



# EMTRC LAB

## EMTRC CONSULTANTS PRIVATE LIMITED

F-66, Road No.2, Phase-I, UPSIDC Industrial Area  
Masuri Gulawathi Road, Ghazibad (UP)



NABL Accredited Lab (ISO/IEC:17025), Accredited by NABET-QCI, ISO:9001, OHSAS:18001

Issued To : MB POWER (Madhya Pradesh) Limited  
Jaithari, Anuppur, Madhya Pradesh-484224

Nature of Sampling : Ground Water

Party Code No. : MBPL/14/01

Date of Sample Collection : 09-03-2012

Sample Collected by : Scientist of EMTRC

### WATER QUALITY TEST RESULTS

	Parameters	Unit	Test Methods	Guwari Village Near Temple (Hand Pump)	Permissible limit IS:10500: 1991
1	Colour	Hazen Unit	APHA-2120B	Colourless	25
2	Odour	-	APHA-2150B	Unobjectionable	Unobjectionable
3	pH	-	APHA-4500	6.66	6.5 – 8.5
4	Conductivity	μmhos/cm	APHA-2510	480	-
5	Turbidity	NTU	APHA-2030B	2	10
6	Total Dissolved Solids	mg/l	APHA-2540B	362	2000
7	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA-2340C	180	600
8	Calcium as Ca	mg/l	APHA-4500B	56	200
9	Magnesium as Mg	mg/l	APHA-4500B	9.8	100
10	Chlorides as Cl	mg/l	APHA-4500B	60	1000
11	Nitrates as NO <sub>3</sub>	mg/l	APHA-4500	8.5	100
12	Phenolic compound	mg/l	APHA-5230D	<0.001	0.001
13	Sulphate as SO <sub>4</sub>	mg/l	APHA-4500E	29.5	400
14	Fluoride as F	mg/l	APHA-4500D	1.20	1.5
15	Phosphates as PO <sub>4</sub>	mg/l	APHA-4500C	0.034	0.3
16	Iron as Fe	mg/l	APHA-3111B	0.029	1.0
17	Copper as Cu	mg/l	APHA-3111B	<0.02	1.5
18	Lead as Pb	mg/l	APHA-3111B	<0.01	0.05
19	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.3
20	Zinc as Zn	mg/l	APHA-3111B	1.6	15
21	Chromium	mg/l	APHA-3111B	<0.05	0.05
22	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.05
23	Oil & Grease	mg/l	APHA-5520D	Nil	0.03
24	Cadmium as Cd	mg/l	APHA-3111B	<0.01	0.01
25	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001
26	Arsenic as As	mg/l	APHA-3111B	<0.025	0.05
27	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01
28	Cyanide as CN	mg/l	APHA-4500E	<0.01	0.05
29	Total coliform	MPN/100ml	APHA-9230B	Nil	Nil



MUKESH KUMAR  
Authorized Signatory

Registered Office: P-501, Anupam Apartments East Arjun Nagar, Delhi 110032  
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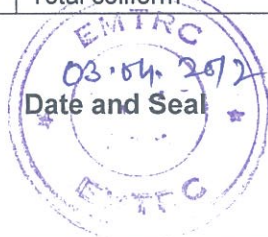


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Issued To : MB POWER (Madhya Pradesh) Limited  
Jaithari, Anuppur, Madhya Pradesh-484224  
Nature of Sampling : Ground Water  
Party Code No. : MBPL/14/02  
Date of Sample Collection : 09-03-2012  
Sample Collected by : Scientist of EMTRC

### WATER QUALITY TEST RESULTS

	Parameters	Unit	Test Methods	Belia Village (Hand Pump)	Permissible limit IS:10500: 1991
1	Colour	Hazen Unit	APHA-2120B	Colourless	25
2	Odour	-	APHA-2150B	Unobjectionable	Unobjectionable
3	pH	-	APHA-4500	7.45	6.5 – 8.5
4	Conductivity	µmhos/cm	APHA-2510	850	-
5	Turbidity	NTU	APHA-2030B	2	10
6	Total Dissolved Solids	mg/l	APHA-2540B	618	2000
7	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA-2340C	200	600
8	Calcium as Ca	mg/l	APHA-4500B	56	200
9	Magnesium as Mg	mg/l	APHA-4500B	14.6	100
10	Chlorides as Cl	mg/l	APHA-4500B	92	1000
11	Nitrates as NO <sub>3</sub>	mg/l	APHA-4500	7.9	100
12	Phenolic compound	mg/l	APHA-5230D	<0.001	0.001
13	Sulphate as SO <sub>4</sub>	mg/l	APHA-4500E	41.5	400
14	Fluoride as F	mg/l	APHA-4500D	0.74	1.5
15	Phosphates as PO <sub>4</sub>	mg/l	APHA-4500C	0.028	0.3
16	Iron as Fe	mg/l	APHA-3111B	0.15	1.0
17	Copper as Cu	mg/l	APHA-3111B	0.16	1.5
18	Lead as Pb	mg/l	APHA-3111B	<0.01	0.05
19	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.3
20	Zinc as Zn	mg/l	APHA-3111B	1.6	15
21	Chromium	mg/l	APHA-3111B	<0.05	0.05
22	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.05
23	Oil & Grease	mg/l	APHA-5520D	Nil	0.03
24	Cadmium as Cd	mg/l	APHA-3111B	<0.01	0.01
25	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001
26	Arsenic as As	mg/l	APHA-3111B	<0.025	0.05
27	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01
28	Cyanide as CN	mg/l	APHA-4500E	<0.01	0.05
29	Total coliform	MPN/100ml	APHA-9230B	Nil	Nil



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Issued To : MB POWER (Madhya Pradesh) Limited  
Jaithari, Anuppur, Madhya Pradesh-484224  
Nature of Sampling : Ground Water  
Party Code No. : MBPL/14/03  
Date of Sample Collection : 09-03-2012  
Sample Collected by : Scientist of EMTRC

### WATER QUALITY TEST RESULTS

	Parameters	Unit	Test Methods	Jaithari (Hand Pump)	Permissible limit IS:10500: 1991
1	Colour	Hazen Unit	APHA-2120B	Colourless	25
2	Odour	-	APHA-2150B	Unobjectionable	Unobjectionable
3	pH	-	APHA-4500	6.78	6.5 – 8.5
4	Conductivity	µmhos/cm	APHA-2510	810	-
5	Turbidity	NTU	APHA-2030B	3	10
6	Total Dissolved Solids	mg/l	APHA-2540B	570	2000
7	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA-2340C	280	600
8	Calcium as Ca	mg/l	APHA-4500B	88	200
9	Magnesium as Mg	mg/l	APHA-4500B	14.6	100
10	Chlorides as Cl	mg/l	APHA-4500B	98	1000
11	Nitrates as NO <sub>3</sub>	mg/l	APHA-4500	9.5	100
12	Phenolic compound	mg/l	APHA-5230D	<0.001	0.001
13	Sulphate as SO <sub>4</sub>	mg/l	APHA-4500E	44.8	400
14	Fluoride as F	mg/l	APHA-4500D	0.76	1.5
15	Phosphates as PO <sub>4</sub>	mg/l	APHA-4500C	0.038	0.3
16	Iron as Fe	mg/l	APHA-3111B	0.16	1.0
17	Copper as Cu	mg/l	APHA-3111B	0.12	1.5
18	Lead as Pb	mg/l	APHA-3111B	<0.01	0.05
19	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.3
20	Zinc as Zn	mg/l	APHA-3111B	1.5	15
21	Chromium	mg/l	APHA-3111B	<0.05	0.05
22	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.05
23	Oil & Grease	mg/l	APHA-5520D	Nil	0.03
24	Cadmium as Cd	mg/l	APHA-3111B	<0.01	0.01
25	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001
26	Arsenic as As	mg/l	APHA-3111B	<0.025	0.05
27	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01
28	Cyanide as CN	mg/l	APHA-4500E	<0.01	0.05
29	Total coliform	MPN/100ml	APHA-9230B	Nil	Nil



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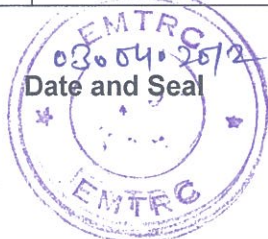


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Issued To : MB POWER (Madhya Pradesh) Limited  
Jaithari, Anuppur, Madhya Pradesh-484224  
Nature of Sampling : Ground Water  
Party Code No. : MBPL/14/04  
Date of Sample Collection : 09-03-2012  
Sample Collected by : Scientist of EMTRC

### WATER QUALITY TEST RESULTS

	Parameters	Unit	Test Methods	Laharpur Village (Hand Pump)	Permissible limit IS:10500: 1991
1	Colour	Hazen Unit	APHA-2120B	Colourless	25
2	Odour	-	APHA-2150B	Unobjectionable	Unobjectionable
3	pH	-	APHA-4500	6.86	6.5 – 8.5
4	Conductivity	μmhos/cm	APHA-2510	250	-
5	Turbidity	NTU	APHA-2030B	3	10
6	Total Dissolved Solids	mg/l	APHA-2540B	200	2000
7	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA-2340C	80	600
8	Calcium as Ca	mg/l	APHA-4500B	20	200
9	Magnesium as Mg	mg/l	APHA-4500B	7.3	100
10	Chlorides as Cl	mg/l	APHA-4500B	30	1000
11	Nitrates as NO <sub>3</sub>	mg/l	APHA-4500	7.5	100
12	Phenolic compound	mg/l	APHA-5230D	<0.001	0.001
13	Sulphate as SO <sub>4</sub>	mg/l	APHA-4500E	11.2	400
14	Fluoride as F	mg/l	APHA-4500D	1.42	1.5
15	Phosphates as PO <sub>4</sub>	mg/l	APHA-4500C	0.028	0.3
16	Iron as Fe	mg/l	APHA-3111B	0.14	1.0
17	Copper as Cu	mg/l	APHA-3111B	0.12	1.5
18	Lead as Pb	mg/l	APHA-3111B	<0.01	0.05
19	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.3
20	Zinc as Zn	mg/l	APHA-3111B	1.3	15
21	Chromium	mg/l	APHA-3111B	<0.05	0.05
22	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.05
23	Oil & Grease	mg/l	APHA-5520D	Nil	0.03
24	Cadmium as Cd	mg/l	APHA-3111B	<0.01	0.01
25	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001
26	Arsenic as As	mg/l	APHA-3111B	<0.025	0.05
27	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01
28	Cyanide as CN	mg/l	APHA-4500E	<0.01	0.05
29	Total coliform	MPN/100ml	APHA-9230B	Nil	Nil



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Issued To : MB POWER (Madhya Pradesh) Limited  
Jaithari, Anuppur, Madhya Pradesh-484224

Nature of Sampling : Ground Water

Party Code No. : MBPL/14/05

Date of Sample Collection : 09-03-2012

Sample Collected by : Scientist of EMTRC

### WATER QUALITY TEST RESULTS

	Parameters	Unit	Test Methods	Murra Village (Plant Site)(HP)	Permissible limit IS:10500: 1991
1	Colour	Hazen Unit	APHA-2120B	Colourless	25
2	Odour	-	APHA-2150B	Unobjectionable	Unobjectionable
3	pH	-	APHA-4500	6.65	6.5 – 8.5
4	Conductivity	μmhos/cm	APHA-2510	400	-
5	Turbidity	NTU	APHA-2030B	3	10
6	Total Dissolved Solids	mg/l	APHA-2540B	296	2000
7	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA-2340C	110	600
8	Calcium as Ca	mg/l	APHA-4500B	36	200
9	Magnesium as Mg	mg/l	APHA-4500B	7.3	100
10	Chlorides as Cl	mg/l	APHA-4500B	32	1000
11	Nitrates as NO <sub>3</sub>	mg/l	APHA-4500	6.4	100
12	Phenolic compound	mg/l	APHA-5230D	<0.001	0.001
13	Sulphate as SO <sub>4</sub>	mg/l	APHA-4500E	13.8	400
14	Fluoride as F	mg/l	APHA-4500D	1.48	1.5
15	Phosphates as PO <sub>4</sub>	mg/l	APHA-4500C	0.034	0.3
16	Iron as Fe	mg/l	APHA-3111B	0.13	1.0
17	Copper as Cu	mg/l	APHA-3111B	0.11	1.5
18	Lead as Pb	mg/l	APHA-3111B	<0.01	0.05
19	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.3
20	Zinc as Zn	mg/l	APHA-3111B	1.9	15
21	Chromium	mg/l	APHA-3111B	<0.05	0.05
22	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.05
23	Oil & Grease	mg/l	APHA-5520D	Nil	0.03
24	Cadmium as Cd	mg/l	APHA-3111B	<0.01	0.01
25	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001
26	Arsenic as As	mg/l	APHA-3111B	<0.025	0.05
27	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01
28	Cyanide as CN	mg/l	APHA-4500E	<0.01	0.05
29	Total coliform	MPN/100ml	APHA-9230B	Nil	Nil



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Issued To : MB POWER (Madhya Pradesh) Limited  
Jaithari, Anuppur, Madhya Pradesh-484224

Nature of Sampling : Surface Water

Party Code No. : MBPL/14/06

Date of Sample Collection : 09-03-2012

Sample Collected by : Scientist of EMTRC

### WATER QUALITY TEST RESULTS

	Parameters	Unit	Test Methods	Son River Near Barrage U/S	Son River D/S
1	pH	-	APHA-4500	7.83	7.89
2	Conductivity	µmhos/cm	APHA-2510	270	285
3	Colour	Hazen Unit	APHA-2120B	Colourless	Colourless
4	Odour	-	APHA-2150B	Unobjectionable	Unobjectionable
5	Turbidity	NTU	APHA-2030B	3	3
6	Total Dissolved Solids	mg/l	APHA-2540B	194	204
7	Suspended solids	mg/l	APHA-2540D	9	10
8	Total Alkalinity	mg/l	APHA-2320B	100	110
9	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA-2340C	80	96
10	Dissolved Oxygen	mg/l	APHA-4500C	4.8	4.2
11	BOD, 5days 20°C	mg/l	APHA-5210B	3.9	5.4
12	COD	mg/l	APHA-5220C	12	17
13	Calcium as Ca	mg/l	APHA-4500B	24	32
14	Magnesium as Mg	mg/l	APHA-4500B	4.9	3.9
15	Chlorides as Cl	mg/l	APHA-4500B	22	28
16	Sulphate as SO <sub>4</sub>	mg/l	APHA-4500E	10.8	12.5
17	Nitrates as NO <sub>3</sub>	mg/l	APHA-4500	4.1	4.9
18	Fluoride as F	mg/l	APHA-4500D	0.38	0.42
19	Phenolic compound	mg/l	APHA-5230D	<0.001	<0.001
20	Cyanide	mg/l	APHA-4500E	<0.01	<0.01
21	Aluminium	mg/l	APHA-3111B	<0.01	<0.01
22	Selenium	mg/l	APHA-3111B	<0.001	<0.001
23	Arsenic	mg/l	APHA-3114	<0.025	<0.025
24	Mercury	mg/l	APHA-3112	<0.01	<0.01
25	Cadmium	mg/l	APHA-3111B	<0.01	<0.01
26	Chromium	mg/l	APHA-3111B	<0.05	<0.005
27	Iron as Fe	mg/l	APHA-3111B	0.044	0.052
28	Copper as Cu	mg/l	APHA-3111B	<0.02	<0.02
29	Lead as Pb	mg/l	APHA-3111B	<0.01	<0.01
30	Manganese as Mn	mg/l	APHA-3111B	<0.05	<0.05
31	Zinc	mg/l	APHA-3111B	0.75	0.82
32	Oil & Grease	mg/l	APHA-4500D	Nil	Nil
33	Total coliform	MPN/100ml	APHA-9230B	2110	3910



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Issued To : MB POWER (Madhya Pradesh) Limited  
Jaithari, Anuppur, Madhya Pradesh-484224

Nature of Sampling : Surface Water

Party Code No. : MBPL/14/07

Date of Sample Collection : 09-03-2012

Sample Collected by : Scientist of EMTRC

### WATER QUALITY TEST RESULTS

	Parameters	Unit	Test Methods	Tipan River Near Jaithari U/S	Tipan River Near Anuppur D/S
1	pH	-	APHA-4500	7.88	7.92
2	Conductivity	µmhos/cm	APHA-2510	380	390
3	Colour	Hazen Unit	APHA-2120B	Colourless	Colourless
4	Odour	-	APHA-2150B	Unobjectionable	Unobjectionable
5	Turbidity	NTU	APHA-2030B	3	3
6	Total Dissolved Solids	mg/l	APHA-2540B	298	310
7	Suspended solids	mg/l	APHA-2540D	9	10
8	Total Alkalinity	mg/l	APHA-2320B	100	110
9	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA-2340C	108	116
10	Dissolved Oxygen	mg/l	APHA-4500C	4.9	4.1
11	BOD, 5days 20°C	mg/l	APHA-5210B	3.6	4.7
12	COD	mg/l	APHA-5220C	10	15
13	Calcium as Ca	mg/l	APHA-4500B	36.8	40.1
14	Magnesium as Mg	mg/l	APHA-4500B	3.9	3.9
15	Chlorides as Cl	mg/l	APHA-4500B	18	22
16	Sulphate as SO <sub>4</sub>	mg/l	APHA-4500E	10.2	12.8
17	Nitrates as NO <sub>3</sub>	mg/l	APHA-4500	5.9	4.5
18	Fluoride as F	mg/l	APHA-4500D	0.34	0.38
19	Phenolic compound	mg/l	APHA-5230D	<0.001	<0.001
20	Cyanide	mg/l	APHA-4500E	<0.01	<0.01
21	Aluminium	mg/l	APHA-3111B	<0.01	<0.01
22	Selenium	mg/l	APHA-3111B	<0.001	<0.001
23	Arsenic	mg/l	APHA-3114	<0.025	<0.025
24	Mercury	mg/l	APHA-3112	<0.01	<0.01
25	Cadmium	mg/l	APHA-3111B	<0.01	<0.01
26	Chromium	mg/l	APHA-3111B	<0.05	<0.05
27	Iron as Fe	mg/l	APHA-3111B	0.048	0.056
28	Copper as Cu	mg/l	APHA-3111B	<0.02	<0.02
29	Lead as Pb	mg/l	APHA-3111B	<0.01	<0.01
30	Manganese as Mn	mg/l	APHA-3111B	<0.05	<0.05
31	Zinc	mg/l	APHA-3111B	0.78	1.16
32	Oil & Grease	mg/l	APHA-4500D	Nil	Nil
33	Total coliform	MPN/100ml	APHA-9230B	3460	4150



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