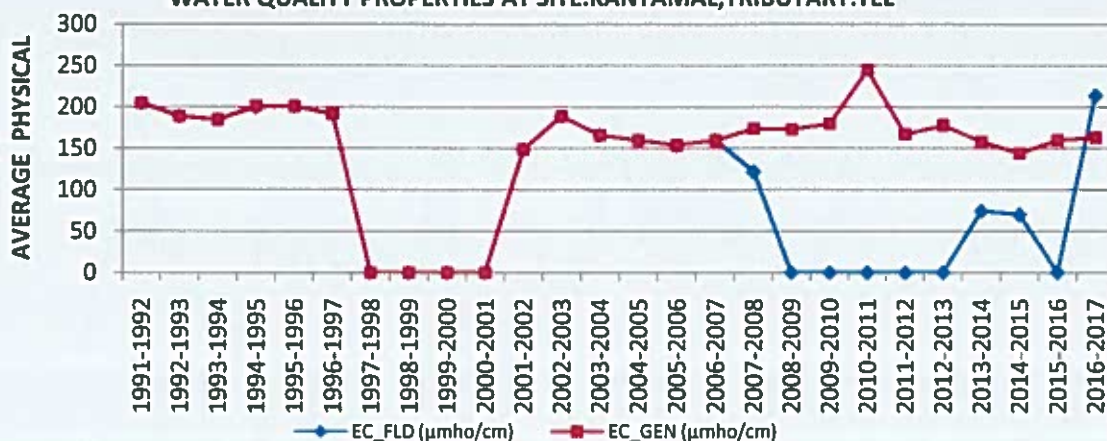
NON MONSOON LOAD AT SITE KANTAMAL, TRIBUTARY:TEL



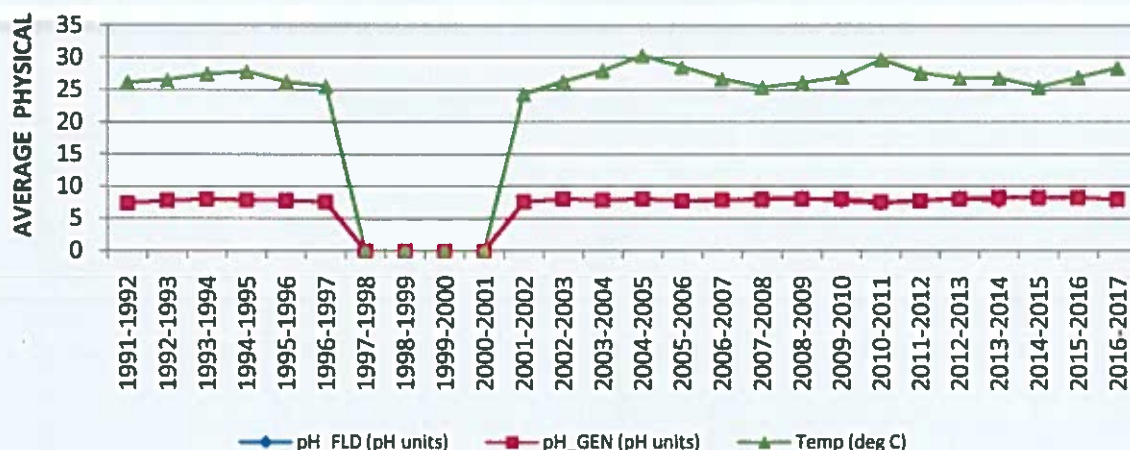
MONSOON LOAD AT SITE KANTAMAL, TRIBUTARY: TEL



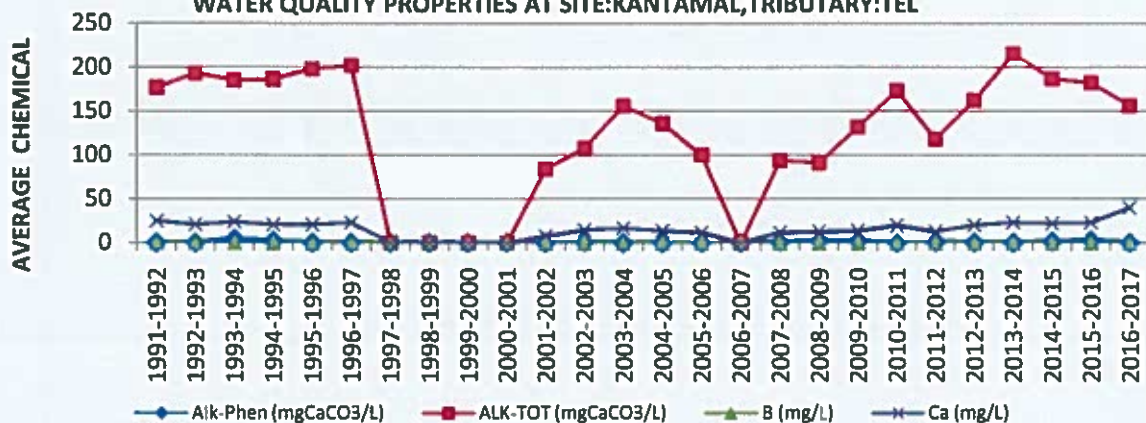
WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL



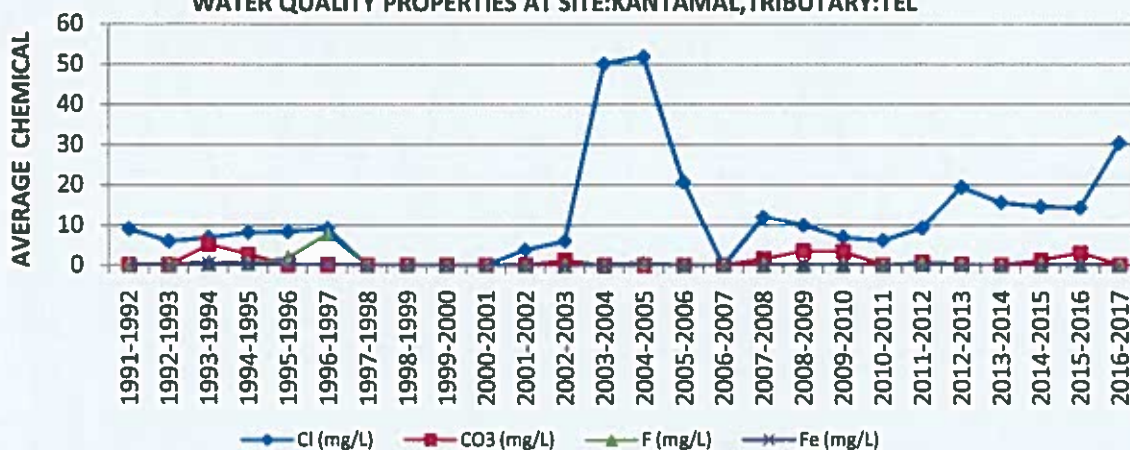
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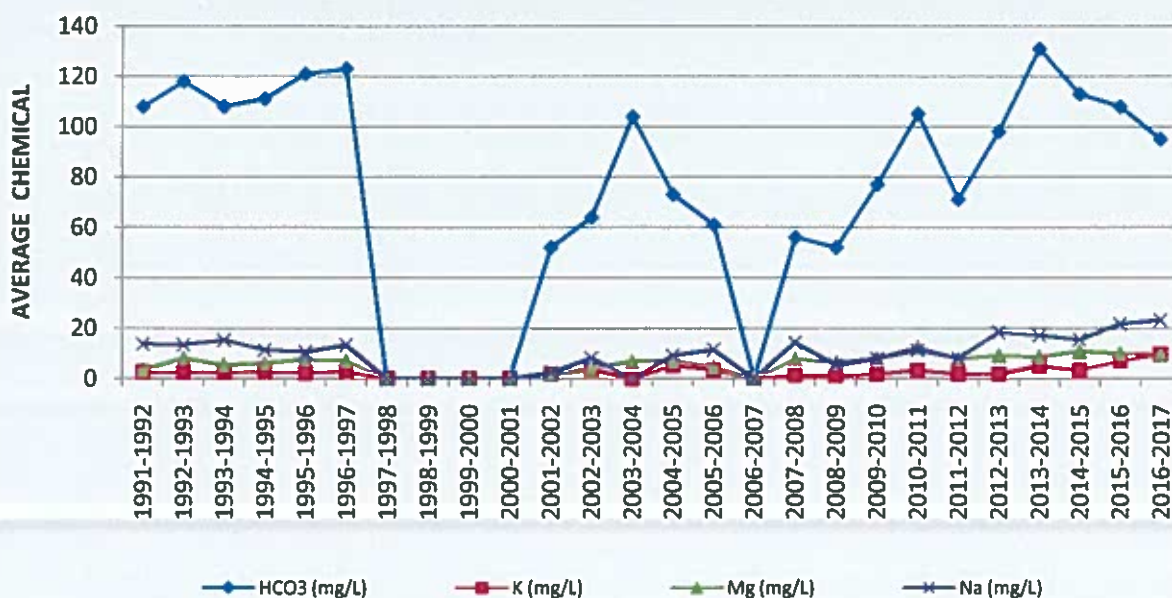
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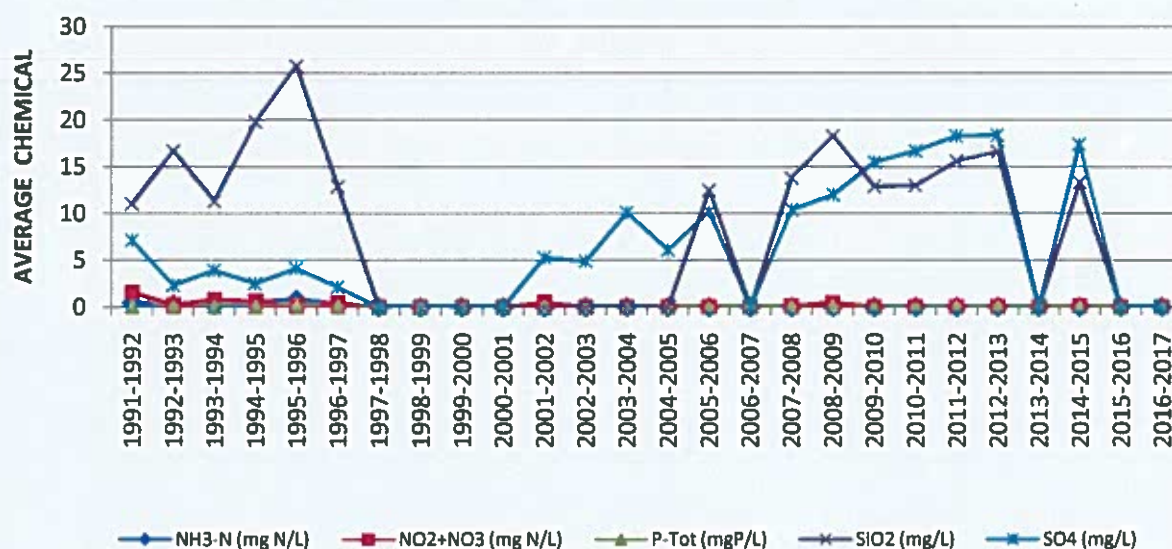
WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL



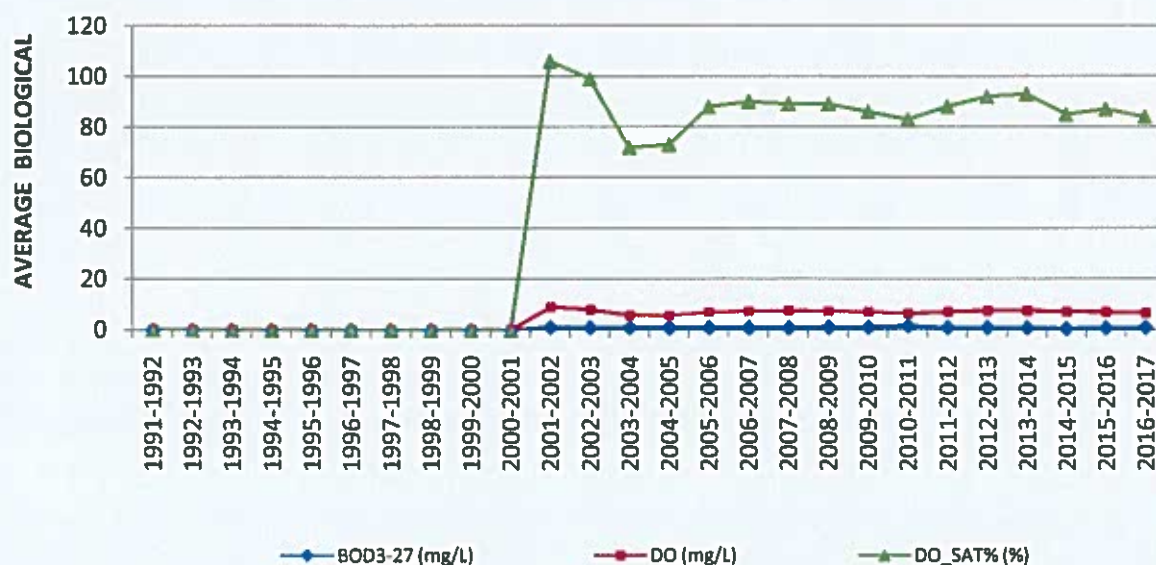
WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL



WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL

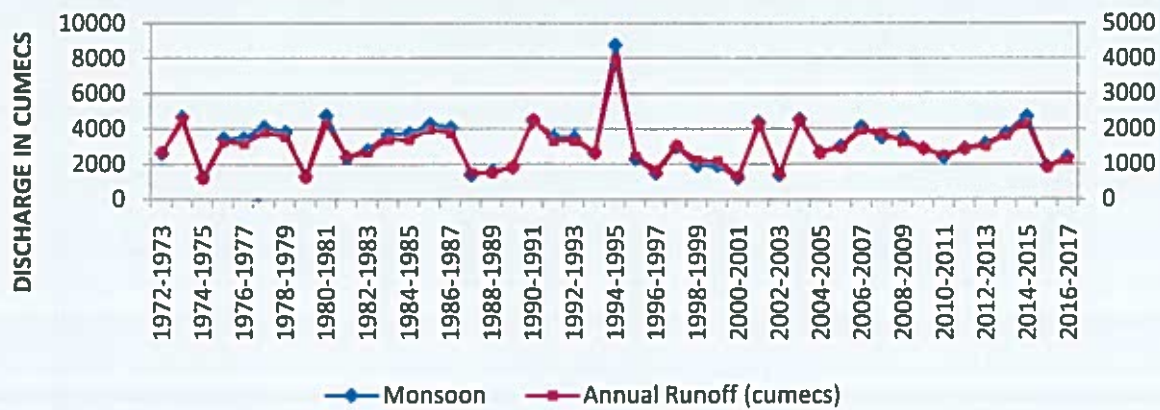


WATER QUALITY PROPERTIES AT SITE:KANTAMAL,TRIBUTARY:TEL

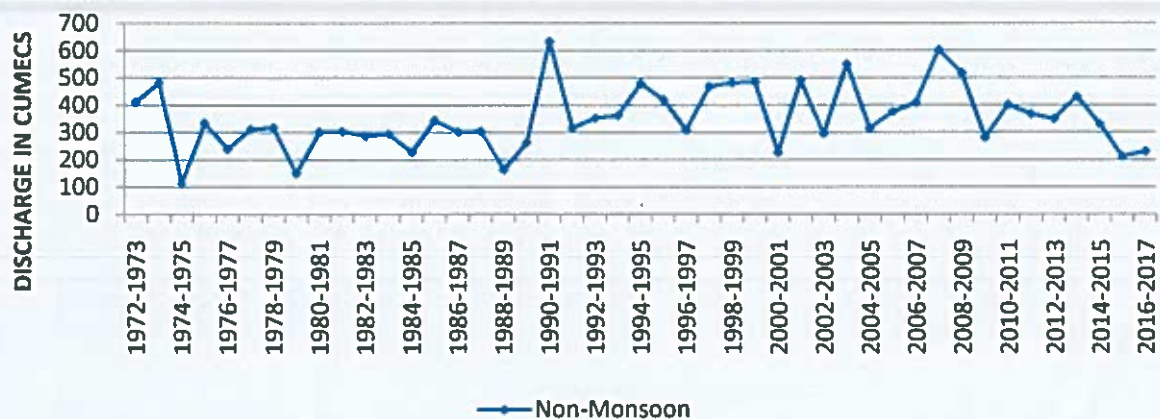


YEAR WISE TREND OF SITE TIKARPARA

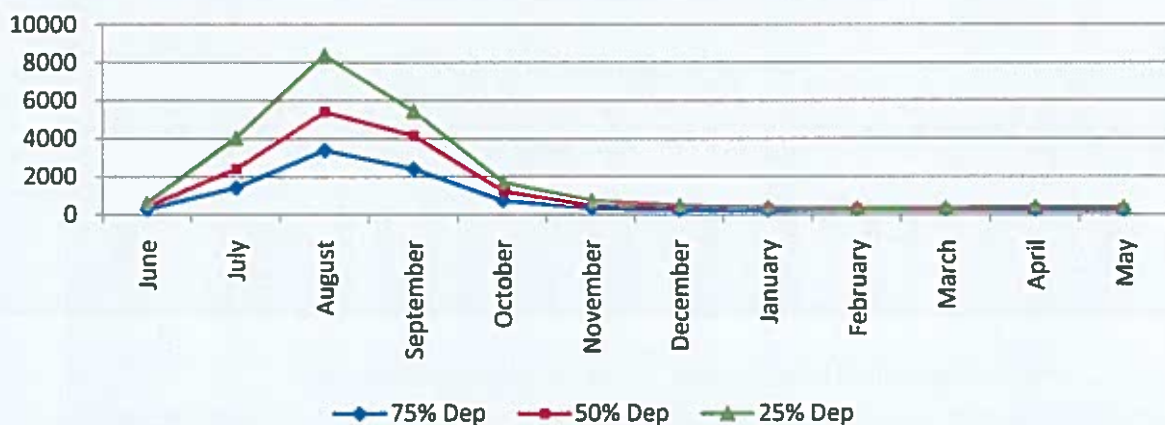
ANNUAL AVERAGE DISCHARGE, SITE TIKARPARA, RIVER:MAHANADI



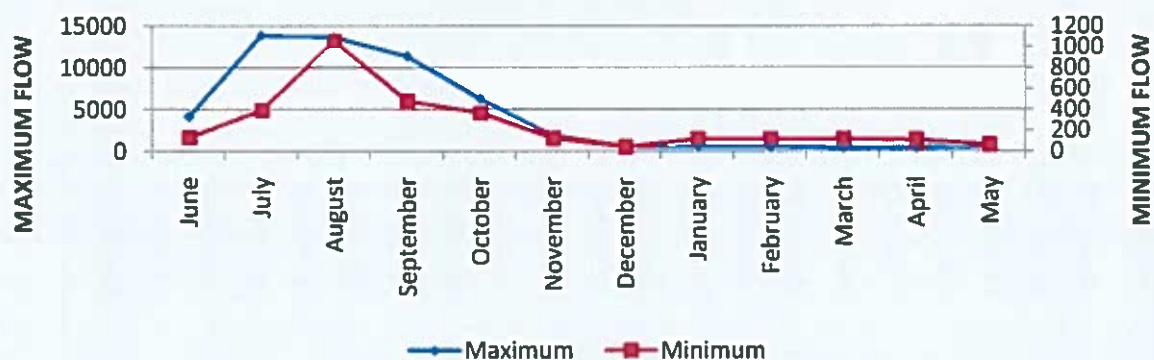
TOTAL ANNUAL DISCHARGE, SITE TIKARPARA, RIVER:MAHANADI



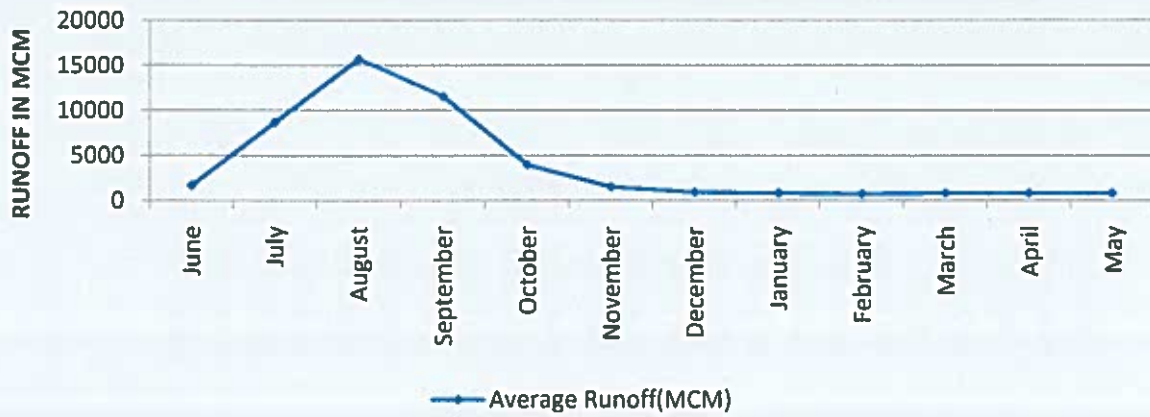
DEPENDABILITY FLOW FROM JUNE TO MAY SITE TIKARPARA, RIVER: MAHANADI



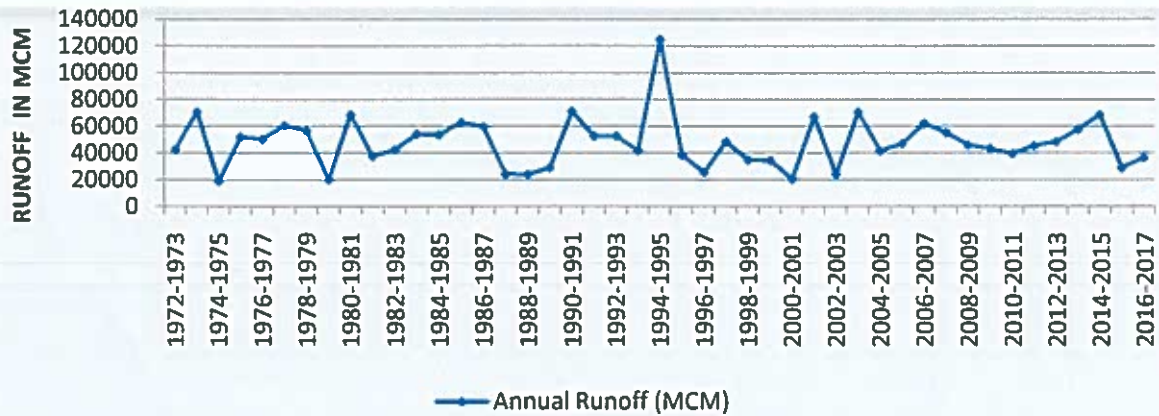
MAXIMUM MINIMUM FLOW FROM JUNE TO MAY SITE TIKARPARA, RIVER:MAHANADI



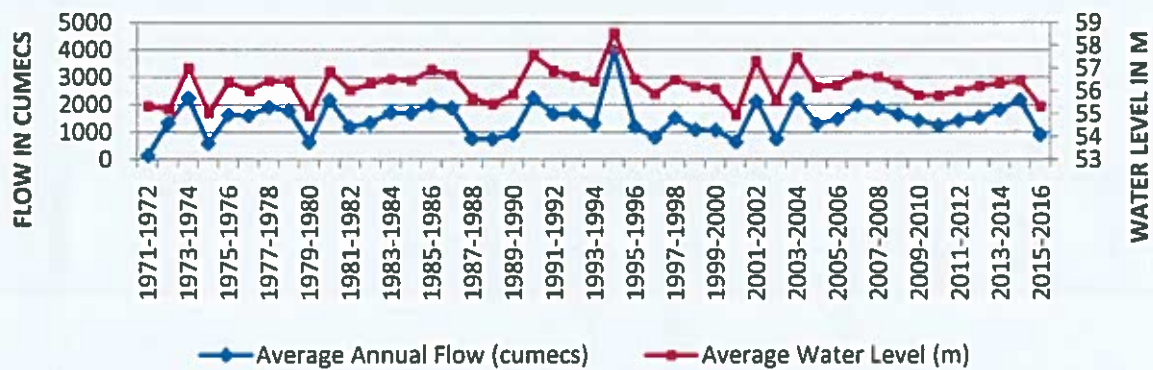
ANNUAL RUNOFF (MCM) PERIOD 1971-2017 SITE TIKARPARA, RIVER: MAHANADI



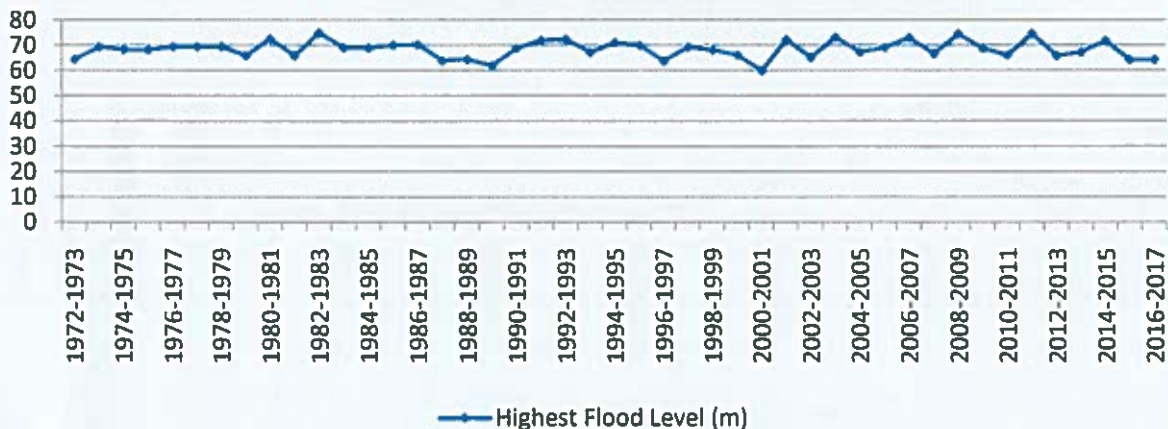
ANNUAL RUNOFF IN (MCM) SITE TIKARPARA, RIVER:MAHANADI



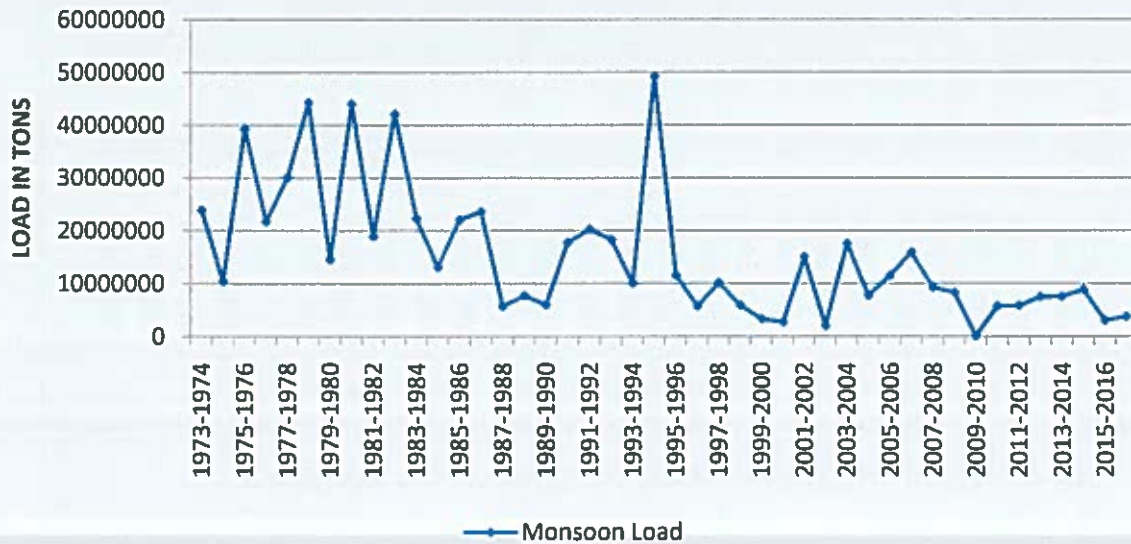
AVERAGE ANNUAL FLOW (CUMECs) WITH WATER LEVEL (M) SITE TIKARPARA, RIVER:MAHANADI



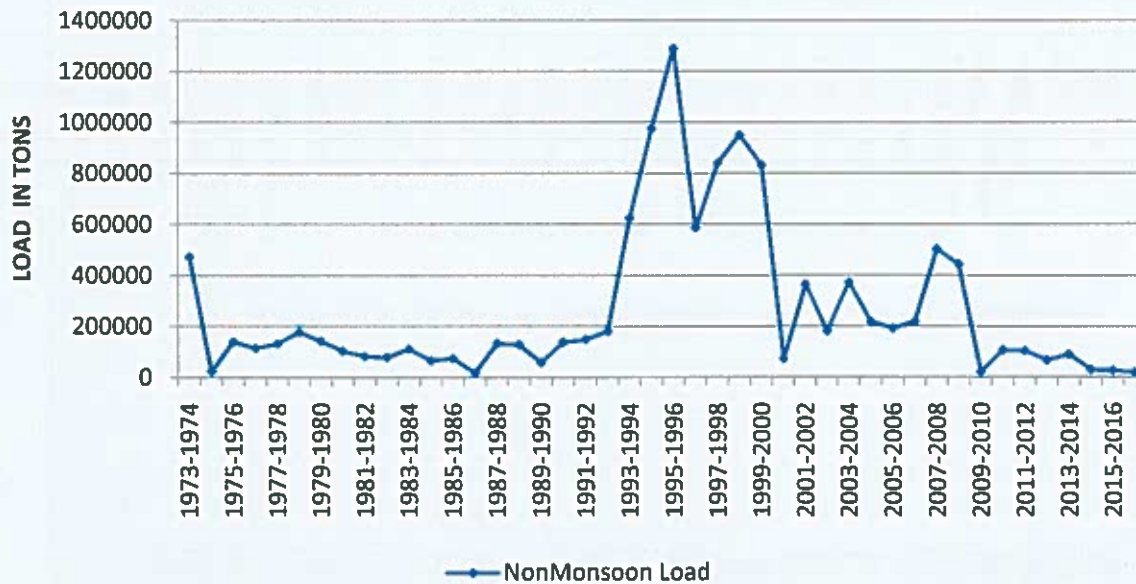
HIGHEST FLOOD LEVEL (m) AT SITE TIKARPARA, RIVER: MAHANADI



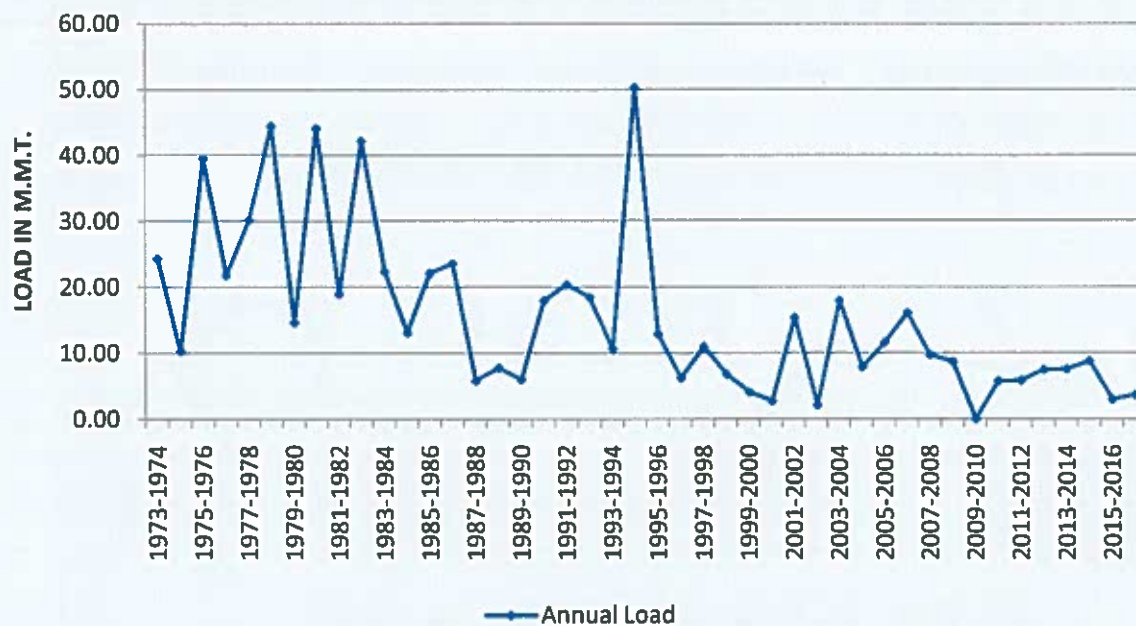
MONSOON LOAD AT SITE TIKARPARA, RIVER: MAHANADI



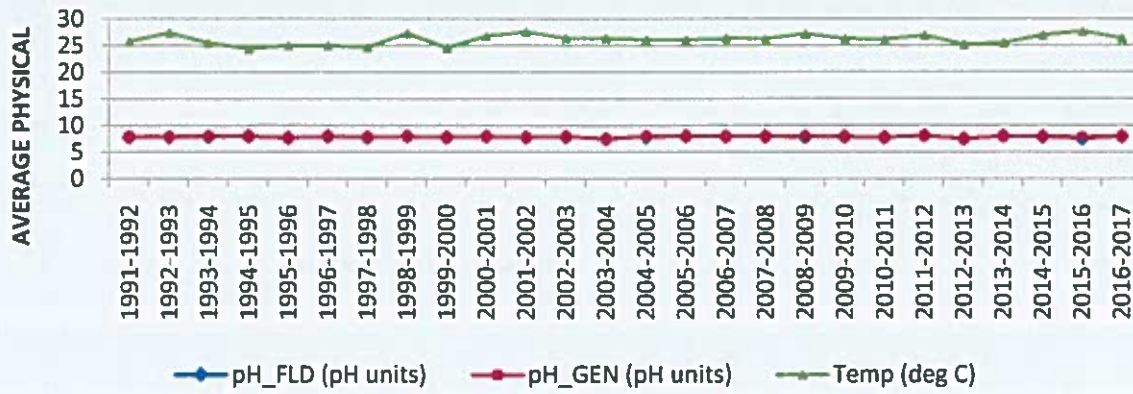
NON MONSOON LOAD AT SITE TIKARPARA, RIVER: MAHANADI



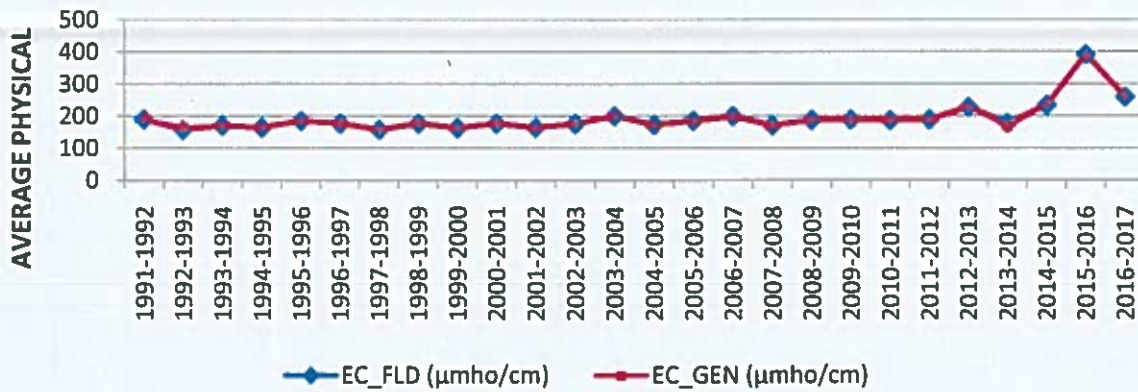
ANNUAL LOAD (MILLION M.T.) AT SITE TIKARPARA, RIVER: MAHANADI



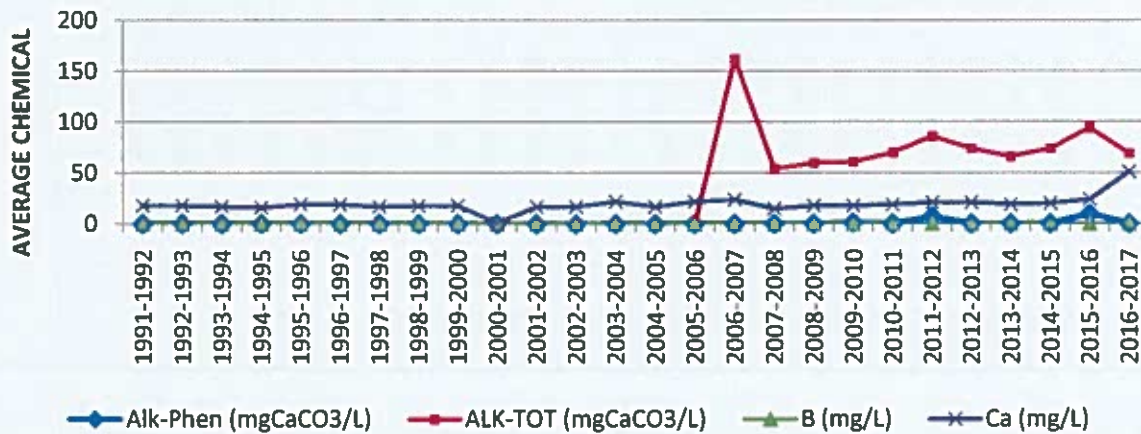
WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER: MAHANADI



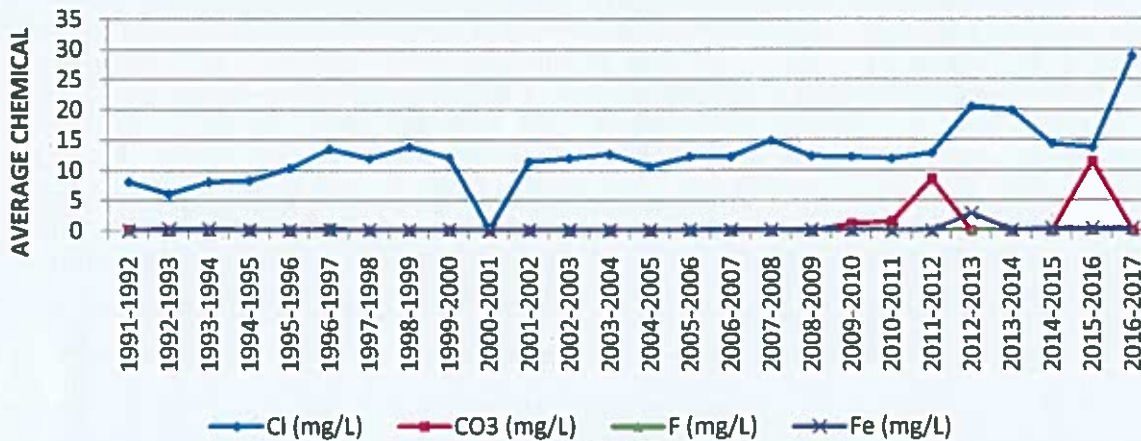
WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER: MAHANADI



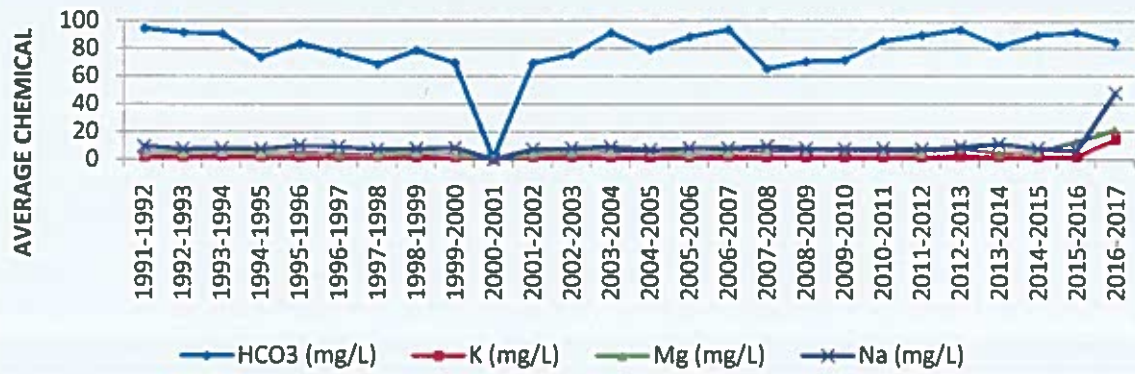
WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER: MAHANADI



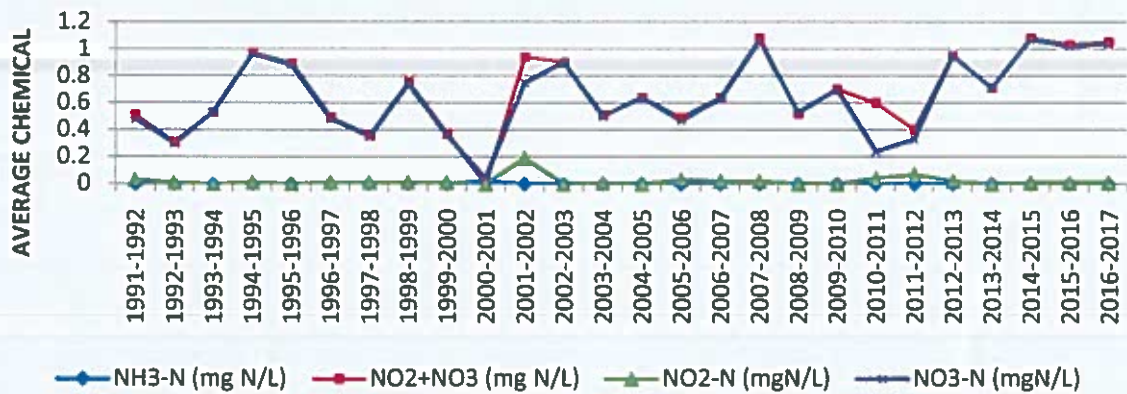
WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER:MAHANADI



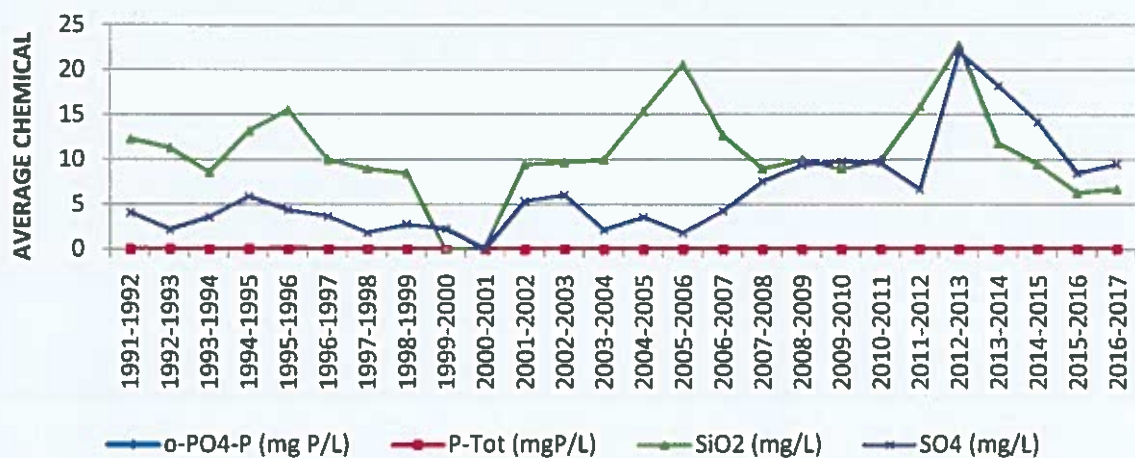
WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER:MAHANADI



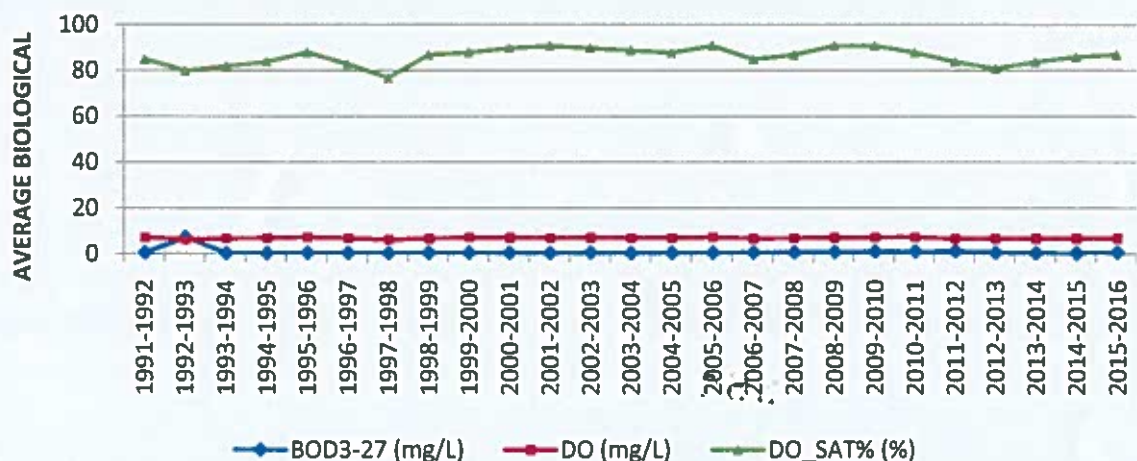
WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER: MAHANADI



WATER QUALITY PROPERTIES AT SITE TIKARPARA, RIVER:MAHANADI



WATER QUALITY PROPERTIES AT SITE TIKARPARA,RIVER: MAHANADI



ABSTRACT OF WATER QUALITY ANALYSIS

MAHANADI RIVER

BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	2.7	0.4	1.1	2.4	0.3	1.0	1.2	0.4	0.7
BASANTPUR	1.9	0.3	0.8	2.0	0.3	0.9	2.1	0.5	1.1
TIKARAPARA	4.3	0.4	1.0	1.6	0.6	1.0	2.2	0.4	1.1

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	8.4	5.1	6.9	8.0	4.9	6.5	7.1	6.4	6.8
BASANTPUR	8.3	5.0	6.8	8.3	4.7	6.6	8.1	5.2	6.6
TIKARAPARA	8.8	5.5	7.1	9.1	5.7	7.1	12.30	5.00	7.70

Parameter -- FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	0.65	0.12	0.34	0.44	0.07	0.19	0.00	0.00	0.00
BASANTPUR	0.44	0.14	0.29	0.32	0.18	0.23	0.00	0.00	0.00
TIKARAPARA	0.17	0.02	0.05	0.08	0.04	0.04	0.05	0.05	0.05

Parameter -- Fe

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	0.00	0.09	0.14	0.06	0.00	0.00	0.00	0.00	0.00
BASANTPUR	0.40	0.09	0.18	0.10	0.01	0.05	0.00	0.00	0.00
TIKARAPARA	0.60	0.13	0.29	0.87	0.24	0.70	0.70	0.20	0.40

Parameter -- EC

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	288	89	170	235	88	141	82	60	70
BASANTPUR	321	128	209	364	148	253	353	102	234
TIKARAPARA	278	124	190	321	127	211	543	158	262

Parameter – So₄

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	19.6	3.7	8.7	22.6	5.5	11.8	22.6	5.5	11.8
BASANTPUR	24.4	6.5	13.7	31.8	13.2	22.0	0.0	0.0	0.0
TIKARAPARA	11.0	2.4	6.4	15.2	4.2	11.0	13.7	7.5	9.5

CHLORINE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	19.9	5.4	9.8	22.4	5.5	10.8	19.0	10.0	15.3
BASANTPUR	25.2	7.5	14.8	29.7	8.4	17.8	64.0	14.0	33.2
TIKARAPARA	19.9	7.6	12.4	24.6	8.5	14.5	78.9	9.4	28.9

Mg (mg/l)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	9.9	2.4	5.2	11.7	3.1	6.7	13.6	3.9	9.4
BASANTPUR	14.0	2.9	7.2	19.2	4.3	10.5	28.2	1.0	9.9
TIKARAPARA	12.3	3.6	6.9	17.3	6.0	10.0	40.8	17.5	21.4

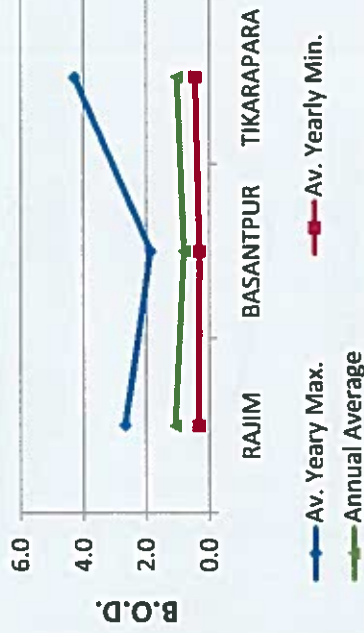
HAR_Ca (mgCaCO₃/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	76.1	21.4	46.7	57.5	21.6	37.4	68.0	40.0	57.0
BASANTPUR	78.1	29.9	50.3	84.55	37.91	60.18	160.0	72.0	112.0
TIKARAPARA	78.5	31.2	49.4	88.5	36.1	53.1	236.0	104.0	127.0

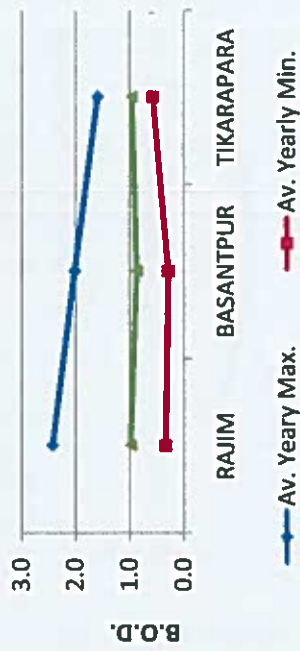
HAR_Total (mgCaCO₃/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
RAJIM	111.7	39.2	68.3	103	42	65	125.0	80.0	97.0
BASANTPUR	127.3	50.5	80.2	153	67	104	234.0	104.0	153.0
TIKARAPARA	126.2	55.1	84.2	167	73	108	407.0	181.0	216.0

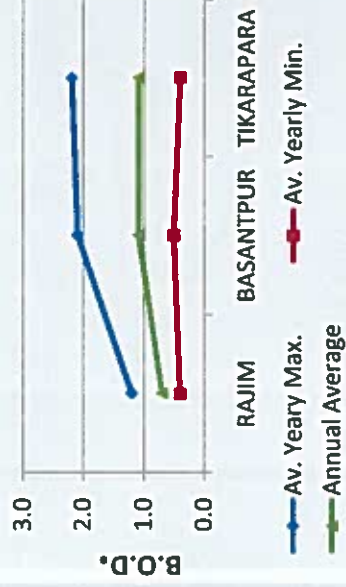
SINCE INCEPTION OF SITES



LAST 10 YEARS 2006-07 to 2016-17



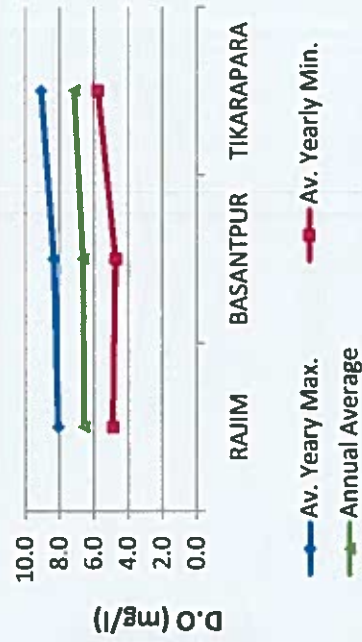
ONE YEAR



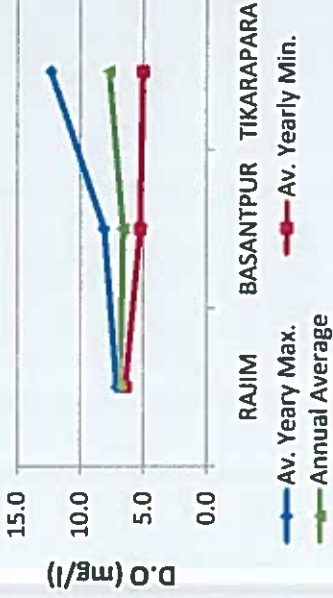
SINCE INCEPTION OF SITES



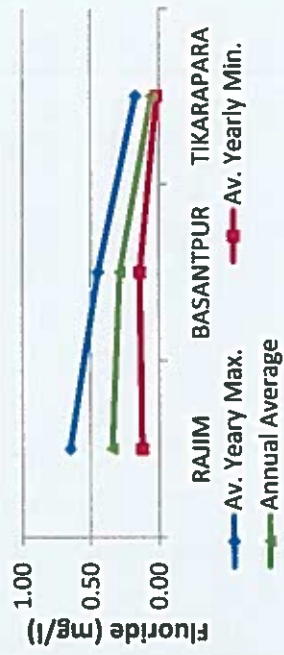
LAST 10 YEARS 2006-07 to 2016-17



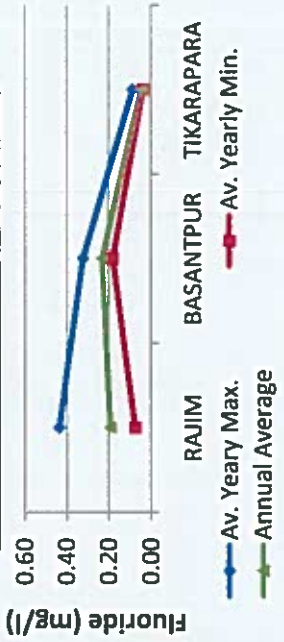
ONE YEAR



SINCE INCEPTION OF SITES



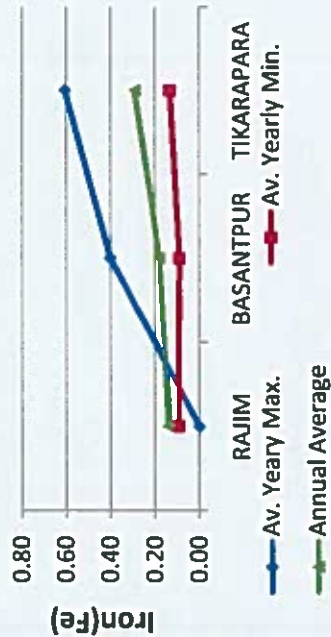
LAST 10 YEARS 2006-07 to 2016-17



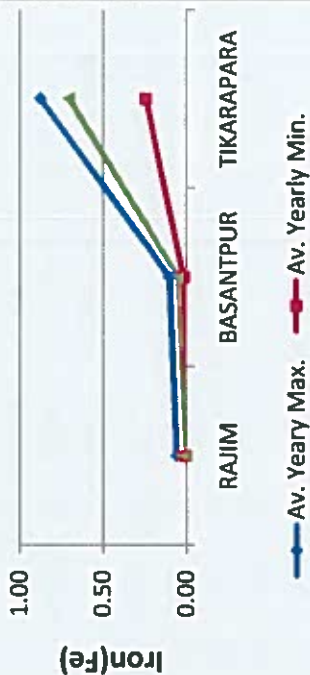
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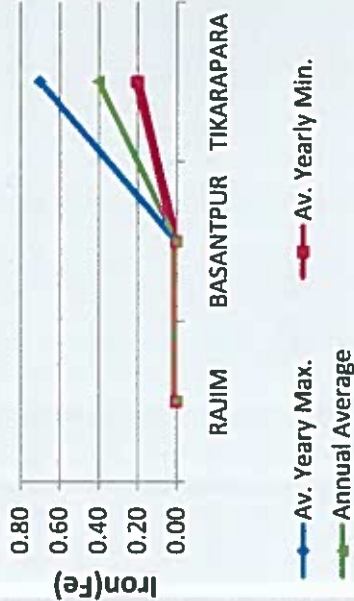
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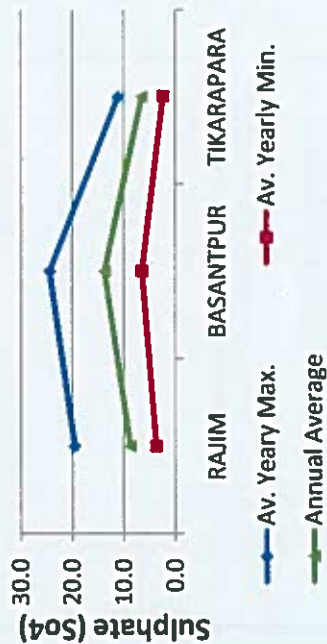
LAST 10 YEARS 2006-07 to 2016-17



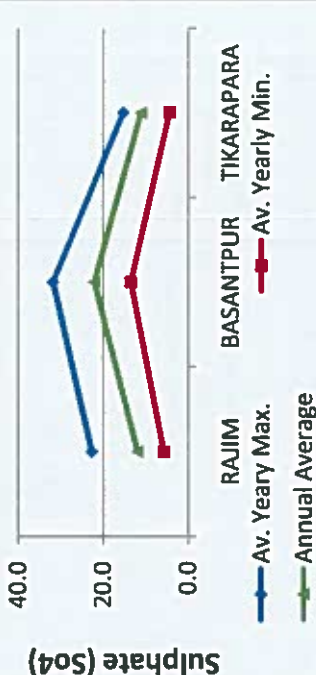
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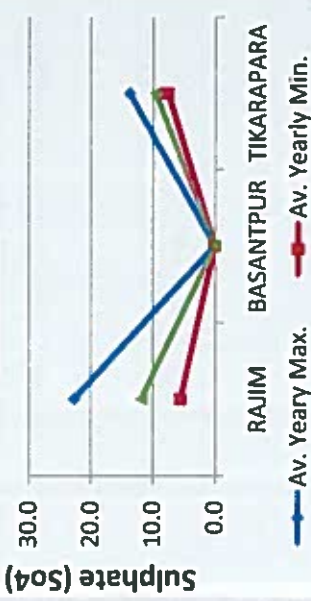
SINCE INCEPTION OF SITES



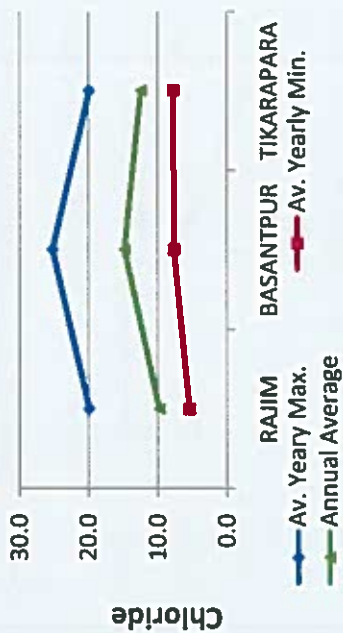
LAST 10 YEARS 2006-07 to 2016-17



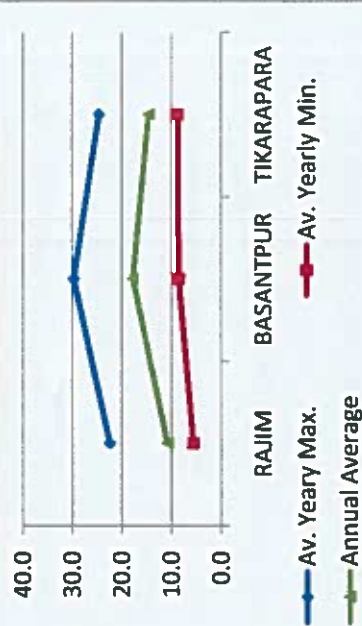
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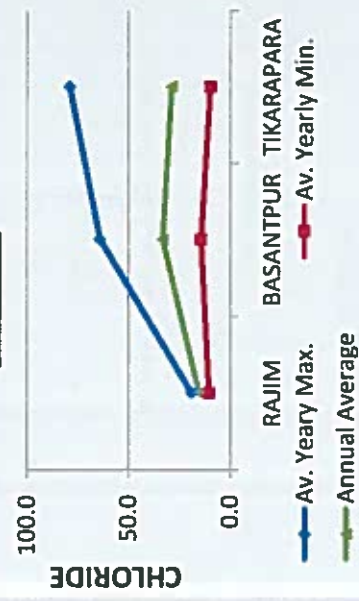
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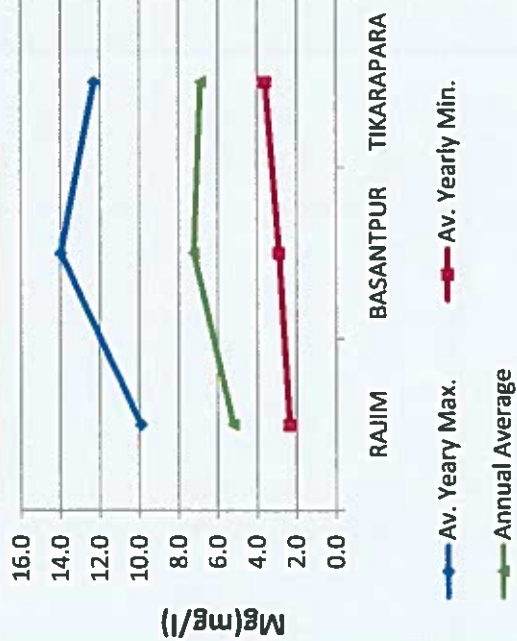
LAST 10 YEARS 2006-07 to 2016-17



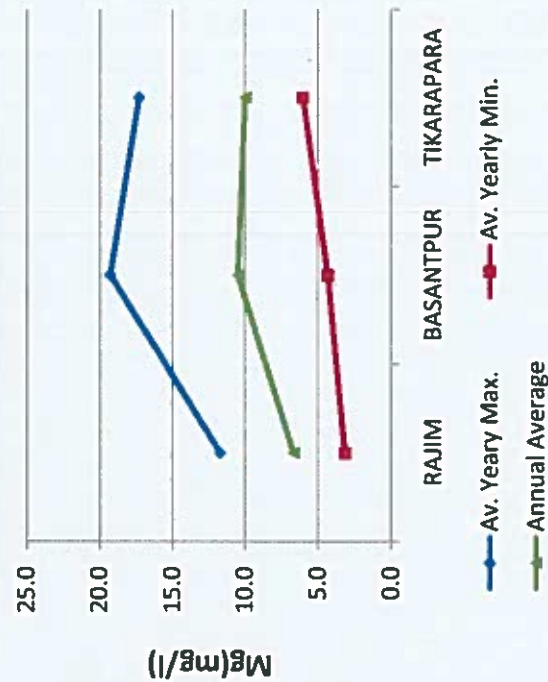
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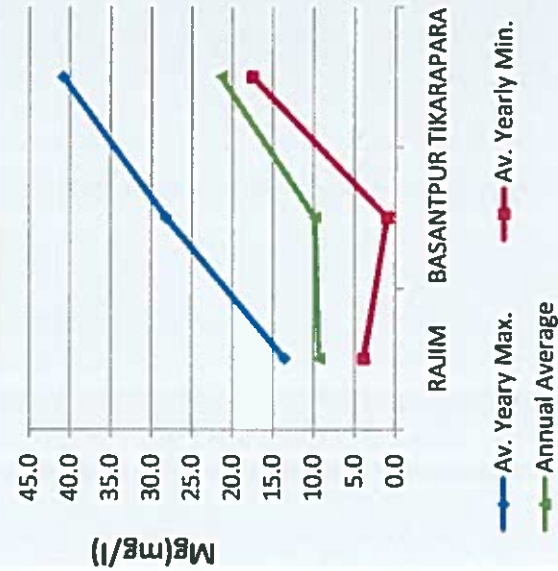
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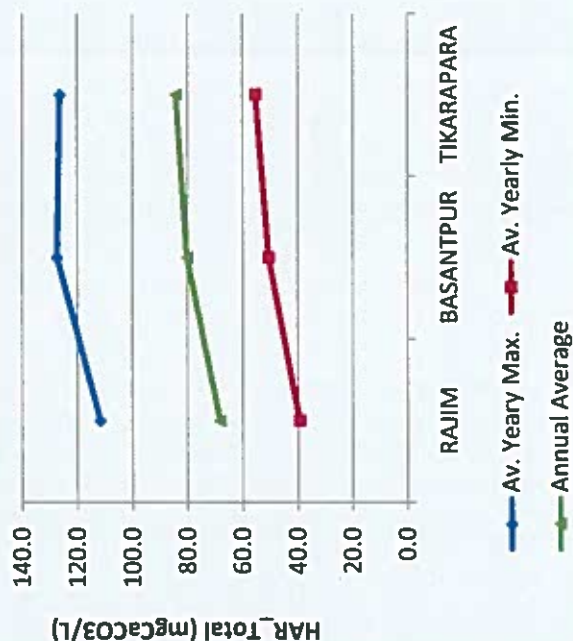
LAST 10 YEARS 2006-07 to 2016-17



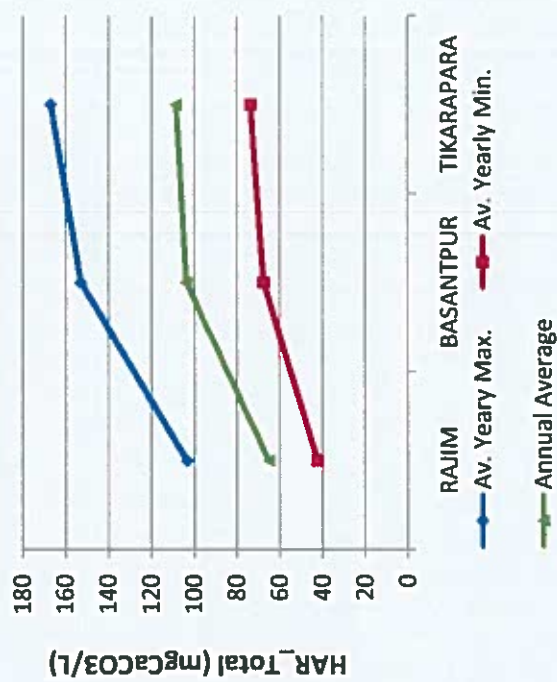
ONE YEAR



SINCE INCEPTION OF SITES



LAST 10 YEARS 2006-07 to 2016-17



ONE YEAR



SEONATH RIVER

BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly	Av. Yearly	Annual	Av. Yearly	Av. Yearly	Annual	Av. Yearly	Av. Yearly	Annual
Simga	4.0	6.3	1.8	2.6	0.3	1.3	1.3	0.5	0.9
Jondhra	2.7	0.5	1.2	3.1	0.5	1.2	2.8	0.6	1.4

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Simga	9.5	4.8	5.8	2.6	0.3	1.3	1.3	0.5	0.9
Jondhra	9.6	5.2	7.4	9.3	4.9	7.2	2.8	0.6	1.4

ameter – FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Simga	1.40	44.51	13.20	0.40	0.09	0.19	0.00	0.00	0.00
Jondhra	0.76	0.12	0.40	0.28	0.08	0.17	0.00	0.00	0.00

Parameter --EC

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Simga	538	186	365	584	200	381	675	188	326
Jondhra	532	211	373	421	185	311	392	171	289

Parameter --Fe

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Simga	1.01	0.49	0.53	0.21	0.01	0.06	0.00	0.00	0.00
Jondhra	0.26	0.07	0.13	0.13	0.00	0.01	0.00	0.00	0.00

Parameter --CHLORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Simga	52.4	10.3	26.6	70.7	11.8	34.8	59.0	23.0	37.8
Jondhra	39.0	8.4	21.1	39.6	8.6	22.3	47.0	15.0	31.3

Mg (mg/l)

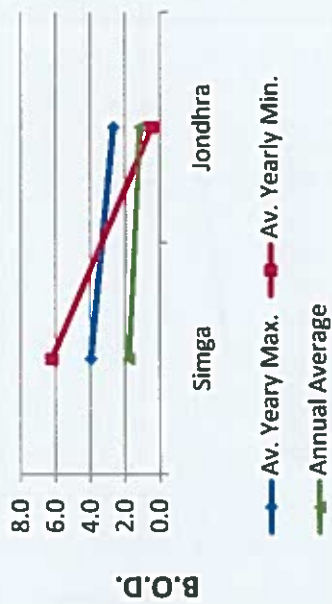
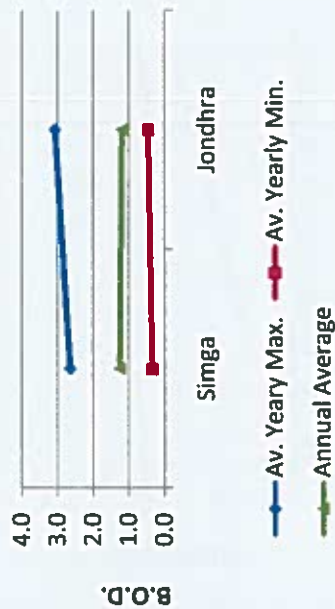
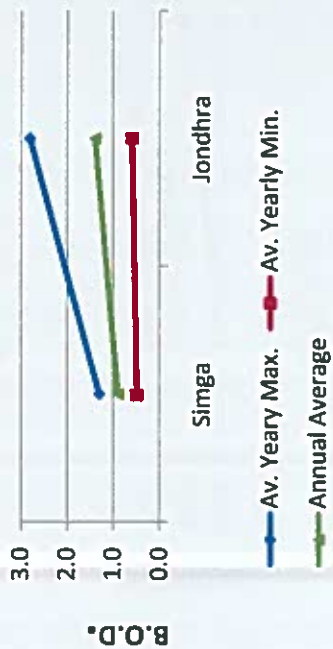
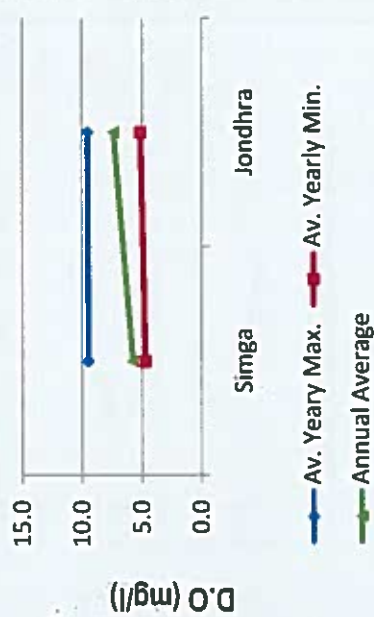
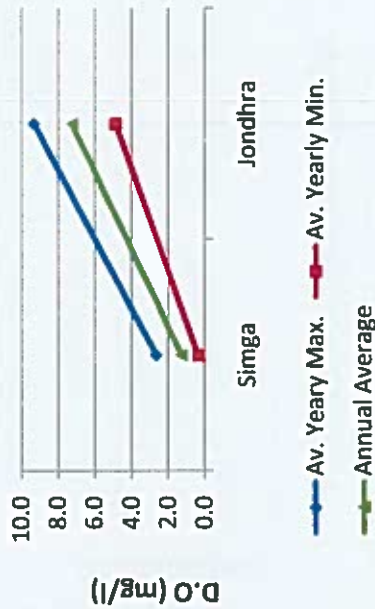
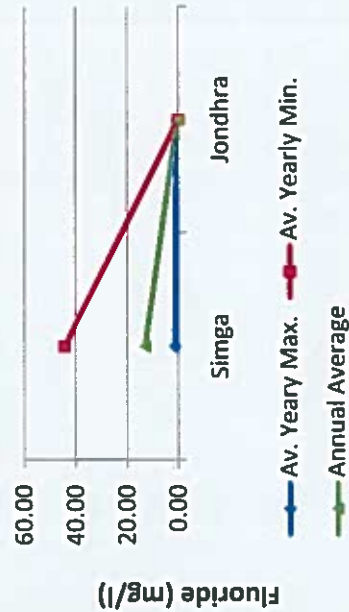
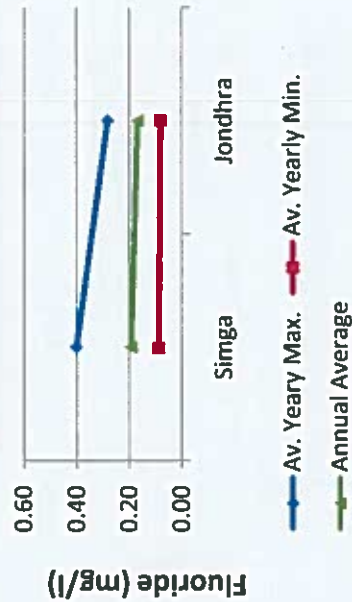
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Simga	22.2	5.1	12.0	26.3	6.3	15.6	26.2	1.0	18.1
Jondhra	22.0	6.6	13.6	22.9	7.2	13.7	43.7	1.0	12.7

Sulphate (So4)

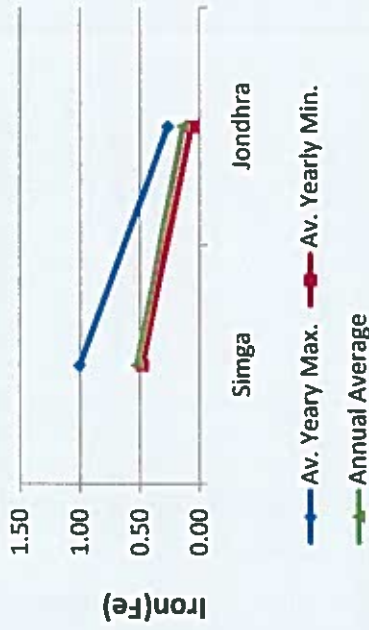
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly	Av. Yearly	Annual	Av. Yearly	Av. Yearly	Annual	Av. Yearly	Av. Yearly	Annual
Simga	30.6	13.9	17.4	39.2	13.2	24.8	0.0	0.0	0.0
Jondhra	33.3	8.7	20.0	33.6	12.4	20.7	0.0	0.0	0.0

HAR_Total (mgCaCO3/L)

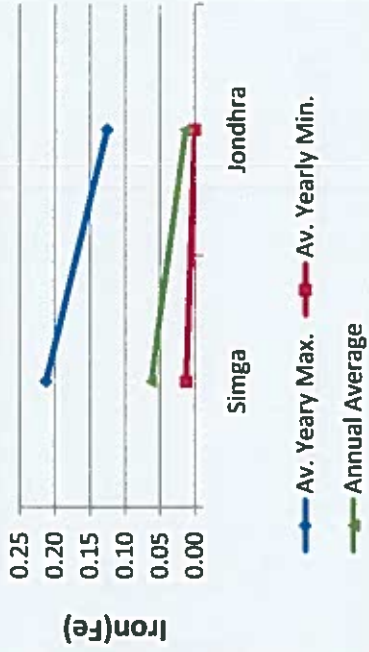
SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Simga	191.2	86.4	131.6	216.0	81.5	145.0	205.0	112.0	176.0
Jondhra	209.3	84.3	139.6	189.6	78.3	128.4	282.0	96.0	158.0

SINCE INCEPTION OF SITESLAST 10 YEARS 2006-07 to 2016-17ONE YEARSINCE INCEPTION OF SITESLAST 10 YEARS 2006-07 to 2016-17ONE YEARSINCE INCEPTION OF SITESLAST 10 YEARS 2006-07 to 2016-17ONE YEAR

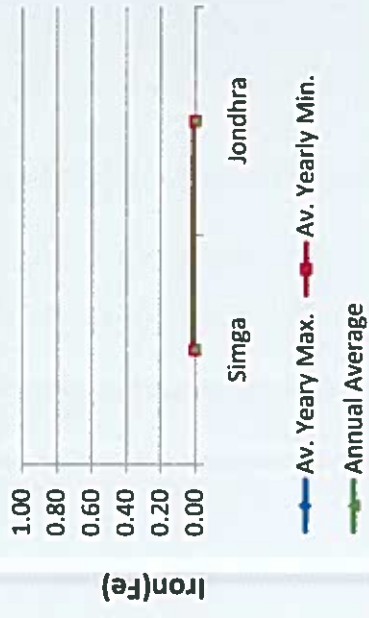
SINCE INCEPTION OF SITES



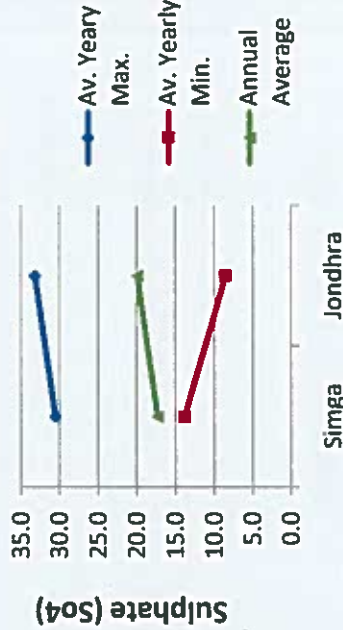
LAST 10 YEARS 2006-07 to 2016-17



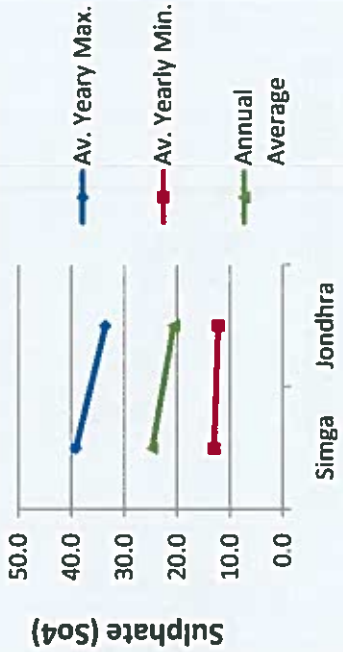
ONE YEAR



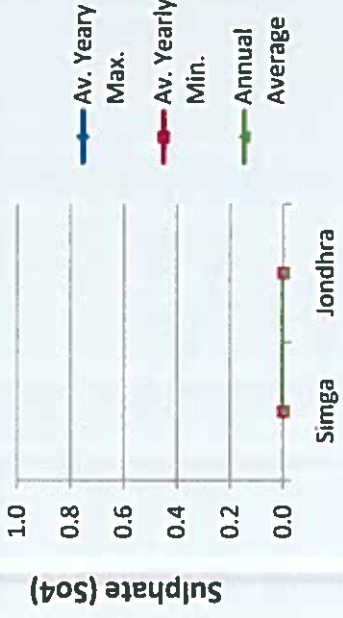
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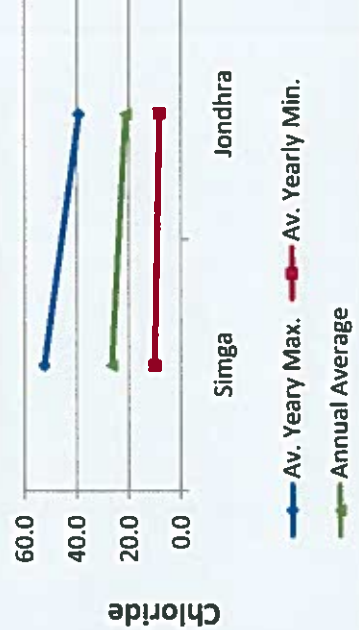
LAST 10 YEARS 2006-07 to 2016-17



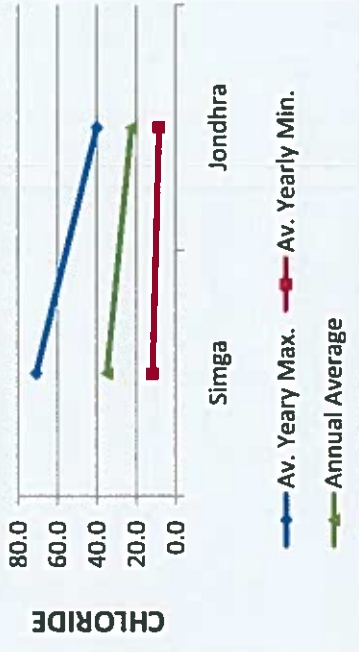
ONE YEAR



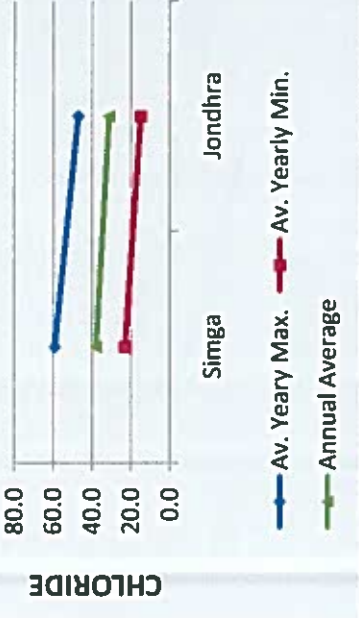
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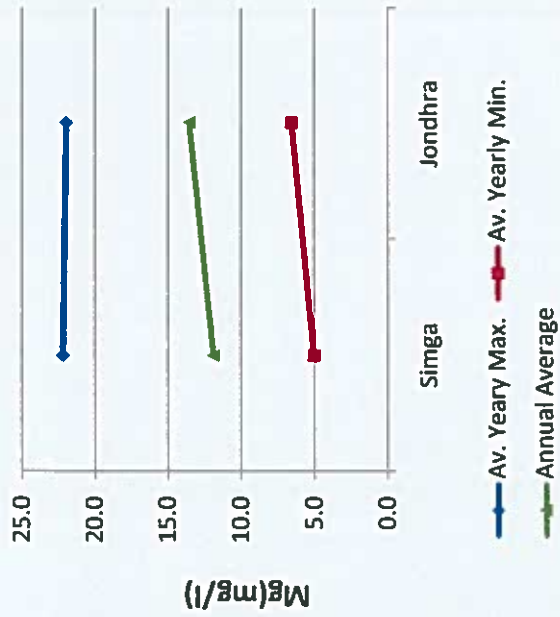
LAST 10 YEARS 2006-07 to 2016-17



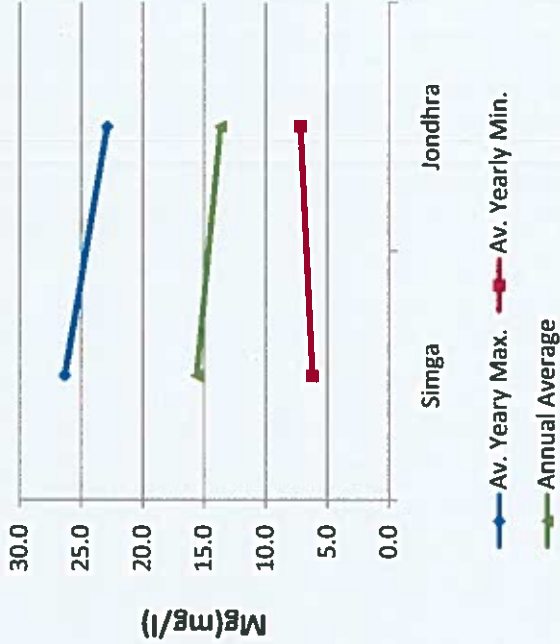
ONE YEAR



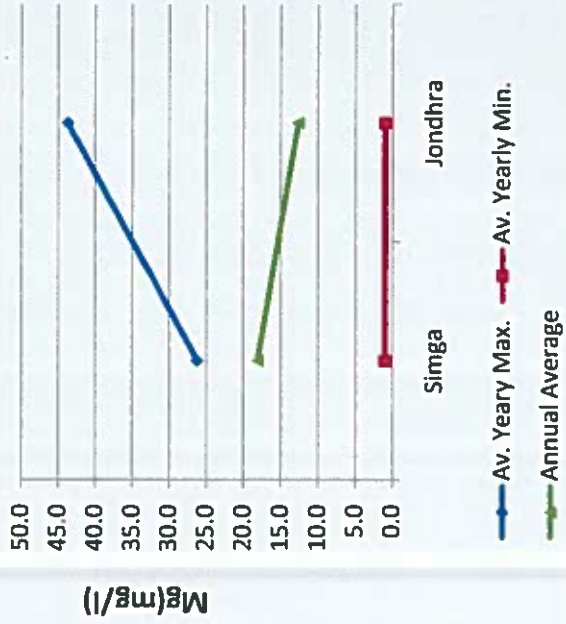
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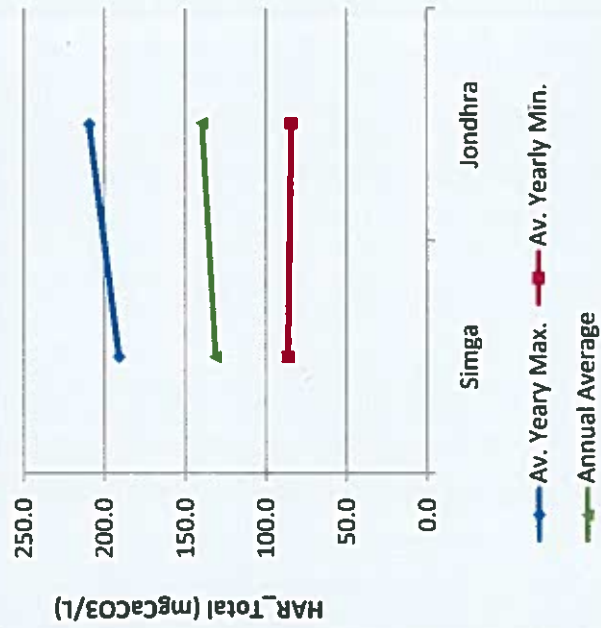
LAST 10 YEARS 2006-07 to 2016-17



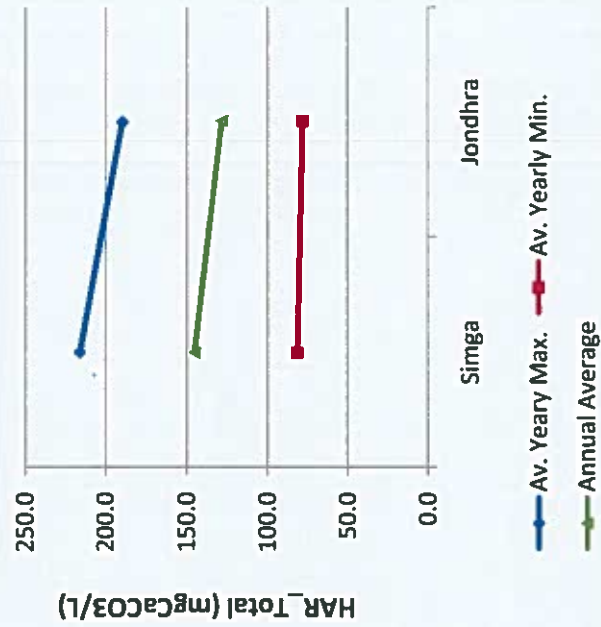
ONE YEAR



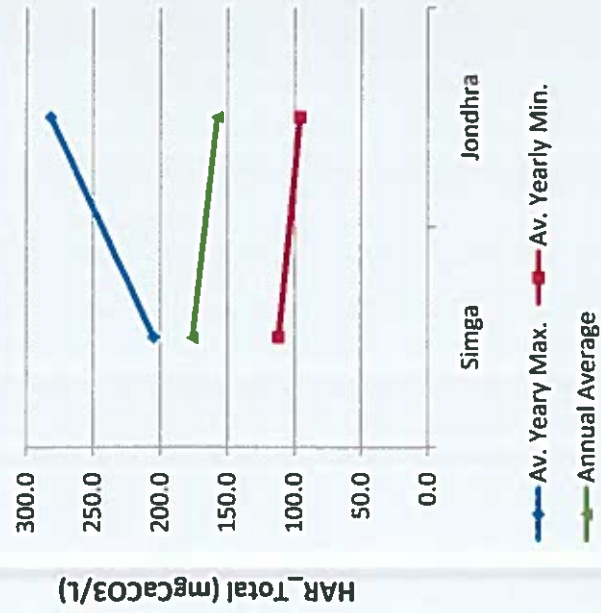
SINCE INCEPTION OF SITES



LAST 10 YEARS 2006-07 to 2016-17



ONE YEAR



RIVER HASDEO

BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	3.1	0.5	1.2	3.6	0.5	1.3	2.0	0.7	1.3
Bamnidihi	9.3	0.3	1.9	4.2	0.2	1.0	7.5	0.4	1.5

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	9.1	5.7	7.4	8.8	5.7	7.4	8.0	4.1	6.5
Bamnidihi	8.3	4.2	6.5	8.5	4.0	6.6	8.0	5.5	6.6

Parameter -- FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	0.52	0.13	0.29	0.17	0.07	0.11	0.00	0.00	0.00
Bamnidihi	0.48	0.13	0.26	0.23	0.07	0.13	0.00	0.00	0.00

Parameter --EC

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	282.2	92.1	167.7	287.0	97.4	166.5	311.0	91.0	165.0
Bamnidihi	295.4	114.2	177.8	406.7	135.3	224.3	368.0	105.0	234.0

Parameter --CHLORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	17.3	5.4	10.4	21.3	6.7	12.5	27.0	11.0	19.1
Bamnidihi	22.3	6.2	12.0	31.8	7.5	16.4	47.0	13.0	27.7

Parameter --Fe

SITE NAME (From U/S to D/S)	Since Inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	0.13	0.07	0.09	0.03	0.01	0.01	0.00	0.00	0.00
Bamnidihi	0.58	0.08	0.24	0.09	0.03	0.05	0.00	0.00	0.00

Mg (mg/l)

SITE NAME (From U/S to D/S)	Since Inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	12.0	2.8	6.9	14.7	4.5	8.5	21.4	4.9	11.9
Bamnidihi	10.8	2.8	6.1	14.4	4.1	8.6	22.4	1.0	9.6

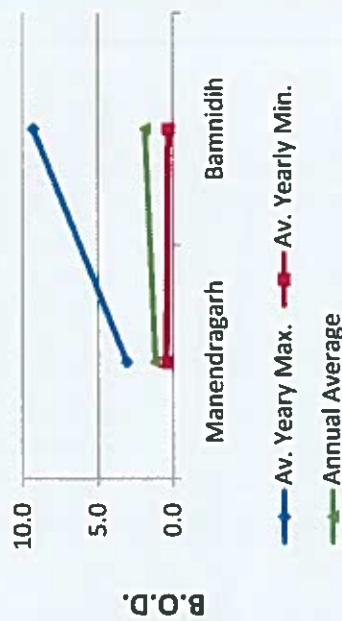
Sulphate

SITE NAME (From U/S to D/S)	Since Inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	24.3	6.2	14.6	29.2	7.8	16.1	0.0	0.0	0.0
Bamnidihi	21.2	5.3	12.1	29.9	10.3	18.9	0.0	0.0	0.0

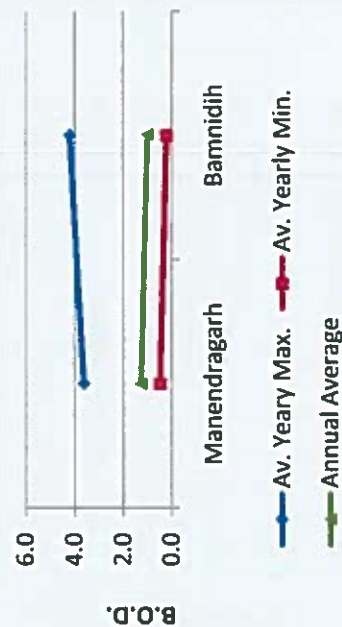
HAR_Total (mgCaCO3/L)

SITE NAME (From U/S to D/S)	Since Inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Manendragarh	119.1	41.5	74.5	140.3	48.9	83.8	241.0	101.0	171.0
Bamnidihi	100.3	44.5	67.6	128.4	59.9	89.2	169.0	124.0	134.0

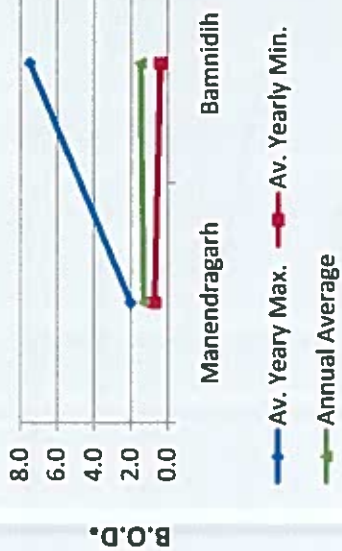
SINCE INCEPTION OF SITES



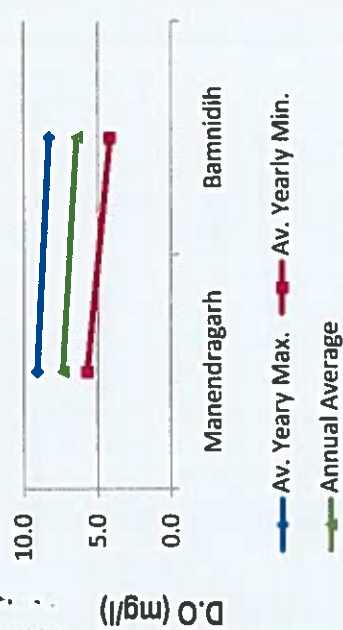
LAST 10 YEARS 2006-07 to 2016-17



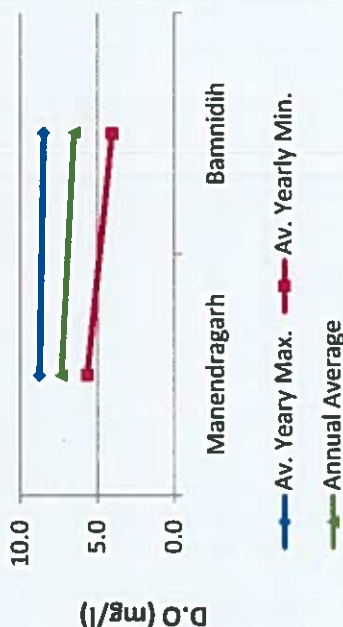
ONE YEAR



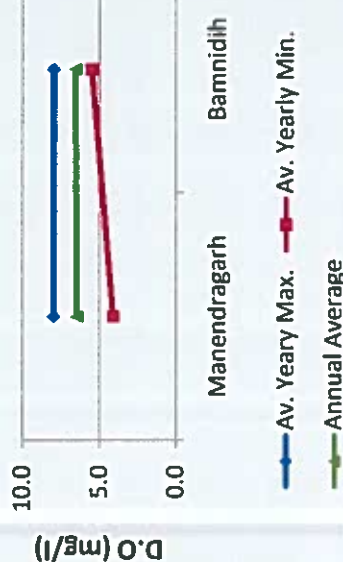
SINCE INCEPTION OF SITES



LAST 10 YEARS 2006-07 to 2016-17



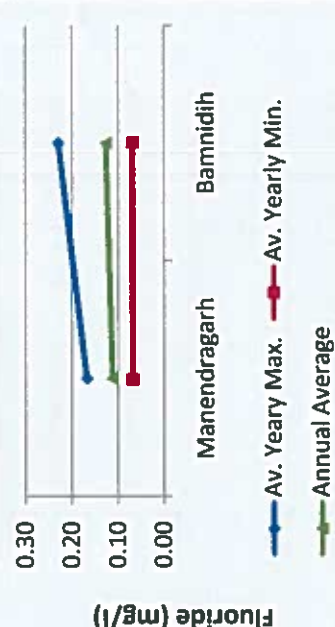
ONE YEAR



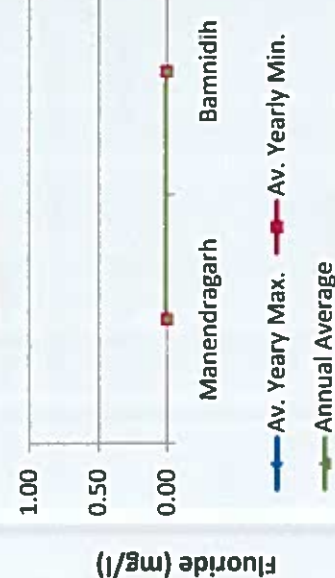
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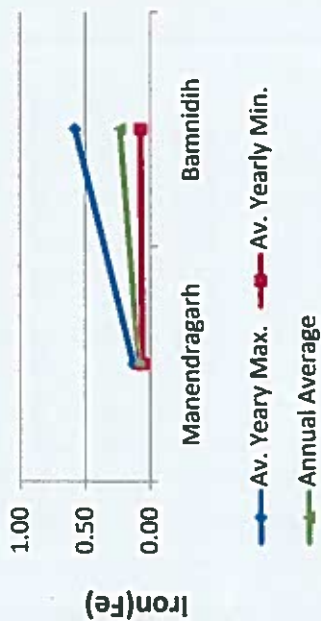
LAST 10 YEARS 2006-07 to 2016-17



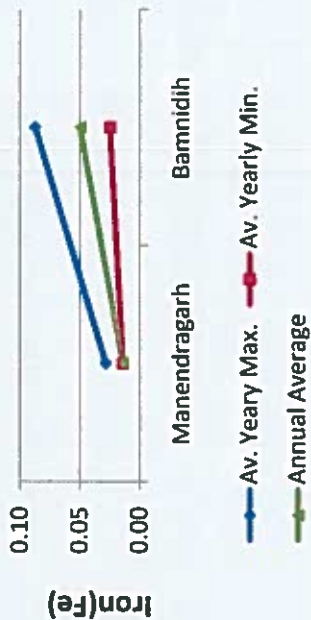
ONE YEAR



SINCE INCEPTION OF SITES



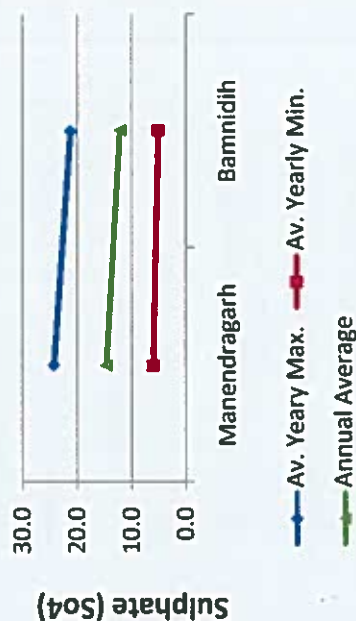
LAST 10 YEARS 2006-07 to 2016-17



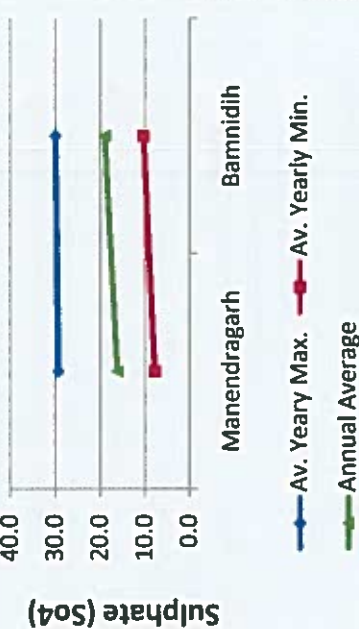
ONE YEAR



SINCE INCEPTION OF SITES



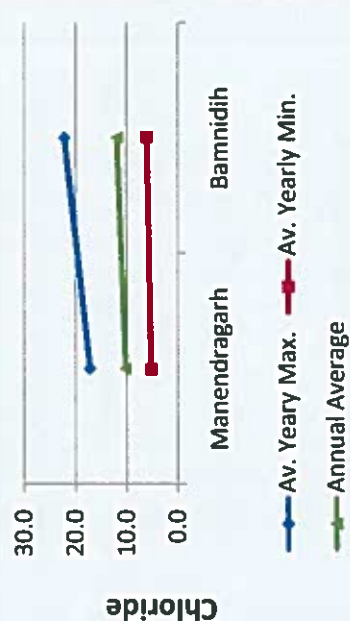
LAST 10 YEARS 2004-05 TO 2014-15



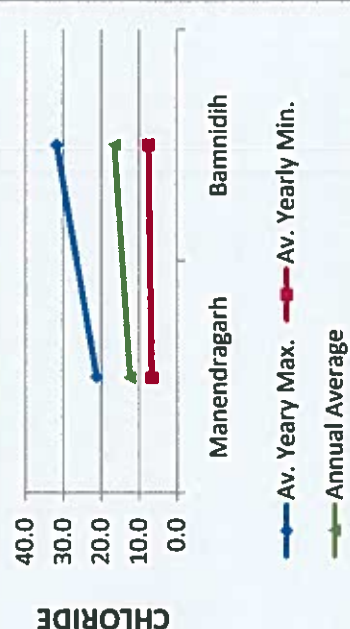
ONE YEAR



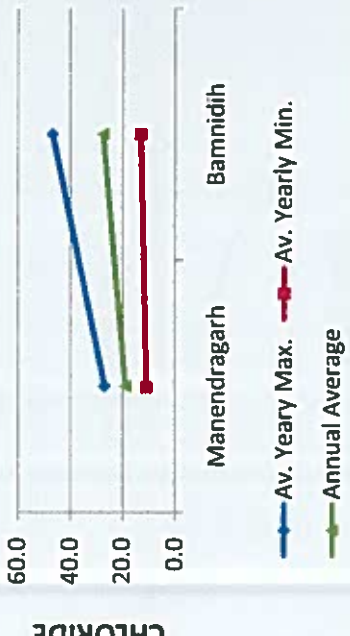
SINCE INCEPTION OF SITES



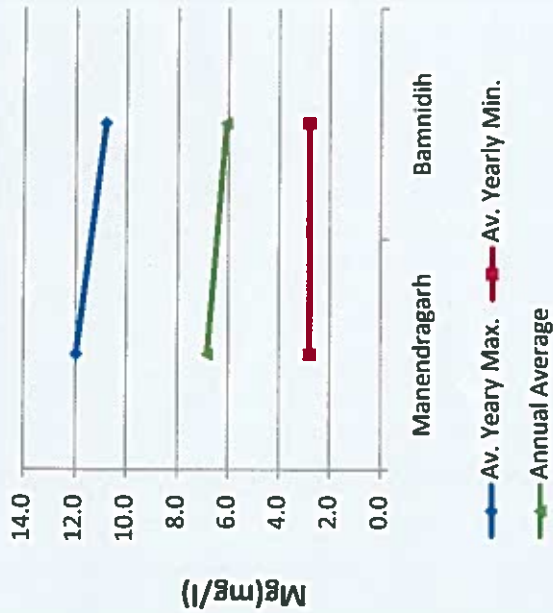
LAST 10 YEARS 2006-07 to 2016-17



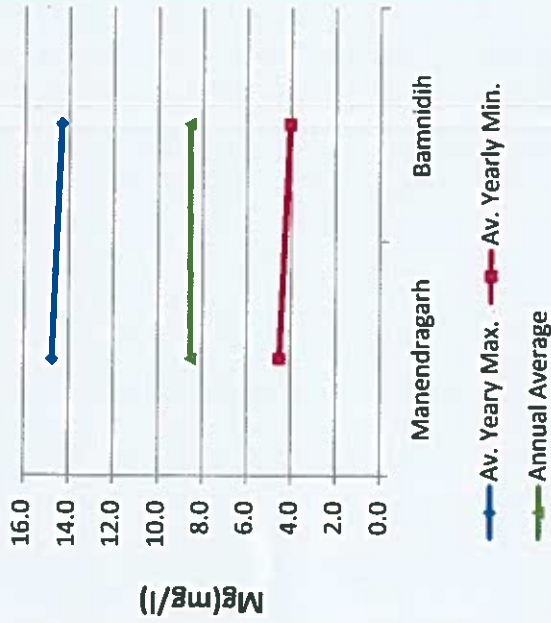
ONE YEAR



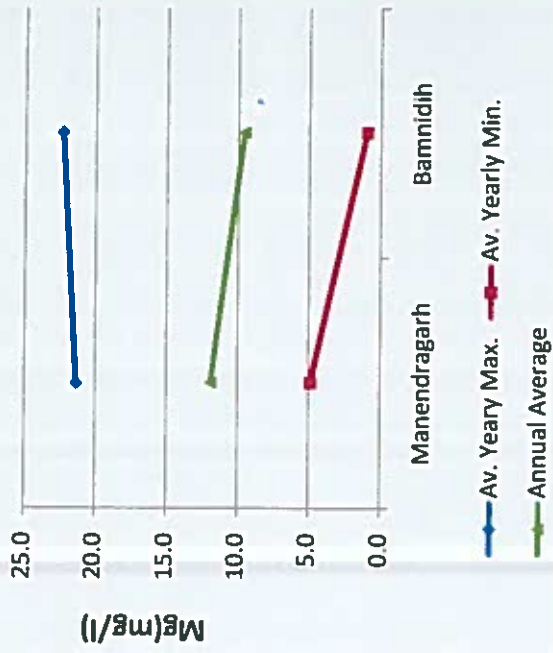
SINCE INCEPTION OF SITES



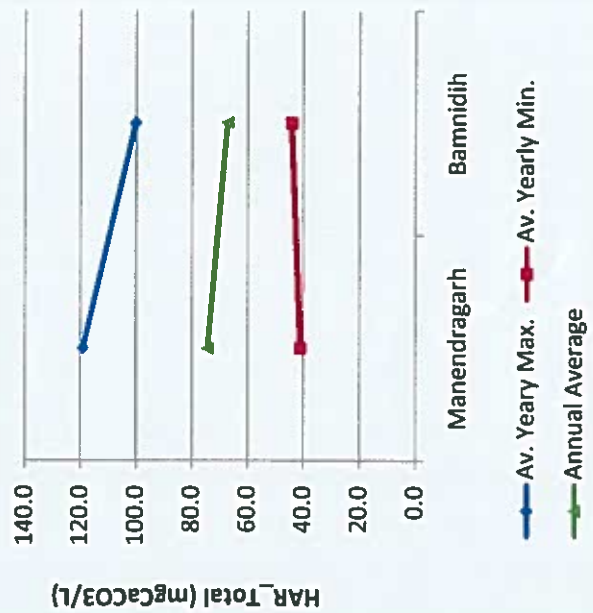
LAST 10 YEARS 2006-07 to 2016-17



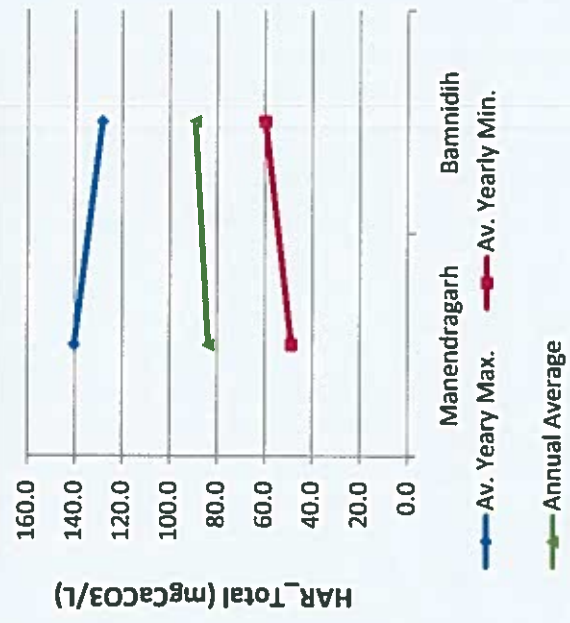
ONE YEAR



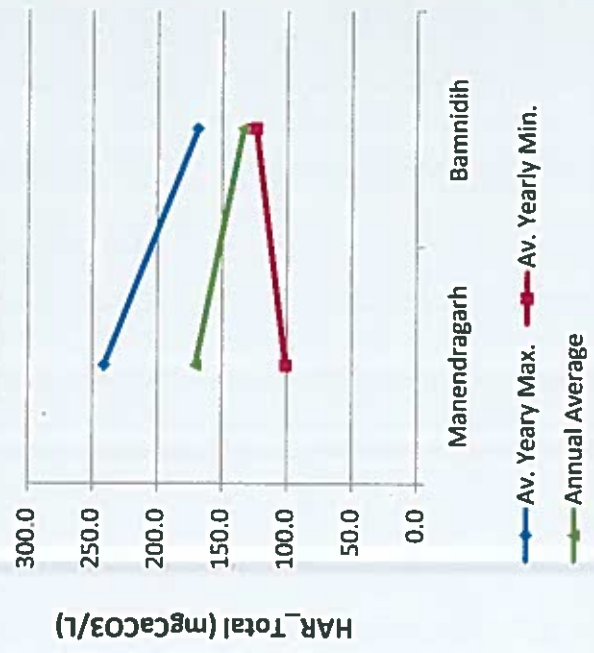
SINCE INCEPTION OF SITES



LAST 10 YEARS 2006-07 to 2016-17



ONE YEAR



RIVER TEL

BOD3-27 (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	5.6	1.9	3.9	6.9	2.3	4.9	1.6	0.4	0.8
Kantamal	1.6	0.4	0.8	1.8	0.3	0.7	1.8	0.4	0.9

Parameter-DO (mg/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	15.2	9.1	12.4	17.3	9.7	13.9	8.6	3.4	5.8
Kantamal	9.0	5.3	7.0	9.1	5.2	7.1	7.7	5.1	6.6

Parameter -- FLUORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	2.11	0.98	1.40	2.09	1.12	1.47	0.00	0.00	0.00
Kantamal	4.71	0.16	0.88	0.29	0.07	0.14	0.00	0.00	0.00

Parameter --CHLORIDE

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	27.8	8.8	16.7	34.3	9.9	20.8	59.0	9.0	29.8
Kantamal	34.3	5.2	15.5	34.5	4.8	14.0	48.0	8.0	30.4

Parameter --Fe

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Kantamal	0.5	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0

Parameter –EC

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	265.5	102.5	182.9	278.7	96.9	185.7	208.0	74.0	158.0
Kantamal	273.8	109.1	177.5	300.6	94.2	170.6	305.0	67.0	163.0

Mg (mg/l)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	16.1	4.1	8.8	18.8	4.3	9.7	17.5	1.9	7.6
Kantamal	13.0	2.8	7.2	17.3	3.5	8.4	15.6	2.9	9.4

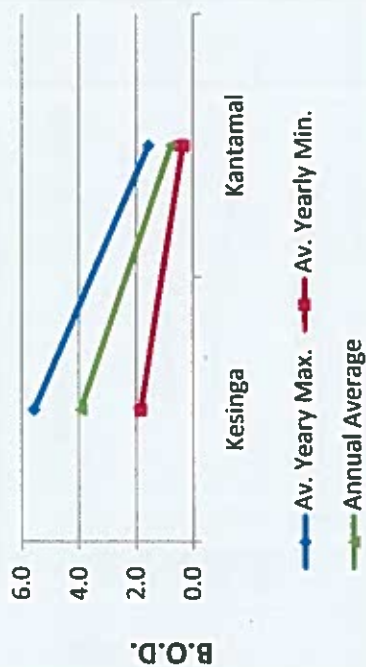
Sulphate

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	18.6	6.6	12.0	23.9	8.5	15.1	0.0	0.0	0.0
Kantamal	17.8	4.4	10.0	26.7	7.4	15.4	0.0	0.0	0.0

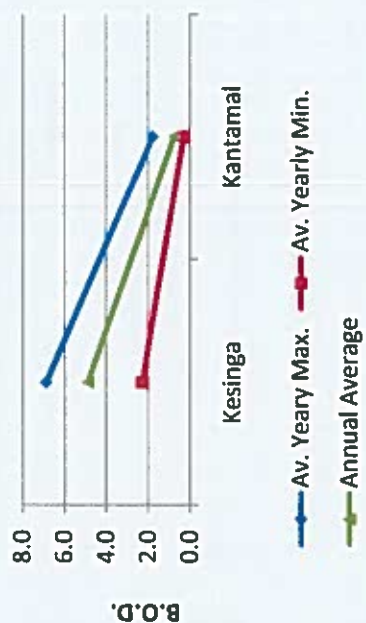
HAR_Total (mgCaCO3/L)

SITE NAME (From U/S to D/S)	Since inception of sites			Last 10 years 2006-07 to 2016-17			One Year		
	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average	Av. Yearly Max.	Av. Yearly Min.	Annual Average
Kesinga	126.6	42.3	80.8	148.7	47.4	92.4	197.0	88.0	147.0
Kantamal	117.5	43.4	76.2	145.8	45.5	83.0	173.0	88.0	139.0

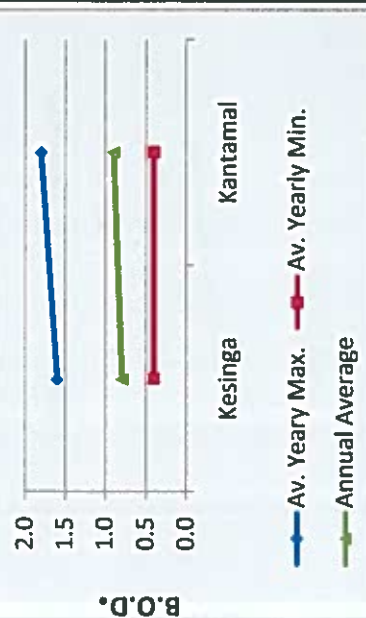
SINCE INCEPTION OF SITES



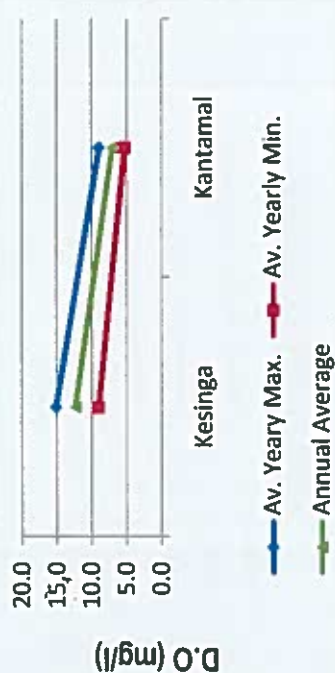
LAST 10 YEARS 2006-07 to 2016-17



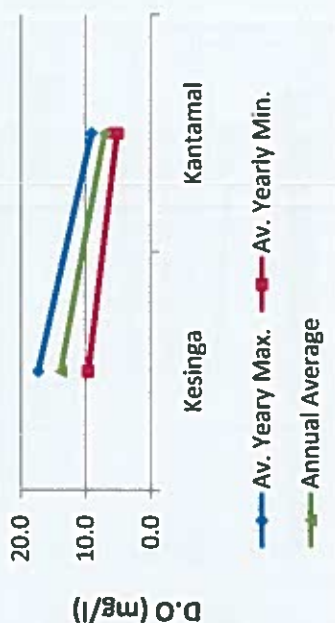
ONE YEAR



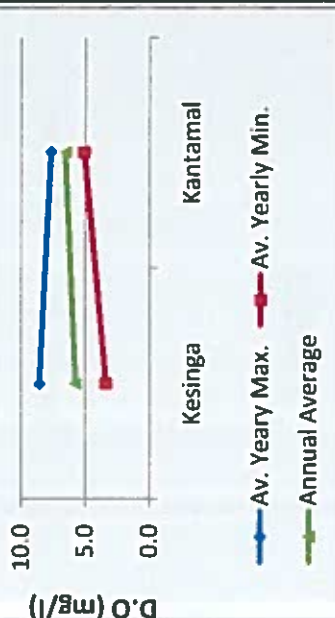
SINCE INCEPTION OF SITES



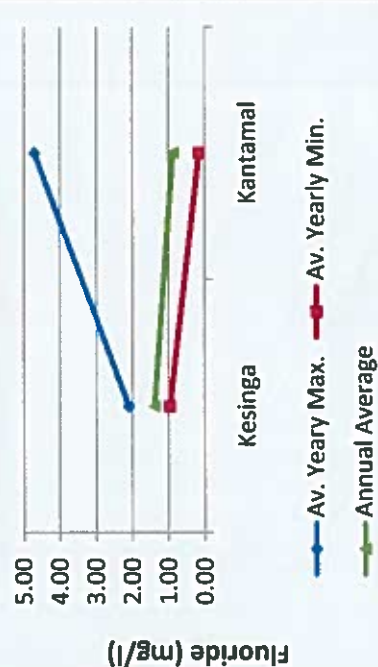
LAST 10 YEARS 2006-07 to 2016-17



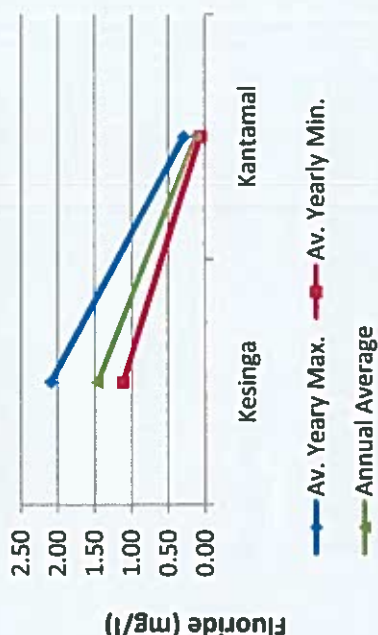
ONE YEAR



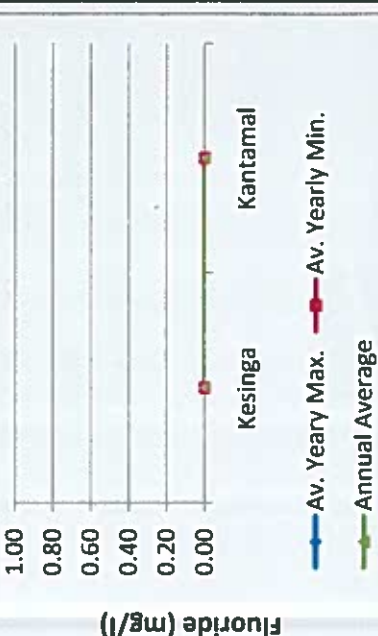
SINCE INCEPTION OF SITES



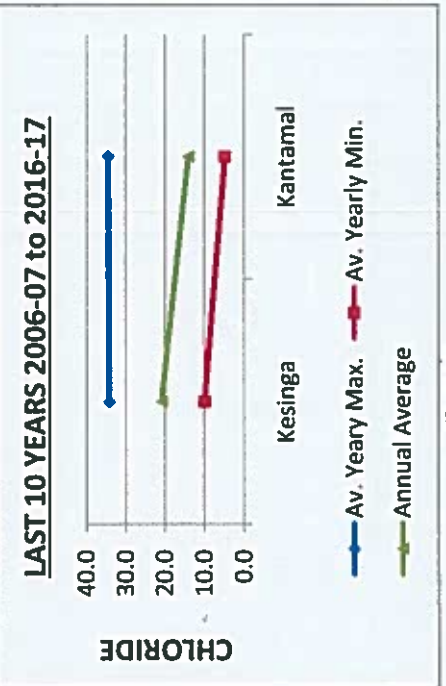
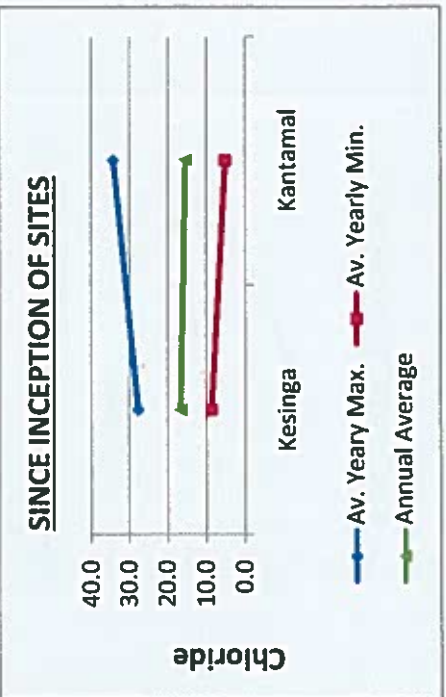
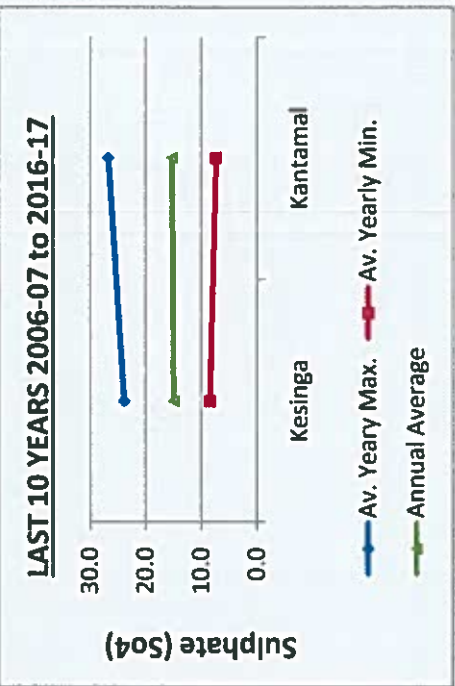
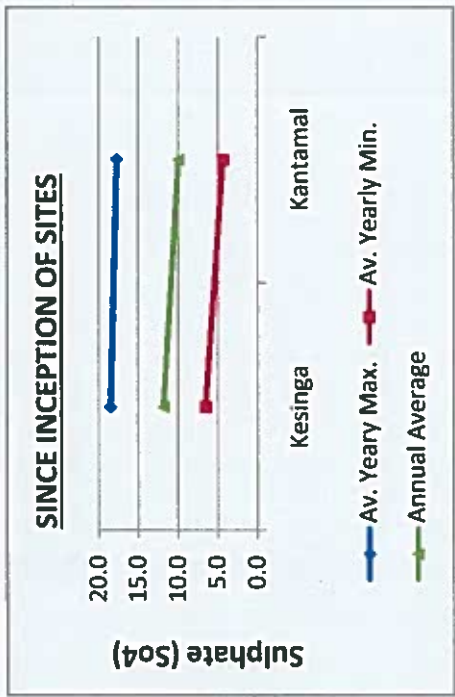
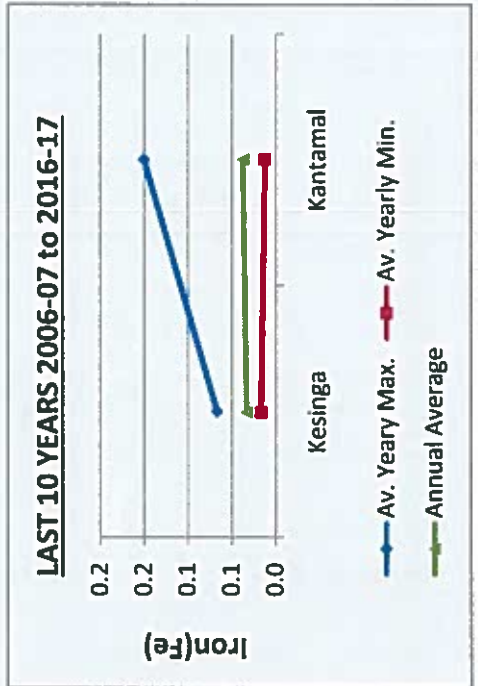
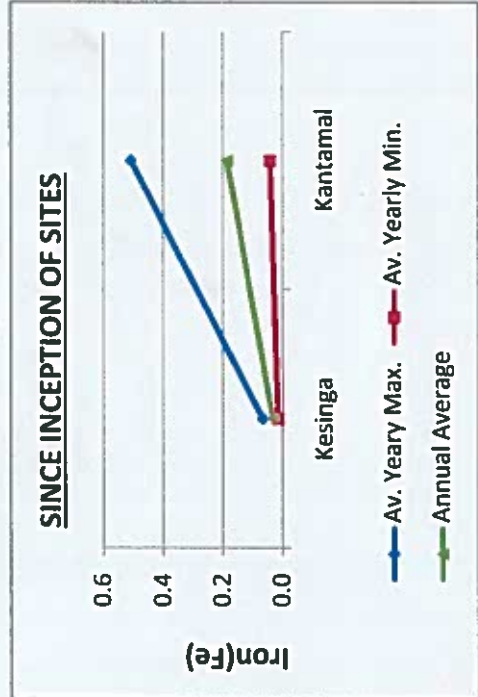
LAST 10 YEARS 2006-07 to 2016-17



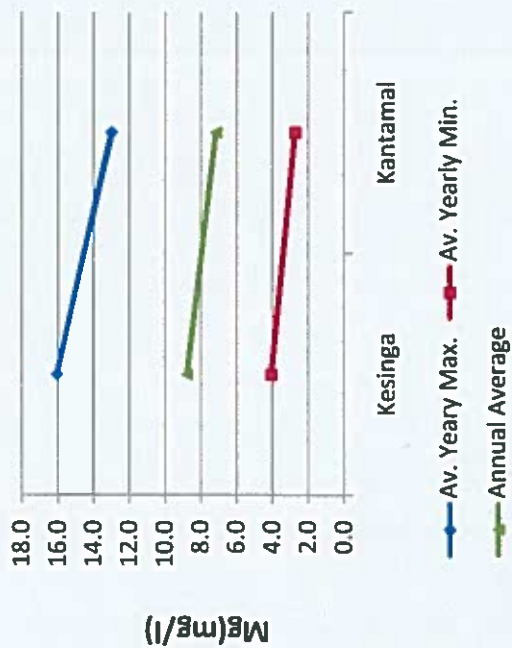
ONE YEAR



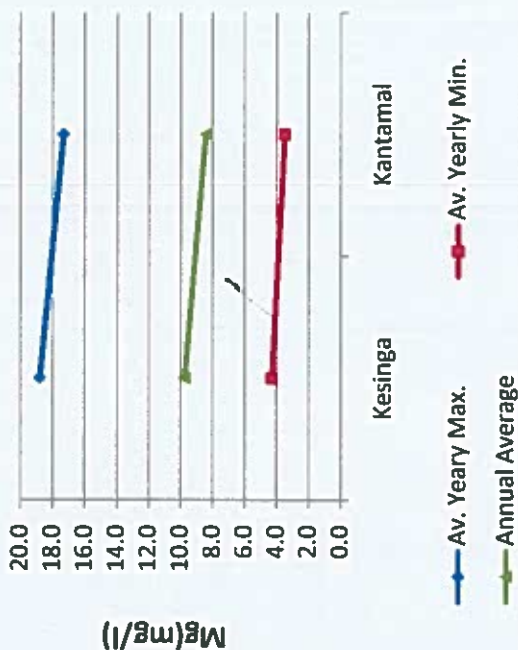
083



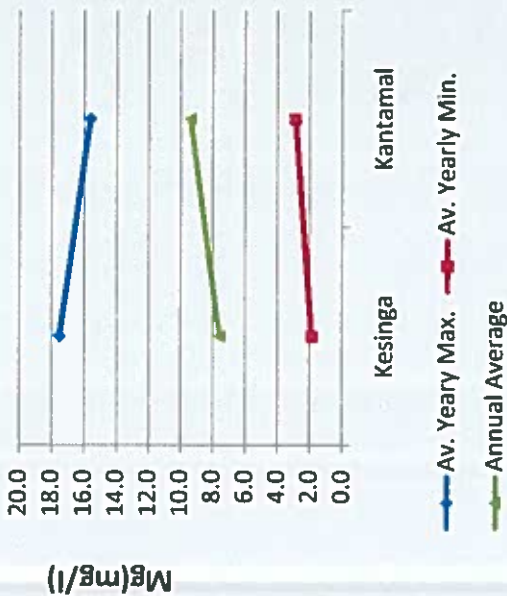
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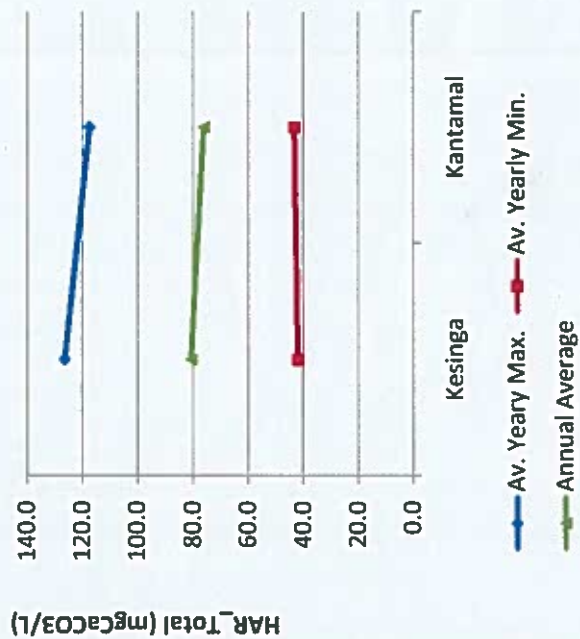
LAST 10 YEARS 2006-07 to 2016-17



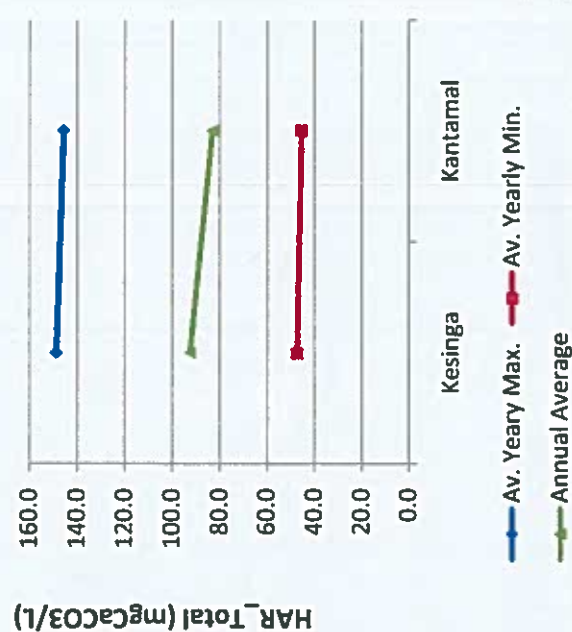
ONE YEAR



SINCE INCEPTION OF SITES



LAST 10 YEARS 2006-07 to 2016-17



ONE YEAR

