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Accredited by NABET, QCI for EIA Studies as 'A' Category Consultant Organization. Empanelled with PCCF (Wildlife) & CWLW, Odisha
Enlisted in Construction Industry Development Council (CIDC) established by the Planning Commission (Govt. of India)
MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Report no. - CEMC/AIWTDP/170918/W1

Issued Date-17.09.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 08.08.2018
Date of Sample Received : 13.08.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Lachit Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 13.08.2018 to 21.08.2018
Reference No. : CEMC-17092018W1

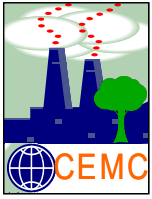
ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	22.5	24.4	20.6
2	Colour	Hazen	36	<5	31
3	Electrical Conductivity	µS/cm	376.2	210.6	385.1
4	Turbidity	NTU	22	<1	18
5	Salinity	PPT	0.08	0.03	0.08
6	pH Value @ 25°C	--	7.3	6.9	7.5
7	Total Hardness (as CaCO ₃)	mg/l	98.2	112	96.0
8	Dissolved Oxygen	mg/l	6.6	<0.1	6.2
9	BOD for 3 days @ 27°C	mg/l	2.2	<2	2.6
10	COD	mg/l	14	<10	10
11	Chloride (as Cl)	mg/l	45	19	43
12	TSS	mg/l	28.6	<5	32.9
13	TDS	mg/l	244.53	136.9	248.6
14	Calcium (as Ca)	mg/l	27.55	31.42	26.93
15	Magnesium (as Mg)	mg/l	7.15	8.16	6.99
16	Copper (as Cu)	mg/l	0.033	<0.03	0.036
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	22.7	10.3	23.6
19	Nitrate (as NO ₃)	mg/l	4.58	1.23	5.01
20	Phosphate (as PO ₄)	mg/l	0.21	<0.05	0.26
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.19	<0.1	0.25

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

Regd. Office: 1st Floor, N-5/305, IRC village, Nayapalli, Bhubaneswar-751015, Odisha, India, Mobile: 9861032826
E-mail- cemc_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in, Landline: 0674-2360344.

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: cemclab@yahoo.in, Mobile: 9937631956, 8895177314



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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	30.1	5.6	36.2
26	Potassium (as K)	mg/l	1.9	0.8	2.3
27	Lead (as Pb)	mg/l	0.14	<0.01	0.2
28	Zinc (as Zn)	mg/l	6.3	0.45	6.9
29	Residual Sodium Carbonate	meq/l	1.1	0.9	1.3
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	76.0	20.0	80.0
32	Total Coliform	MPN/100ml	>1600	Absent	>1600


Authorized Signatory

Notes:

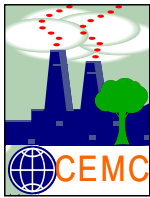
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Report no. - CEMC/AIWTDP/170918/W2

Issued Date-17.09.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 06.08.2018
Date of Sample Received : 13.08.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : North Guwahati
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 13.08.2018 to 21.08.2018
Reference No. : CEMC-17092018W2

ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	23.6	24.4	24.1
2	Colour	Hazen	26	<5	28
3	Electrical Conductivity	µS/cm	400.1	205.9	408.2
4	Turbidity	NTU	8	<1	9
5	Salinity	PPT	0.09	0.03	0.09
6	pH Value @ 25°C	--	7.3	6.6	7.6
7	Total Hardness (as CaCO ₃)	mg/l	112	104	116
8	Dissolved Oxygen	mg/l	6.4	<0.1	6.3
9	BOD for 3 days @ 27°C	mg/l	2.4	<2	2.4
10	COD	mg/l	18	<10	14
11	Chloride (as Cl)	mg/l	51.0	17	53
12	TSS	mg/l	36.2	<5	34.1
13	TDS	mg/l	222.0	133.83	232.0
14	Calcium (as Ca)	mg/l	31.42	29.17	32.54
15	Magnesium (as Mg)	mg/l	8.16	7.58	8.45
16	Copper (as Cu)	mg/l	0.039	<0.03	0.035
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	24.5	11.2	26.9
19	Nitrate (as NO ₃)	mg/l	4.44	1.25	4.58
20	Phosphate (as PO ₄)	mg/l	0.36	<0.05	0.39
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.22	<0.1	0.29

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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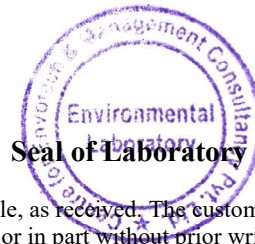


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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	35.1	5.9	36.6
26	Potassium (as K)	mg/l	2.6	<1	2.1
27	Lead (as Pb)	mg/l	0.17	<0.01	0.18
28	Zinc (as Zn)	mg/l	4.9	0.54	4.8
29	Residual Sodium Carbonate	meq/l	1.2	0.8	1.3
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	92	24	98
32	Total Coliform	MPN/100ml	>1600	Absent	>1600


Authorized Signatory



Seal of Laboratory

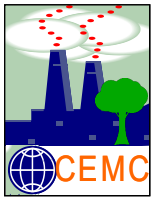
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Report no. - CEMC/AIWTDP/170918/W3

Issued Date-17.09.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 28.08.2018
Date of Sample Received : 05.09.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Neamati Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 05.09.2018 to 17.09.2018
Reference No. : CEMC-17092018W3

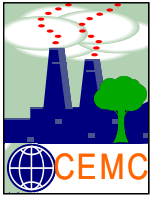
ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	22.8	25.6	23.6
2	Colour	Hazen	30	<5	26
3	Electrical Conductivity	µS/cm	325.6	202.6	400.1
4	Turbidity	NTU	12	<1	8
5	Salinity	PPT	0.07	0.04	0.09
6	pH Value @ 25°C	--	7.2	6.8	7.3
7	Total Hardness (as CaCO ₃)	mg/l	98	106	112
8	Dissolved Oxygen	mg/l	6.5	<0.1	6.4
9	BOD for 3 days @ 27°C	mg/l	2.8	<2	2.4
10	COD	mg/l	16	<10	18
11	Chloride (as Cl)	mg/l	43	21	51.0
12	TSS	mg/l	32.9	<5	34.1
13	TDS	mg/l	211.6	131.69	222.0
14	Calcium (as Ca)	mg/l	27.49	29.74	29.7
15	Magnesium (as Mg)	mg/l	7.14	7.73	9.2
16	Copper (as Cu)	mg/l	0.031	<0.03	0.039
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	20.4	11.6	24.5
19	Nitrate (as NO ₃)	mg/l	4.25	2.14	4.44
20	Phosphate (as PO ₄)	mg/l	0.22	<0.05	0.36
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.19	<0.1	0.22

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	29.1	6.6	35.1
26	Potassium (as K)	mg/l	2.1	<1	2.6
27	Lead (as Pb)	mg/l	0.11	<0.01	0.17
28	Zinc (as Zn)	mg/l	4.2	0.38	4.9
29	Residual Sodium Carbonate	meq/l	0.9	1.0	1.1
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	78	28	92.0
32	Total Coliform	MPN/100ml	>1600	Absent	>1600


Authorized Signatory



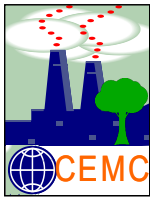
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Report no. - CEMC/AIWTDP/170918/W4

Issued Date-17.09.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 30.08.2018
Date of Sample Received : 05.09.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Kamalabari Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 05.09.2018 to 17.09.2018
Reference No. : CEMC-17092018W4

ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	21.8	25.1	23.9
2	Colour	Hazen	28	<5	24
3	Electrical Conductivity	µS/cm	341.6	205.6	352.7
4	Turbidity	NTU	19	<1	14
5	Salinity	PPT	0.08	0.08	0.08
6	pH Value @ 25°C	--	7.2	6.9	7.3
7	Total Hardness (as CaCO ₃)	mg/l	104	114	98
8	Dissolved Oxygen	mg/l	6.5	<0.1	6.6
9	BOD for 3 days @ 27°C	mg/l	2.6	<2	2.4
10	COD	mg/l	14	<10	10
11	Chloride (as Cl)	mg/l	47	23	41
12	TSS	mg/l	36.5	<5	38.9
13	TDS	mg/l	222.04	133.64	229.25
14	Calcium (as Ca)	mg/l	29.17	31.98	27.49
15	Magnesium (as Mg)	mg/l	7.58	8.31	7.14
16	Copper (as Cu)	mg/l	0.031	<0.03	0.035
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	22.6	11.8	20.6
19	Nitrate (as NO ₃)	mg/l	2.89	1.54	2.47
20	Phosphate (as PO ₄)	mg/l	0.65	<0.05	0.49
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.26	<0.1	0.21

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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	27.8	5.9	28.1
26	Potassium (as K)	mg/l	1.9	<1	1.8
27	Lead (as Pb)	mg/l	<0.01	<0.01	<0.01
28	Zinc (as Zn)	mg/l	3.6	0.52	3.1
29	Residual Sodium Carbonate	meq/l	1.1	0.8	1.3
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	80	22	72
32	Total Coliform	MPN/100ml	>1600	Absent	>1600

Authorized Signatory

Notes:

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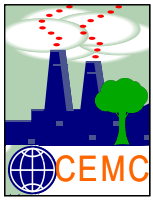


Seal of Laboratory

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
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Report no. - CEMC/AIWTDP/170918/W5

Issued Date-17.09.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 02.09.2018
Date of Sample Received : 05.09.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Aphlamukh Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 05.09.2018 to 17.09.2018
Reference No. : CEMC-17092018W5

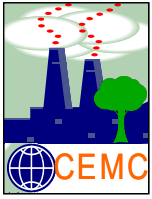
ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	23.4	26.1	23.1
2	Colour	Hazen	25	<5	26
3	Electrical Conductivity	µS/cm	348.9	202.3	352.8
4	Turbidity	NTU	21	<1	17
5	Salinity	PPT	0.08	0.04	0.08
6	pH Value @ 25°C	--	7.5	6.6	7.4
7	Total Hardness (as CaCO ₃)	mg/l	106	96	100
8	Dissolved Oxygen	mg/l	6.6	<0.1	6.3
9	BOD for 3 days @ 27°C	mg/l	2.4	<2	2.2
10	COD	mg/l	14	<10	12
11	Chloride (as Cl)	mg/l	49	23	41
12	TSS	mg/l	36.1	<5	30.9
13	TDS	mg/l	226.78	131.49	229.32
14	Calcium (as Ca)	mg/l	29.73	26.93	28.06
15	Magnesium (as Mg)	mg/l	7.73	6.99	7.29
16	Copper (as Cu)	mg/l	<0.03	<0.03	<0.03
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	23.9	12.7	25.1
19	Nitrate (as NO ₃)	mg/l	4.59	1.54	3.18
20	Phosphate (as PO ₄)	mg/l	0.51	<0.05	0.42
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.36	<0.1	0.28

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	32.6	5.5	30.1
26	Potassium (as K)	mg/l	2.0	<1	2.3
27	Lead (as Pb)	mg/l	<0.01	<0.01	<0.01
28	Zinc (as Zn)	mg/l	3.9	0.58	3.9
29	Residual Sodium Carbonate	meq/l	1.2	0.8	1.3
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	62	18	56
32	Total Coliform	MPN/100ml	>1600	Absent	>1600


Authorized Signatory

Notes:

- The result given above related to the tested sample, as received. The customer asked for the above test only.
- This Test Report shall not be reproduced wholly or in part without prior written consent of the laboratory.
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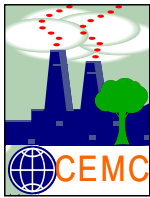


Seal of Laboratory

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Report no. - CEMC/AIWTDP/181218/W1

Issued Date-18.12.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 27.11.2018
Date of Sample Received : 11.12.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Lachit Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 11.12.2018 to 18.12.2018
Reference No. : CEMC-18122018W1

ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	23.6	26.5	22.8
2	Colour	Hazen	25	<5	47
3	Electrical Conductivity	µS/cm	380.4	231.5	378.4
4	Turbidity	NTU	8	<1	28
5	Salinity	PPT	0.07	0.04	0.09
6	pH Value @ 25°C	--	7.2	6.9	7.4
7	Total Hardness (as CaCO ₃)	mg/l	102.0	98.6	110.0
8	Dissolved Oxygen	mg/l	6.6	1.2	6.8
9	BOD for 3 days @ 27°C	mg/l	2.8	<2	3.2
10	COD	mg/l	20	<10	26
11	Chloride (as Cl)	mg/l	41.0	21	49.0
12	TSS	mg/l	25.6	<5	56.2
13	TDS	mg/l	213.0	150.5	219.0
14	Calcium (as Ca)	mg/l	28.6	27.66	30.86
15	Magnesium (as Mg)	mg/l	7.4	7.19	8.02
16	Copper (as Cu)	mg/l	0.035	<0.03	0.039
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	18.8	12.7	17.7
19	Nitrate (as NO ₃)	mg/l	3.26	1.36	3.08
20	Phosphate (as PO ₄)	mg/l	0.56	<0.05	0.48
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.15	<0.1	0.23

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	28.2	5.6	30.8
26	Potassium (as K)	mg/l	1.8	<1	2.2
27	Lead (as Pb)	mg/l	0.15	<0.01	0.19
28	Zinc (as Zn)	mg/l	2.5	2.9	4.1
29	Residual Sodium Carbonate	meq/l	1	0.6	0.9
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	84.0	24	96.0
32	Total Coliform	MPN/100ml	>1600	Absent	>1600


Authorized Signatory

Notes:

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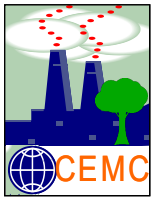


Seal of Laboratory

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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Report no. - CEMC/AIWTDP/181218/W2

Issued Date-18.12.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 08.12.2018
Date of Sample Received : 11.12.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : North Guwahati
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 11.12.2018 to 18.12.2018
Reference No. : CEMC-18122018W2

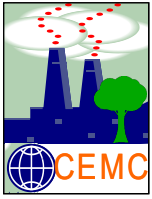
ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	21.5	26.5	25.8
2	Colour	Hazen	32	<5	29
3	Electrical Conductivity	µS/cm	379.8	208.6	404.6
4	Turbidity	NTU	14	<1	10
5	Salinity	PPT	0.08	0.03	0.10
6	pH Value @ 25°C	--	7.1	6.9	7.4
7	Total Hardness (as CaCO ₃)	mg/l	94.0	104.2	116
8	Dissolved Oxygen	mg/l	6.3	1.2	6.8
9	BOD for 3 days @ 27°C	mg/l	2.2	<2	2.8
10	COD	mg/l	24	<10	20
11	Chloride (as Cl)	mg/l	47.0	19	57
12	TSS	mg/l	41.9	<5	36.5
13	TDS	mg/l	218.0	150.5	216.0
14	Calcium (as Ca)	mg/l	26.37	29.23	32.54
15	Magnesium (as Mg)	mg/l	6.85	7.60	8.46
16	Copper (as Cu)	mg/l	0.034	<0.03	0.038
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	21.6	10.6	26.8
19	Nitrate (as NO ₃)	mg/l	3.95	1.59	5.14
20	Phosphate (as PO ₄)	mg/l	0.74	<0.05	0.39
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.14	<0.1	0.25

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	32.5	6.2	36.8
26	Potassium (as K)	mg/l	2.1	<1	2.8
27	Lead (as Pb)	mg/l	0.15	<0.01	0.14
28	Zinc (as Zn)	mg/l	8.2	3.6	5.8
29	Residual Sodium Carbonate	meq/l	0.5	0.8	1.3
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	75.0	20	96.0
32	Total Coliform	MPN/100ml	>1600	Absent	>1600

Authorized Signatory

Notes:

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Report no. - CEMC/AIWTDP/181218/W3

Issued Date-18.12.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 28.11.2018
Date of Sample Received : 11.12.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Neamati Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 11.12.2018 to 18.12.2018
Reference No. : CEMC-18122018W3

ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	23.4	24.9	22.6
2	Colour	Hazen	26	<5	42
3	Electrical Conductivity	µS/cm	354.6	212.9	351.4
4	Turbidity	NTU	9	<1	17
5	Salinity	PPT	0.09	0.04	0.08
6	pH Value @ 25°C	--	7.1	6.8	7.6
7	Total Hardness (as CaCO ₃)	mg/l	104	102.8	92
8	Dissolved Oxygen	mg/l	6.2	1.4	6.3
9	BOD for 3 days @ 27°C	mg/l	2.6	<2	3.0
10	COD	mg/l	24	<10	20
11	Chloride (as Cl)	mg/l	51	23	49
12	TSS	mg/l	25.6	<5	56.2
13	TDS	mg/l	230.5	138.38	228.4
14	Calcium (as Ca)	mg/l	29.18	28.84	25.81
15	Magnesium (as Mg)	mg/l	7.58	7.49	6.71
16	Copper (as Cu)	mg/l	0.03	<0.03	0.03
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	19.6	13.6	16.8
19	Nitrate (as NO ₃)	mg/l	4.01	3.6	3.51
20	Phosphate (as PO ₄)	mg/l	0.35	<0.05	0.23
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.21	<0.1	0.21

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	26.8	8.9	32.1
26	Potassium (as K)	mg/l	1.6	<1	1.8
27	Lead (as Pb)	mg/l	0.16	<0.01	0.14
28	Zinc (as Zn)	mg/l	3.2	2.6	3.8
29	Residual Sodium Carbonate	meq/l	1.2	0.9	1.1
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	82	26	90
32	Total Coliform	MPN/100ml	>1600	Absent	>1600


Authorized Signatory

Notes:

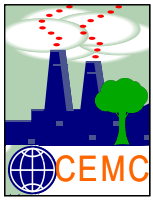
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Seal of Laboratory

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Survey.

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E-mail- cemc_consultancy@yahoo.co.in, cemc122@gmail.com, website: www.cemc.in, Landline: 0674-2360344.**

Laboratory At: Plot No. 800/1274, Johal, Pahal, Bhubaneswar-752101,
E-mail: cemclab@yahoo.in, Mobile: 9937631956, 8895177314



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Accredited by NABET, QCI for EIA Studies as 'A' Category Consultant Organization. Empanelled with PCCF (Wildlife) & CWLW, Odisha
Enlisted in Construction Industry Development Council (CIDC) established by the Planning Commission (Govt. of India)
MoEF&CC, Govt. of India, Recognised Environment Laboratory under Environment (Protection) Act, 1986.

Report no. - CEMC/AIWTDP/181218/W4

Issued Date-18.12.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 03.12.2018
Date of Sample Received : 11.12.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Kamalabari Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 11.12.2018 to 18.12.2018
Reference No. : CEMC-18122018W4

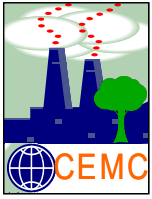
ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	24.1	25.5	22.6
2	Colour	Hazen	21	<5	27
3	Electrical Conductivity	µS/cm	352.6	205.8	351.7
4	Turbidity	NTU	11	<1	14
5	Salinity	PPT	0.06	0.04	0.07
6	pH Value @ 25°C	--	7.6	6.9	7.2
7	Total Hardness (as CaCO ₃)	mg/l	98	110.6	100
8	Dissolved Oxygen	mg/l	6.3	1.1	6.5
9	BOD for 3 days @ 27°C	mg/l	2.2	<2	2.2
10	COD	mg/l	10	<10	18
11	Chloride (as Cl)	mg/l	37	23	41
12	TSS	mg/l	28.6	<5	48.3
13	TDS	mg/l	229.19	133.77	228.60
14	Calcium (as Ca)	mg/l	27.49	31.03	28.06
15	Magnesium (as Mg)	mg/l	7.14	8.06	7.29
16	Copper (as Cu)	mg/l	<0.03	<0.03	<0.03
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	19.8	12.1	16.9
19	Nitrate (as NO ₃)	mg/l	3.15	2.9	2.89
20	Phosphate (as PO ₄)	mg/l	0.48	<0.05	0.41
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.21	<0.1	0.18

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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24	Arsenic (as As)	mg/l	<0.001	<0.001	<0.001
25	Sodium (as Na)	mg/l	32.1	9.6	28.4
26	Potassium (as K)	mg/l	1.1	<1	1.8
27	Lead (as Pb)	mg/l	0.1	<0.01	<0.01
28	Zinc (as Zn)	mg/l	2.6	1.6	1.6
29	Residual Sodium Carbonate	meq/l	1.2	1.0	0.8
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	80	34	92
32	Total Coliform	MPN/100ml	>1600	Absent	>1600

Authorized Signatory

Notes:

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Seal of Laboratory

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Report no. - CEMC/AIWTDP/171218/W5

Issued Date-18.12.2018

SURFACE/GROUND WATER TEST REPORT

Client Name and Address : M/s. Assam Inland Water Transport Development Project,
Guwahati
Date of Sampling : 06.12.2018
Date of Sample Received : 11.12.2018
Sampling by : Mr. B K Payne
Sample Description : Surface & Ground water
Sample Quantity : 2.0 Ltrs
Sample Location : Aphlamukh Ghat
Station Details : Ghats/Commercial Zone- Station-1-SW
: Sensitive Zone- Station-2-GW
: Approaching Roads- Station-3-SW
Date of Analysis : 11.12.2018 to 18.12.2018
Reference No. : CEMC-18122018W5

ANALYSIS RESULT

Sl. No	Parameter	Unit	Station-1	Station-2	Station-3
1	Temperature	°C	21.6	25.0	21.8
2	Colour	Hazen	18	<5	26
3	Electrical Conductivity	µS/cm	356.3	220.9	342.9
4	Turbidity	NTU	12	<1	22
5	Salinity	PPT	0.07	0.04	0.07
6	pH Value @ 25°C	--	7.1	6.7	7.0
7	Total Hardness (as CaCO ₃)	mg/l	112	102	114
8	Dissolved Oxygen	mg/l	6.3	1.1	6.0
9	BOD for 3 days @ 27°C	mg/l	2.2	<2	2.8
10	COD	mg/l	10	<10	18
11	Chloride (as Cl)	mg/l	39.0	19	43.0
12	TSS	mg/l	32.1	<5	32.9
13	TDS	mg/l	231.59	143.58	222.88
14	Calcium (as Ca)	mg/l	31.42	28.62	31.98
15	Magnesium (as Mg)	mg/l	8.16	7.43	8.31
16	Copper (as Cu)	mg/l	<0.03	<0.03	<0.03
17	Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05
18	Sulphate (as SO ₄)	mg/l	20.3	14.3	19.2
19	Nitrate (as NO ₃)	mg/l	4.62	3.3	3.66
20	Phosphate (as PO ₄)	mg/l	0.65	<0.05	0.57
21	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	<0.001	<0.001	<0.001
22	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
23	Silica (as SiO ₂)	mg/l	0.23	<0.1	0.21

Environmental Studies (EIA & EMP), Monitoring, Forest Diversion Planning, DPR, Wildlife Management Plan, Hazardous & Safety Studies, RS& GIS, Baseline Survey, Hydrological & Geological Studies, Socio-economic Studies, DGPS & ETS Study.

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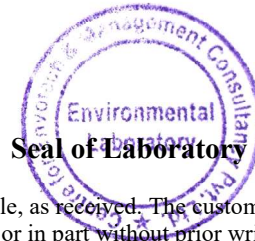


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25	Sodium (as Na)	mg/l	24.1	10.6	24.6
26	Potassium (as K)	mg/l	1.5	<1	1.6
27	Lead (as Pb)	mg/l	<0.1	<0.01	<0.1
28	Zinc (as Zn)	mg/l	2.3	3.9	2.9
29	Residual Sodium Carbonate	meq/l	1.2	0.8	1.0
30	Oil and Grease	mg/l	<5	<5	<5
31	Total Alkalinity (as CaCO ₃)	mg/l	78	30	94
32	Total Coliform	MPN/100ml	>1600	Absent	>1600


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