



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Annexure-I

Stack Monitoring Data from June'2021 to Nov'2021

BCPL – Lepetkata

SO₂Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	SO ₂ =50 mg/Nm ³	ND	ND	ND
Stack attached to Furnace-2		ND	ND	ND
Stack attached to Furnace-3		ND	ND	ND
Stack attached to Furnace-4		ND	ND	ND
Stack attached to Thermal Oxidizer		ND	ND	ND
Stack attached to HRSG1		ND	ND	ND
Stack attached to HRSG2		ND	ND	ND
Stack attached to UB1		ND	ND	ND
Stack attached to UB2		ND	ND	ND

NO_x Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	NO _x = 350 mg/Nm ³	31.6	42.4	37.0
Stack attached to Furnace-2		37.4	37.4	37.4
Stack attached to Furnace-3		28.8	29.2	29.0
Stack attached to Furnace-4		38.2	38.2	38.2
Stack attached to Thermal Oxidizer		24.3	34.7	29.5
Stack attached to HRSG1		25.5	30.5	28.0

18/11/21
(T-6140 SH)



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Stack attached to HRSG2		21.8	33.7	27.8
Stack attached to UB1		27.3	28.3	27.8
Stack attached to UB2		ND	ND	ND

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	CO=150 mg/Nm ³	26.5	27.1	26.8
Stack attached to Furnace-2		36.6	36.6	36.6
Stack attached to Furnace-3		22.5	26.5	24.5
Stack attached to Furnace-4		35.6	35.6	35.6
Stack attached to Thermal Oxidizer		21.5	31.2	26.4
Stack attached to HRSG1		21.2	21.2	21.2
Stack attached to HRSG2		26.2	39.5	32.9
Stack attached to UB1		22.8	37.5	30.2
Stack attached to UB2		ND	ND	ND

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	PM= 10 mg/Nm ³	ND	ND	ND
Stack attached to Furnace-2		ND	ND	ND
Stack attached to Furnace-3		ND	ND	ND
Stack attached to Furnace-4		ND	ND	ND



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Stack attached to Thermal Oxidiser		ND	ND	ND
Stack attached to HRSG1		ND	ND	ND
Stack attached to HRSG2		ND	ND	ND
Stack attached to UB1		ND	ND	ND
Stack attached to UB2		ND	ND	ND

Stack Monitoring Data from June'2021 to Nov'2021

BCPL GDU & CSDuliajan

SO₂ Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack	SO ₂ = 50 mg/Nm ³	ND
Gas Turbine-1 Stack		ND
Gas Turbine-2 Stack		ND
Gas Engine Generator Stack		ND

NO_x Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack	NO _x = 350 mg/Nm ³	28.8
Gas Turbine-1 Stack		29.6
Gas Turbine-2 Stack		31.1
Gas Engine Generator Stack		27.7

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CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack	CO = 150 mg/Nm ³	35.6
Gas Turbine-1 Stack		36.4
Gas Turbine-2 Stack		40.1
Gas Engine Generator Stack		32.9

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack	PM = 10 mg/Nm ³	ND
Gas Turbine-1 Stack		ND
Gas Turbine-2 Stack		ND
Gas Engine Generator Stack		ND

Stack Monitoring Data from June'2021 to Nov'2021

BCPL Lakwa

SO₂Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack1	SO ₂ = 50 mg/Nm ³	ND
Gas Turbine-Stack		ND
DG Set		ND



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NO_x Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack1	NO _x = 350 mg/Nm ³	25.5
Gas Turbine Stack		32.0
DG Set	NO _x + HC ≤ 4.0 gm/kw-hr	0.27

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack1	CO = 150 mg/Nm ³	24.8
Gas Turbine Stack		41.4
DG Set	CO ≤ 3.5 gm/kw-hr	0.15

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value
		Average
Reboiler Stack1	PM=10 mg/Nm ³	ND
Gas Turbine Stack		ND
DG Set	PM ≤ 0.2 gm/kw-hr	0.08

Stack Monitoring Data from June'2021 to Nov'2021

BCPL Railway Siding

NO_x Emission (mg/Nm³)

Stack	Emission Standard	Observed Value
		Average
DG Set Stack	NO _x = 710 mg/Nm ³	223.5

7/4/21
M. G. H. H. H.



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CO Emission (mg/Nm³)

Stack	Emission Standard	Observed Value
		Average
DG Set Stack	CO = 150 mg/Nm ³	62.9

PM Emission (mg/Nm³)

Stack	Emission Standard	Observed Value
		Average
DG Set Stack	PM=75 mg/Nm ³	49.3

NMHC as C Emission (mg/Nm³)

Stack	Emission Standard	Observed Value
		Average
DG Set Stack	NMHC as C = 100 mg/Nm ³	20.6

Effluent after Treatment (ETP Outlet) Monitoring Data from June'2021 to Nov'2021

BCPL Lepetkata

Sl. No.	Parameters	Standard as per PCB, Assam and IS 2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.6	7.8	7.7
2.	Temperature	40°C	23.4	24.4	23.9
3.	Total Suspended Solids	100 mg/l	29.5	37.4	29.5
4.	Oil & Grease	10 mg/l	BDL(DL=2)	BDL(DL=2)	BDL(DL=2)
5.	COD (as O ₂)	250 mg/l	130.0	143.0	136.5
6.	BOD (@27° C for 3 days)	50 mg/l	22.0	25.0	23.5



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7.	Sulphides (as S)	2 mg/l	BDL(DL=0.1)	BDL(DL=0.1)	BDL(DL=0.1)
8.	Chloride (as Cl)	1000 mg/l	393.0	418.0	405.5
9.	Ammonical nitrogen (as N)	50mg/l	8.3	10.6	9.5
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	BDL(DL=0.1)	BDL(DL=0.1)	BDL(DL=0.1)
11.	Free Ammonia (as NH ₃)	5 mg/l	<1.0	<1.0	<1.0
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	15.6	17.6	16.6

Effluent after Treatment (ETP Outlet) Monitoring Data from June'2021 to Nov'2021 BCPL Lakwa

Sl. No.	Parameters	Standard as per PCB, Assam and IS 2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.7	7.8	7.8
2.	Temperature	40°C	23.4	24.2	23.8
3.	Total Suspended Solids	100 mg/l	29.5	39.5	34.5
4.	Oil & Grease	10 mg/l	BDL(DL=2)	BDL(DL=2)	BDL(DL=2)
5.	COD (as O ₂)	250 mg/l	132.0	144.0	138.0
6.	BOD (at 27°C for 3 days)	50 mg/l	22.0	24.0	23.0
7.	Sulphides (as S)	2 mg/l	BDL(DL=0.1)	BDL(DL=0.1)	BDL(DL=0.1)
8.	Chlorides (as Cl)	1000 mg/l	472.0	484.0	478.0
9.	Ammonical nitrogen (as N)	50mg/l	9.6	11.5	10.6



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10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	BDL(DL=0.1)	BDL(DL=0.1)	BDL(DL=0.1)
11.	Free Ammonia (as NH ₃)	5 mg/l	<1.0	<1.0	<1.0
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	15.7	17.6	16.7

Storm water Monitoring Data from June'2021 to Nov'2021

BCPL Lepetkata

Sl. No.	Parameters	Standard as per PCB, Assam and IS2490 (Pt-I)	Observed Value (Avg)
1.	pH	6.5 – 8.5	6.8
2.	Temperature	40°C	22.0
3.	Total Suspended Solids	100 mg/l	8.0
4.	Oil & Grease	10 mg/l	BDL(DL=2.0)
5.	COD (as O ₂)	250 mg/l	10.7
6.	BOD (@27°C for 3 days)	50 mg/l	2.4
7.	Sulphides (as S)	2 mg/l	BDL(DL=0.1)
8.	Chlorides (as Cl)	1000 mg/l	69.5
9.	Ammonical nitrogen (as N)	50mg/l	<1.0
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	BDL(DL=0.1)
11.	Free Ammonia (as NH ₃)	5 mg/l	<1.0
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	3.3

17/11/2021



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Storm water Monitoring Data from June'2021 to Nov'2021

BCPL Lakwa

Sl. No.	Parameters	Standard as per PCB, Assam and IS2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	6.9	7.2	7.0
2.	Temperature	40°C	21.6	22.3	22.0
3.	Total Suspended Solids	100 mg/l	8.4	11.6	10.0
4.	Oil & Grease	10 mg/l	BDL(DL=2.0)	BDL(DL=2.0)	BDL(DL=2.0)
5.	COD (as O ₂)	250 mg/l	<8.0	<8.0	<8.0
6.	BOD (@27°C for 3 days)	50 mg/l	<2.0	<2.0	<2.0
7.	Sulphides (as Cl)	2 mg/l	BDL(DL=0.1)	BDL(DL=0.1)	BDL(DL=0.1)
8.	Chloride (as Cl)	1000 mg/l	44.0	52.0	48.0
9.	Ammonical Nitrogen (as N)	50mg/l	<1.0	<1.0	<1.0
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	BDL(DL=0.1)	BDL(DL=0.1)	BDL(DL=0.1)
11.	Free Ammonia (as NH ₃)	5 mg/l	<1.0	<1.0	<1.0
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	1.7	2.3	2.0



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Ambient Air Quality Analysis from June'2021 to Nov'2021

BCPL Lepetkata

Parameters	Locations Name			
	Near Energy Gate	At RWTP Control Room	At Sub Station-8	BHEL Site near CISF camp
PM ₁₀ (Std.-100µg/m ³)				
Min.	41.6	48.6	48.9	47.3
Max.	84.1	82.2	79.2	73.9
Avg.	60.8	66.0	62.6	60.1
PM _{2.5} (Std.-60 µg/m ³)				
Min.	24.3	27.6	27.5	27.2
Max.	46.5	47.8	44.6	44.8
Avg.	36.2	38.8	35.5	35.5
SO ₂ (Std.-80 µg/m ³)				
Min.	6.6	7.3	6.5	7.2
Max.	13.3	13.4	12.7	12.2
Avg.	9.6	10.4	9.7	9.6
NO ₂ (Std.-80 µg/m ³)				
Min.	15.6	17.5	17.3	9.4
Max.	29.8	33.2	39.6	29.3
Avg.	22.6	25.0	23.2	22.2
CO (Std.-4 mg/m ³ one hourly basis)				
Min.	BDL	BDL	BDL	BDL
Max.	BDL	BDL	BDL	BDL
Avg.	BDL	BDL	BDL	BDL

Ambient Air Quality Analysis from June'2021 to Nov'2021

BCPL Lakwa

Parameters	At Lab Building	At Main Control Room
PM ₁₀ (Std.-100µg/m ³)		
Min.	51.3	51.5
Max.	84.3	77.2
Avg.	65.1	65.9
PM _{2.5} (Std.-60 µg/m ³)		
Min.	27.3	28.6
Max.	42.5	44.5
Avg.	34.3	37.5



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SO ₂ (Std.-80 µg/m ³)		
Min.	6.8	7.6
Max.	12.8	12.7
Avg.	9.7	10.2
NO ₂ (Std.-80 µg/m ³)		
Min.	15.8	16.5
Max.	31.4	29.6
Avg.	23.2	23.9
CO (Std.-4 mg/m ³ one hourly basis)		
Min.	BDL	BDL
Max.	BDL	BDL
Avg.	BDL	BDL

Ambient Air Quality Analysis from June'2021 to Nov'2021

BCPL GDU & CS Duliajan

Parameters	At Canteen Building
PM ₁₀ (Std.-100µg/m ³)	
Min.	48.4
Max.	72.9
Avg.	58.5
PM _{2.5} (Std.-60 µg/m ³)	
Min.	30.8
Max.	46.8
Avg.	36.5
SO ₂ (Std.-80 µg/m ³)	
Min.	8.3
Max.	12.2
Avg.	10.1
NO ₂ (Std.-80 µg/m ³)	
Min.	18.2
Max.	31.2
Avg.	23.5
CO (Std.-4 mg/m ³ one hourly basis)	
Min.	BDL
Max.	BDL
Avg.	BDL

Ambient Air Quality Analysis from June'2021 to Nov'2021

12/11/21
(T. G. H. S. S.)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

BCPL Railway Siding

Parameters	At Fire Water Pump House
PM ₁₀ (Std.-100µg/m ³)	
Min.	52.9
Max.	74.5
Avg.	65.3
PM _{2.5} (Std.-60 µg/m ³)	
Min.	31.5
Max.	44.2
Avg.	38.9
SO ₂ (Std.-80 µg/m ³)	
Min.	8.2
Max.	12.5
Avg.	10.7
NO ₂ (Std.-80 µg/m ³)	
Min.	19.2
Max.	30.3
Avg.	24.8
CO (Std.-4 mg/m ³ one hourly basis)	
Min.	BDL
Max.	BDL
Avg.	BDL

Noise Monitoring Data from June'2021 to Nov'2021

BCPL - Lepetkata

Sl. No	Locations Name	Min.	Max.	Avg.
Day Time(Std.-75 db(A))				
1.	Near Energy Gate	57.3	65.1	61.6
2.	Near Substation-8	54.9	64.8	60.5
3.	Near RWTP Control Room	58.2	64.8	61.8
4.	Near BHEL Site	57.2	63.7	60.9
Night Time(Std.-70 db(A))				
1.	Near Energy Gate	47.8	53.8	51.1
2.	Near Substation-8	47.7	52.6	50.2
3.	Near RWTP	47.2	53.8	50.9

8/4/21
(T.G.Hom)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

	Control Room			
4.	Near BHEL Site	47.3	52.7	50.6

Noise Monitoring Data from June'2021 to Nov'2021

BCPL - Lakwa

Sl. No	Locations Name	Min.	Max.	Avg.
Day Time(Std.-75 db(A))				
1.	Near Main Control Room	58.1	66.2	61.9
2.	Near Lab.	56.3	64.8	60.8
Night Time(Std.-70 db(A))				
1.	Near Main Control Room	47.2	53.1	50.8
2.	Near Lab.	47.3	53.6	50.3

Noise Monitoring Data from June'2021 to Nov'2021

BCPL - Duliajan

Sl. No	Location Name	Min.	Max.	Avg.
1.	Near Canteen Building(Day Time) (Std.-75 db(A))	58.2	64.5	60.9
2.	Near Canteen Building(Night Time) (Std.-70 db(A))	46.3	53.3	49.8

Noise Monitoring Data from June'2021 to Nov'2021



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

BCPL – Railway Siding

Sl. No	Location Name	Min.	Max.	Avg.
1.	Near Fire Water Pump House (Day Time)) (Std.-75 db(A))	59.2	64.8	62.0
2.	Near Fire Water Pump House (Night Time) (Std.-70 db(A))	49.6	53.9	51.5

Note:

1. ND – Not detectable
2. BLD- Below Detection Limit.

MS
(T-6110112)



**GOVERNMENT OF ASSAM
OFFICE OF THE DEPUTY COMMISSIONER ::DIBRUGARH DISTRICT
(LAND ACQUISITION BRANCH)**

No. DRA.5/2007/

Dated Dibrugarh 27.../04/2019.

Certificate of Completion of Rehabilitation

This is to certify that 22 Nos. of Sonowal Kachari families and 44 Nos. TGL and Ex-TGL families, totaling 66 Nos. were affected during the acquisition of land for setting up of the Gas Cracker Project (Brahmaputra Cracker and Polymer Limited) at Lepetkata under Dibrugarh West Revenue Circle and among 66 affected families, 22 Nos. of Sonowal Kachari families were rehabilitated at VGR Dag No.23 situated at Dulia-Gaon by providing them 1Bigha of land each and the remaining 44 Nos. of TGL and Ex-TGL families were also rehabilitated at 45 Nos. Bolai FS Grant (B) by providing them 1 Bigha of land each.

This certificate is based on the report of Circle Officer, Dibrugarh West Revenue Circle.

Pallav Gopal Jha
23.6.19
(Pallav Gopal Jha, IAS)
Deputy Commissioner & Collector
Dibrugarh.

Dated Dibrugarh 27.../04/2019.

Memo No. DRA.5/2007/

-A-

Copy to:

1. Circle Officer, Dibrugarh West Revenue Circle, Dibrugarh.
2. Chief Manager (HR), BCPL, Lepetkata, 786006 for information and necessary action.

Pallav Gopal Jha
23.6.19
(Pallav Gopal Jha, IAS)
Deputy Commissioner & Collector
Dibrugarh.

M
18/4/19
(T-G Hossain)

	Brahmaputra Cracker & Polymer Ltd.	Doc. No	(BCPL LEP/ENV-CIV/F1/001/R0)
		Rev. No	R0
		Rev Date	-
		Pages	Page 3 of 3

Identification of job: Greenbelt development

Date: 19.05.2021

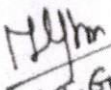
Check Points

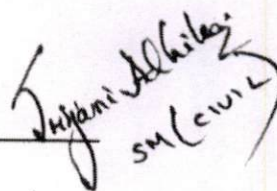
Sl. No.	Existing greenbelt area with location (Hectares)	Newly developed greenbelt area with location (Hectares)	Total greenbelt area (Hectares)	Remark
01	Marked in Existing plot plan 95.23 Hectares	Near Security Office / Gate House (left of main gate) 4 hectare	132.318 hectares	
02		Near orange garden and backside of admin building 5.5 hectares		
03		Near plant entrance (right) 10.188 hectares		
04		Herbal garden near central ware house 1 hectares		
05		Near MFS (long straight lawn) 5.7 hectares		
06		Near ETP area 6 hectares		
07		Near Construction area 4.7 hectares		

PROVIDE COMMENTS BELOW IF ANY

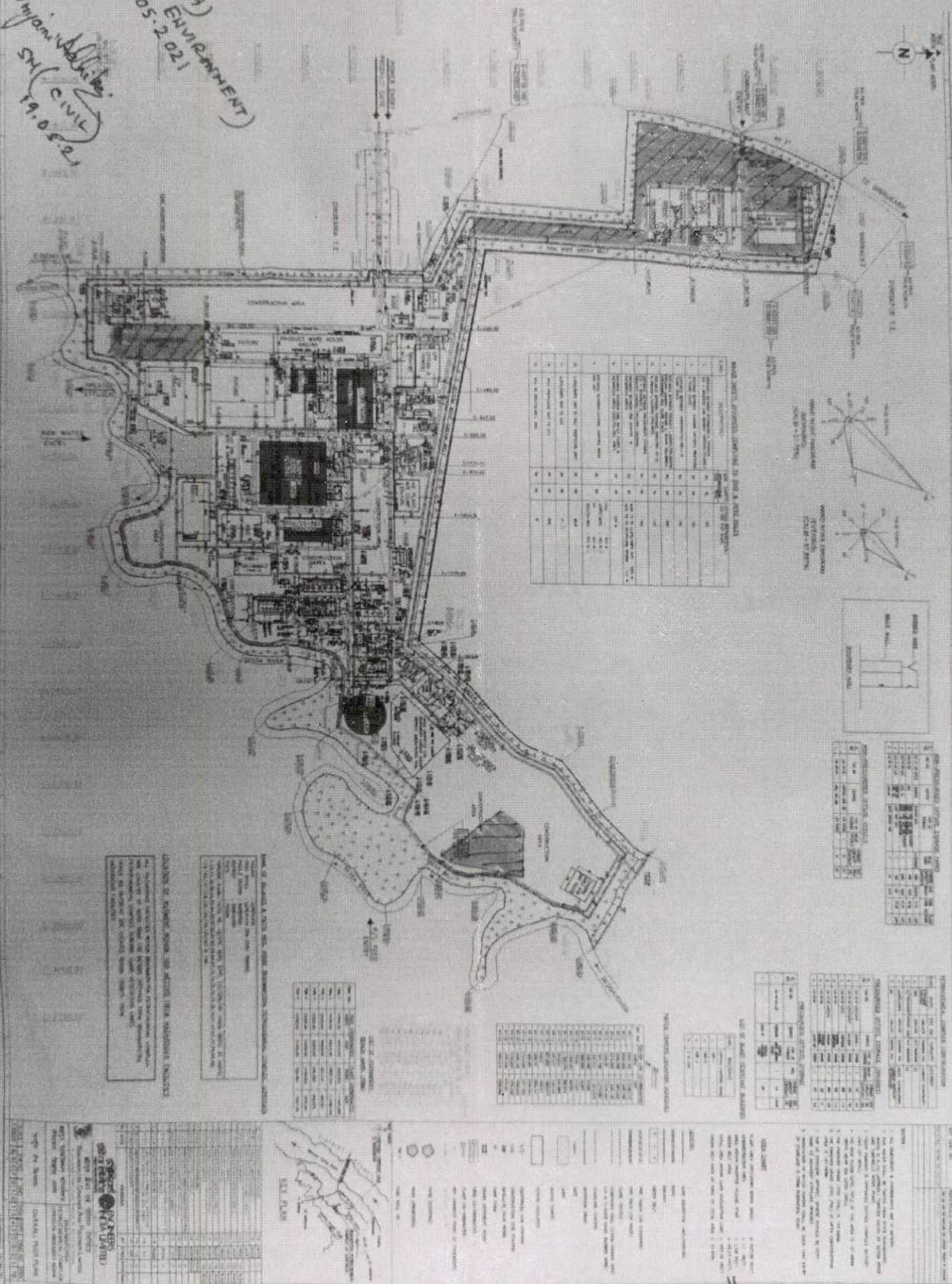
Further Development of Greenbelt development is also under progress

Signature of Site In Charge : _____


 (T.G. GHOSH)
 SM (TS & ENVIRONMENT DEPT)


 SM (CIVIL)

(TSP ENVIRONMENT)
 19.05.2021
 Injani Abubakar
 SM (CIVIL)
 19.05.21



BUDGET SPENT FOR EMC

Sr. No.	Description	Rs (In cr.)
<u>Capital Expenditure</u>		
1	Installation of Effluent Treatment Plant	89.8
2	Quality Control Lab for Environmental monitoring	60
3	Treated effluent pipe line from BCPL Dibrugarh to Brahmaput	37.42
4	Flare Stack	3.56
5	Sessa River Embankment works	2.36
6	Bioremediation facilities	4.02
7	Stack Analysers-ECU	2.8
8	Stack Analysers-CPP	1.2
9	Ambient air online analyser	0.77
10	Online analyzer for treated effluent	0.18
11	Data Transmission to CPCB Server of all stacks emission data	0.035
12	Greenbelt Development	0.58
<u>Recurring Expenditure</u>		
1	Renewal of 'Consent to Operate' per financial year	0.6
2	Operation and maintenance of treated effluent disposal pipeline to Brahmaputra River	0.025
3	Public Liability Industrial Risk renewal for one year for all sites	0.057
4	Public Liability Insurance Act 1991 renewal for one year for all sites	0.006
5	Environmental parameters monitoring at BCPL, Lepetkata per year	0.26
6	Awariness programme & Events	0.05
Total		203.7

(T-GHOSH)