CHUNAR CEMENT FACTORY
(A UNIT OF UP CEMENT PLANT)

JAIPRAKASH
ASSOCIATES LIMITED

CCF/ENV/Statement Rept. /2021-22

July 20, 2021

To,

The Member Secretary,
U.P. Pollution Control Board,
Lucknow – 226 010

Sub: Submission of Environment Statement Form V under the Environment (Protection) Rules, 1986 For Chunar Cement Factory for the financial year 2020-21

Dear Sir,

Please find enclosed herewith Environment Statement Report in Form V of **Chunar Cement Factory** for your kind information and records please

Thanking you,

Yours faithfully,
For CHUNAR CEMENT FACTORY

R.K.Verma
Vice President

Encl: As stated above.

CC: RO, Regional Office Pollution Control Board, Robertsganj, Sonebhadra (U.P.)
CC: The Director, Regional Office (Ministry of Environment & Forest), Lucknow (U.P.)

JAYPEE
GROUP

Works-CCF : Chunar, P.O. Chunar Cement Factory, Distt. Mirzapur (U.P.) 231 311
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JAIPRAKASH ASSOCIATES LIMITED

JAYPEE GROUP

ENVIRONMENT STATEMENT REPORT
(Chunar Cement Factory)

[2020 - 2021]

Address:-

CHUNAR CEMENT FACTORY

(A UNIT OF JAIPRAKASH ASSOCIATES LTD.)

CHUNAR, MIRZAPUR, DISTRICT-MIRZAPUR (UP) 231311

Ph. 05443-222265, 222602, 222926

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Jaiprakash Associates Limited

Introduction: The Jaypee group is a blue chip diversified industrial conglomerate with a four decade experience of continuous growth and diversification in the fields of Engineering and Construction, Cement, Hydropower, Thermal Power, Wind Power, Express ways & High ways, Hospitality & Tourism, Real Estate, Hospitals, Minerals and Mining, Transmission, Information Technology, Education and sports. Achieving perfection, creating excellence, transforming every challenge into an opportunity and reaching new milestones in its stride has been the hallmark of Jaypee Group. Catering to India's growing cement consumption, the cement division of Jaiprakash Associates Limited (JAL) has many state-of-art fully computerized integrated cement plants (ICPs The Group is committed towards the safety and health of employees and the public. The motto of the Group is '**Work for Safe, Healthy, Clean & Green Environment**'.

Jaiprakash Associates Limited (JAL) has acquired the Chunar Cement Factory in the year 2006, (it is located at Chunar Tehsil, Mirzapur, UP), from Uttar Pradesh State Cement Corporation Ltd (UPSCCL) as successful bidder as per Hon'able High Court of Judicature, Allahabad.

The present capacity of Chunar Cement Plant is 2.5 MTPA of Cement production and 38 MW Captive Power Plant. The Clinker requirement of the plant is being catered from Jaypee Rewa Cement plant, Rewa (M.P.) Gypsum requirement Vizag Sea Port (Imported Gypsum), and Flyash requirement from following sources ;

1) Renusagar CPP
2) Obra Power Plant
3) Renu koot CPP
4) Adiyta Birla Chemicals Renusagar CPP
5) Chunar Cement Factory CPP
6) Anpara Power Plant

Chunar Cement Factory
Chunar Dist. Mirzapur (U.P.)

"FORM – V"

(See rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING WITH 31ST MARCH 2021

PART – A

(I)	Name & Address of the Owner / Occupier of the Industry Operation or Process	Chunar Cement Factory (Unit of Jaiprakash Associates Limited) Chunar, Mirzapur (UP)231311
(II)	Industry Category Primary (STC CODE) Secondary (SIC CODE)	Red category and large
(III)	Production Capacity	2 .50 Million TPA (Cement) and 38 MW (CPP)
(IV)	Year of Establishment	2009
(V)	Date of last Environmental Statement Submitted	15/07/2020

Chunar Cement Factory Chunar Dist. Mirzapur (U.P.)

PART – B

Water & Raw Material Consumption

A. Water

(i) Water Consumption m^3/Day -

Process - Nil

Cooling

Cement Plant - 141 m^3/Day

CPP - 120 m^3/Day

Domestic - 630 m^3/Day

(ii) Consumption per unit of production

Name of the Product	Cooling Water Consumption per unit of Product Output	
	During the Current Financial Year (2019-20)	During the Current Financial Year (2020-21)
Cement	0.043 M^3/MT of Cement	0.053 M^3/MT of Cement
Electricity	0.00033 M^3/KWH	0.00032 M^3/KWH

B. Raw Material Consumption

Name of the Raw Material	Name of Product	Consumption of Raw Material per Unit Product Output (MT/MT of CLINKER, CEMENT, ELECTRICITY)	
		During the Previous Financial Year (2019-20)	During the Current Financial Year (2020-21)
Coal	Electricity	0.001083 MT/KWH	0.000937 MT/KWH
Clinker	Cement	0.6925 MT/MT Cement	0.7440 MT/MT Cement
Gypsum		0.0199 MT/MT CEMENT	0.0274 MT/MT CEMENT
Fly ash (Pozzolana)		0.2874 MT/MT Cement	0.2283 MT/MT Cement

PART - C

Pollutant Discharged To Environment / Unit of Output

(Parameters as specified in the consent issued)

S. No.	Pollutants	Quantity of Pollutants Discharged (Mass / day) (tonne/day)	Concentrations of Pollutants in discharged (Mass / Volume) (mg/Nm^3)	Percentage of variation from prescribed standard with reasons
(a)	**Water**			
(i)	**Domestic**	Zero discharge is maintained. Treated domestic water is being used in Horticulture and sprinkling		
(ii)	**Industrial**	Zero discharge		
(b)	**Air – Ambient air quality report is attached as Annexure-I**			
	Stack emission			
	(a)CEMENT MILL	Dust Conc. MT/day	PM mg/Nm^3	
	Cement Mill #1-Bag Filter	0.0147	18.15	Within the prescribe limit
	Cement Mill #2-Bag Filter	0.0153	19.10	
	Cement Mill #3-Bag Filter	0.0163	20.23	
	Cement Mill #4-Bag Filter	0.0159	20.73	
	Cement Mill #5-Bag Filter	0.0169	20.42	
	Cement Mill #6-Bag Filter	0.0170	20.87	
	(b) CPP			
	Boiler ESP	0.1984	35.07	

PART – D

(As specified under Hazardous and other waste / Management and Handling rules-2016, 1989 as Amended -2008)

Hazardous Waste		Total Quantity (KL)	
		During the Previous Financial Year (2019-2020)	During the Current Financial Year (2020-21)
(a)	From Process Used / Waste oil & Grease schedule /Cat 5.1,5.2	02.31 06.48	04.83 05.58

Chunar Cement Factory Chunar Dist. Mirzapur (U.P.)

(b)	From Pollution Control Facilities.	Nil	Nil

PART – E

Solid Wastes

Solid Waste		Total Quantity	
		During the Previous Financial Year (2019-20)	During the Current Financial Year (2020-21)
(a)	From Process	No solid waste is generated from the cement manufacturing process.	No solid waste is generated from the cement manufacturing process.
(b)	From Pollution Control facilities	Collected dust from pollution control facilities are recycled to process automatically	Collected dust from pollution control devices are recycled to process automatically
(c)	(i) Qty. recycled or reused Within the unit.	Captive Power Plant having capacity of 38 MW Generated 52351.617 MT and has been used in Cement manufacturing.	Captive Power Plant having capacity of 38 MW generated 42783.286 MT and has been used in Cement manufacturing
	(ii) Sold	NIL	NIL
	(iii) Disposed	NIL	NIL

PART – F

PLEASE SPECIFY THE CHARACTERISATIONS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.

Hazardous waste:

- All used Oil generated from the different sections of plant is being collected in empty drums and barrels and then sent to store department for proper handling and storage. The store Department stored all collected hazardous waste at specified location, as per Hazardous Waste (Management, Handling & Transboundary Movement) Rule, 2008 and Amendment rule 2016, from where the hazardous waste i.e. Used oil sold out to authorized recyclers i.e. M/S Bharat Oil Company, Panki Industrial Area Kanpur (U.P). Total quantity of used oil sold was **06.51 KL** and Waste oil sold **08.28 KL**.

Solid Waste:

- No solid waste is generated from the cement manufacturing process.

Chunar Cement Factory Chunargarh, Mirzapur (U.P.)

- Fly ash generated from our captive power plant i.e. 121.08 Tons/day is used for cement making. For Fly ash Handling, Pneumatic System has been installed to prevent fugitive emissions.
- For arresting fugitive/dust emission from various material Transfer points high efficiency pulse jet bag filters have been installed.

PART – G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION.

1. Water is becoming a precious commodity. There is a fruitful effort going on for conservation and management of water. We optimize the water consumption. Treated STP water is being fully used in gardening and dust suppression. The unit is maintained 'Zero-discharge" status as per the condition of Environment Clearance.

2. **Utilization of fly ash for the manufacturing of cement**

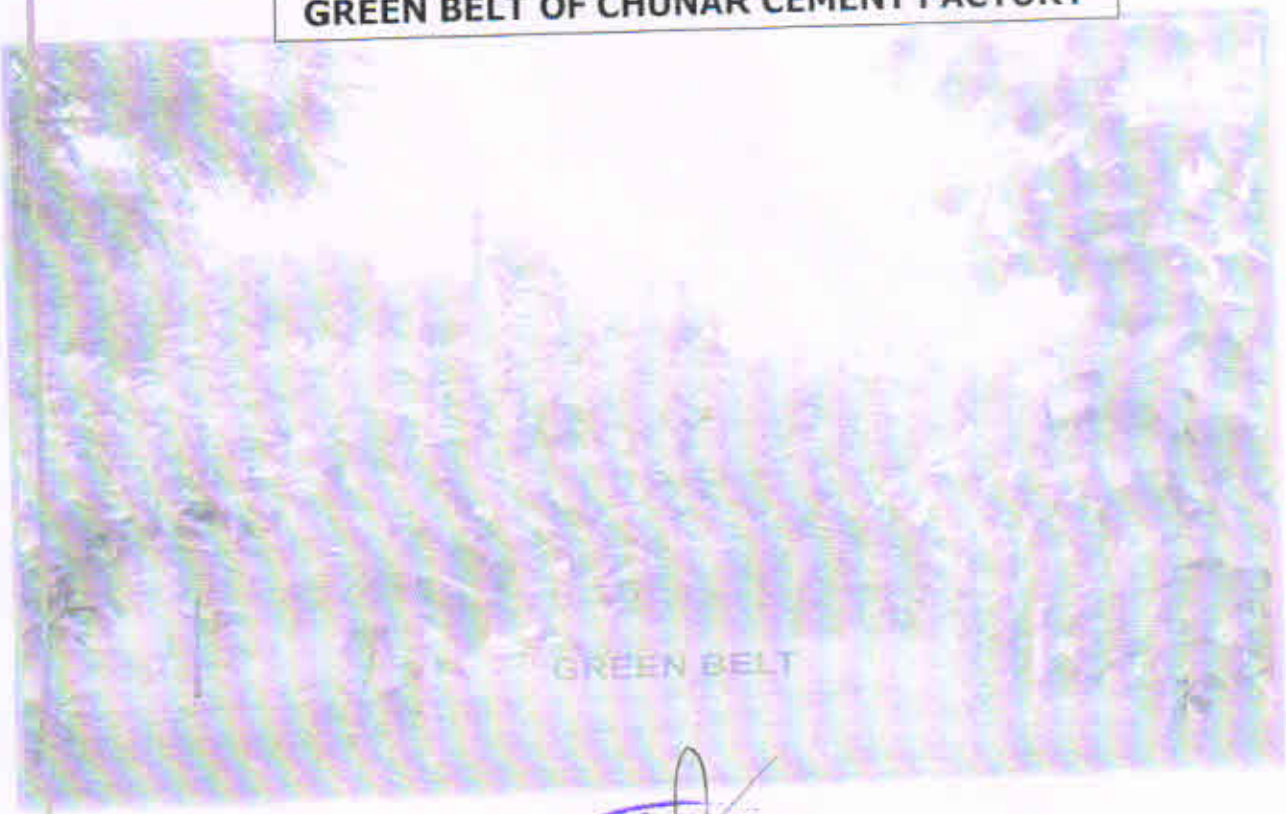
   We have Captive Power Plant having capacity of 38 MW generated approx 117.21 MT of Flyash per day which is being transported pneumatically in closed silos. The pneumatic system is also provided for conveying of Flyash from Flyash closed silo to the cement mill for the cement grinding process.

3. **Extensive plantation in and around the plant.**

   The plantation drive was carried out under the supervision of senior executive of company with active involvement of Employees of factory and school children. Suitable plant species of different plants selected for setting up of green belt development for biodiversity conservation and broad canopy trees. We have the green belt coverage area of more than 33% inside the plant and colony premises and still further continuing tree Plantation in open premises of plant as well as colony.

Particulars	Plant species	Plantation during the year 2020-21
Township area	Mango Shisham Neem Sinsberiya, Farkerriya, Jamun, Guava,	7280
Plant boundary, Gypsum Yard	Ashok ,Amaltash, Bogon Velia, Bel, Harisingar	1020
School	Teak , More Pankhi, Peepal, Gulab, Aklifa, Ark Pam, Ficos Neuda	1700
Total		**10000**

GREEN BELT OF CHUNAR CEMENT FACTORY



Control of Fugitive dust

Following measures have been taken to control of fugitive dust at Chunar Cement Plant:-

Chunar Cement Factory
Chunar Dist. Mirzapur (U.P.)

a) All the raw material is being stored in the covered shed.

b) The conveyor belts are fully covered.

c) Cement is being stored in the covered silos.

d) Flyash is being stored in the covered silos

e) Auto workshop, CPP and STP treated water is being utilized for the regular road water spraying.

f) 95 % road is concreted in plant premises.

g) Regular road sweeping is being carried out.

Automatic Road Sweepers

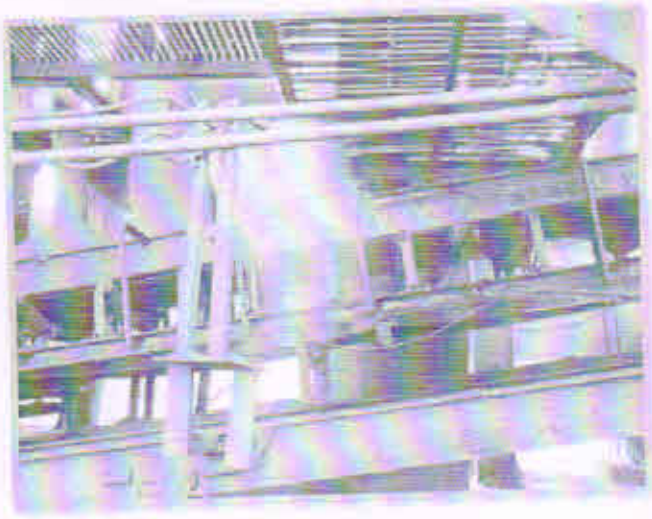
Automatic road sweepers have been procured for the road sweeping resulting in the reduction of fugitive emission from the manual sweeping. All the swept material is being reused in the cement process.

AUTOMATIC ROAD SWEEPING MACHINE

Chunar Cement Works Chunar Dist. Mirzapur (U.P.)

Dry Cold Fogging System

During Coal, Clinker and Gypsum Feeding, Dry Fogging System is installed for dust suppression and it is effectively running. For Dust Suppression in Coal Stock Pile, Coal Handling Plant & Clinker/Gypsum Feeding Belt water spray system is also installed for dust suppression



DRY FOGGING SYSTEM

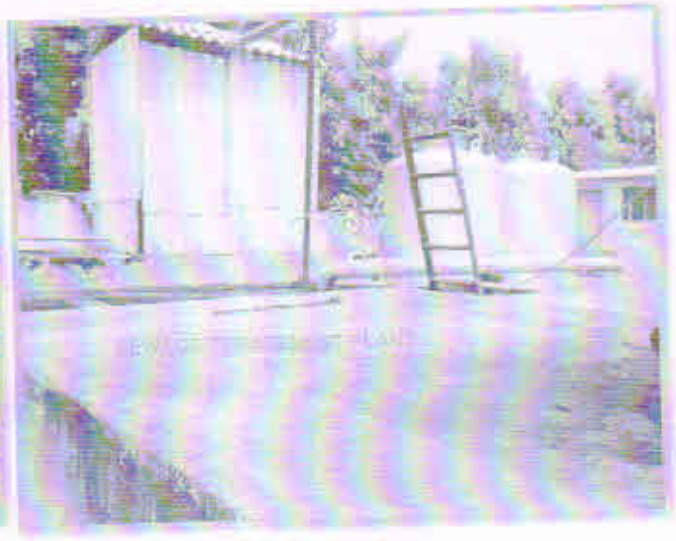
4. Use of STP treated water for the plant purpose.

We have latest and advance technology based Sewage Treatment Plant which comprises of:

1. Screen Pit Bar
2. Oil and Grease Removal Chamber
3. Equalization Chamber for homogenization
4. FAB-1 and FAB-2 for Aeration Purpose.
5. Tube Settler
6. Chlorine Dosing Chamber
7. Multigrain Filter
8. Treated Water Tank

The capacity of sewage treatment plant is 100 m^3 per day. The sewage collected from the different part of colony and plant is being collected in Equalization Chamber where blowing is being done for homogenization of raw sewage water. Then this homogenized sewage water comes to FAB-1 and FAB-2 tank for sufficient aeration of sewage and then conveyed to Tube Settler where the suspended particle is being settle down through mechanical clarification system. After this Tube Settler water passed through Chlorine Dosing Tank and sludge settled at the bottom of Tube Settler is transported to sludge drying beds. Now the water from the Chlorine dosing tank is passed through Dual Media Filter and then Activated Carbon Filter and ultimately collected in the final holding Treated tank. Final treated water

are being used for Green belt Development and sprinkling on roads in Plant. The manures collected in Sludge Drying Bed is used for green belt development.



PART – H

ADDITIONAL MEASURES / INVESTMENT PROPOSALS FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT POLLUTION, PREVENTION OF POLLUTION.

Additional measures has taken for environment protection is as under:

- ✓ Installation of Additional Storage of Clinker 11000 MT of clinker silos & 60000 MT covered stock pile. To avoid the raw material in open atmosphere and fugitive dust emission Gypsum covered of storage capacity of 11000 MT has already been installed and all the Gypsum will be stored in cover shed only.
- ✓ For arresting fugitive emission water spray arrangement is provided.
- ✓ Installation of cold fog system at Raw at Clinker/Gypsum Hoppers and Raw Material Transfer Points and Coal Handling Plant with transfer points in significant reduction of fugitive dust emission for conducive environment.
- ✓ A new Wagon Tippler along with material transport system for unloading the Raw Material from Rake and feeding to hoppers was installed for further reduction of
    - Fugitive Emission generated due to Road Transport.
    - Noise Pollution.
    - Fugitive Emission at various transfer points during material transport to hoppers.
- ✓ Arrangement of closed belt conveyors and covered silo for Clinker. To avoid the fugitive dust emission at the time of clinker feeding to mills.
- ✓ Treated water from STP is reused in colony & plant through well connected gravity flow hydrant line for green belt development and sprinkling on roads.
- ✓ A massive tree plantation is in progress inside as well as outside of the plant premises. Also small patches of gardens are developed inside the plant premises wherever the open space is available to improve the plant beautification.

Chunar Cement Factory
Chunar, Dist. Mirzapur (U.P.)

- ✓ Water sprinkling arrangement is provided in coal yard/clinker yard area through aerial pipe line for dust suppression. Treated waste water is used which is generated from DM plant of CPP and collected in neutralization pit. After neutralization of waste water, it stored in storage tank from where it conveyed through aerial pipe line to coal yard/Clinker yard.
- ✓ The bio-degradable and non-biodegradable waste of plant and colony is being segregated in different color of dustbins. Non-biodegradable waste is collected by rag pickers and sold to recyclers where as biodegradable waste is decomposed through natural composting and utilized as manure for green belt development.

PART – I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT.

- ✓ Installation of cold fog system at Clinker, Gypsum, and Wagon Tippler with transfer points in significant reduction of fugitive dust emission for conducive environment.
- ✓ Vermi composting system for biodegradable waste has been commissioned and running smoothly.
- ✓ All internal roads are either concreted or blacktopped to reduce the fugitive dust emission inside the plant premises.
- ✓ Green belt development in and around the Plant premises is being continue.
- ✓ Strom Rain Water harvesting system installed.
- ✓ Dried STP sludge is being utilized in horticulture as organic manure.
- ✓ Online Continuous Monitoring system has been installed to monitor Ambient Air Quality and Process stacks for Dust concentration and Gaseous on continuous basis.
- ✓ Provision has been made for potable water to the nearby community through dedicated water tankers & networks of water pipelines.
- ✓ World Environment day was celebrated at CCF, Chunar from 01th June to 05th June, 2020 to spread harmony and enthusiasm towards the awareness and protection of environment.
- ✓ CCF, Chunar Certified for the Integrated Management Systems which includes Quality Management Systems (ISO: 9001-2008), Environment Management Systems (ISO: 14001-2003 and Occupational Health and Safety Management Systems (OHSAS: 45001-2018) & audits/surveillance audits being conducted by M/s Intertek (an internationally certified body).
- ✓ **Installation of Oil Filtration machine for reuse of used oil, by this fresh lubricant oil consumption reduced.**

For Chunar Cement Factory,
(A Unit of Jaiprakash Associates Limited)

Chunar Cement

R.K.VERMA
Vice President

Monthly Summary of Ambient Air Quality Data monitored by Chunar Cement Factory : Chunar

Annexure- 1

MONTH - APRIL 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	52.70	27.68	16.70	20.85
2	NEAR WATER STORAGE TANK	52.23	27.40	17.30	23.33
3	NEAR FIELD HOSTAL FH- 1B	51.13	25.00	17.45	23.83

MONTH -MAY 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	49.95	26.91	18.00	21.65
2	NEAR WATER STORAGE TANK	50.45	26.49	16.56	22.81
3	NEAR FIELD HOSTAL FH- 1B	53.63	27.81	16.40	24.40

MONTH - JUNE 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	52.14	32.44	20.54	26.03
2	NEAR WATER STORAGE TANK	55.35	33.79	22.38	27.81
3	NEAR FIELD HOSTAL FH- 1B	55.20	36.33	22.61	26.95

MONTH - JULY 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	20.61	32.55	21.19	25.04
2	NEAR WATER STORAGE TANK	56.23	33.94	23.29	27.91
3	NEAR FIELD HOSTAL FH- 1B	58.40	34.24	20.53	24.66

Chunar Cement Factory
Chunar Dist. Mirzapur (U.P.)

MONTH - AUGUST 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	54.91	30.95	22.13	25.44
2	NEAR WATER STORAGE TANK	55.58	31.99	21.43	25.11
3	NEAR FIELD HOSTAL FH- 1B	54.79	32.30	20.09	23.29

MONTH - SEPTEMBER 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	53.28	30.71	24.59	27.18
2	NEAR WATER STORAGE TANK	53.00	33.68	23.21	25.35
3	NEAR FIELD HOSTAL FH- 1B	55.10	34.99	20.49	23.36

MONTH - OCTOBER 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	51.58	28.26	22.23	24.08
2	NEAR WATER STORAGE TANK	46.66	27.63	17.86	19.78
3	NEAR FIELD HOSTAL FH- 1B	50.65	27.38	19.38	20.94

MONTH -NOVEMBER 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	52.59	27.91	20.55	22.61
2	NEAR WATER STORAGE TANK	46.89	26.19	14.25	15.75
3	NEAR FIELD HOSTAL FH- 1B	42.13	22.35	12.63	14.94

Chunar, Dist. Mirzapur (U.P.)

MONTH - DECEMBER 2020					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	49.65	25.78	14.46	23.11
2	NEAR WATER STORAGE TANK	45.49	24.96	12.05	14.33
3	NEAR FIELD HOSTAL FH- 1B	45.13	24.06	11.40	13.75

MONTH - JANUARY 2021					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	47.06	26.86	17.40	20.14
2	NEAR WATER STORAGE TANK	44.66	25.46	10.50	12.48
3	NEAR FIELD HOSTAL FH- 1B	41.05	20.43	10.65	13.69

MONTH - FEBRUARY 2021					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	49.20	26.21	16.45	18.56
2	NEAR WATER STORAGE TANK	43.74	24.05	11.41	13.56
3	NEAR FIELD HOSTAL FH- 1B	39.86	18.33	10.96	13.00

MONTH - MARCH 2021					
S.No	Sampling Location	AVG.PM10 (µgm/m3)	AVG.PM 2.5 (µgm/m3)	AVG.SOx (µgm/m3)	AVG.NOx (µgm/m3)
1	NEAR CPP DM PLANT	48.93	24.43	15.99	17.70
2	NEAR WATER STORAGE TANK	48.40	26.11	15.11	17.68
3	NEAR FIELD HOSTAL FH- 1B	42.14	15.40	10.79	13.14