

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 930 OF 2024

IN THE MATTER OF:

MAHESH PATEL

...APPLICANT

VERSUS

STATE OF MADHYA PRADESH

...RESPONDENT

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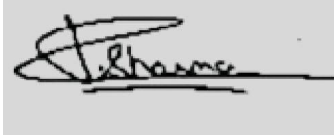
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FILED BY

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PLACE: NEW DELHI

DATED: 25.11.2024

**Submission of Analysis report w.r.t Heavy
metals concentration in Water & Air samples
in Compliance of NGT (PB) order dated
24.10.2024 in Original Application No. 930 of
2024**

In the matter of

Mahesh Patel

Vs

State of Madhya Pradesh

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Submission of Analysis Report w.r.t Heavy metals concentration in Water & Air samples in Compliance of NGT (PB) order dated 24.10.2024 in Original Application No. 930 of 2024 in the matter of Mahesh Patel V/s State of Madhya Pradesh

Hon'ble National Green Tribunal Vide order dated 24.10.2024 in O.A. 930 of 2024 under Para 5 stated as below:

Para 5. *“From the report we find that ordnance factory is manufacturing defense ammunition, including, explosives but effluent has not been tested with regard to presence of heavy metals. On these aspects, report submitted by MPPCB is absolutely incomplete and inadequate. We fail to understand as to how experts of MPPCB were not aware that the project in question is a defense establishment where obviously nature of raw material used may result in discharge of heavy metals in effluent, still, testing on this aspect has not been conducted. Further, on account of some aspects like total solids/total dissolved solids, etc., there is non-compliance”.*

In this context, it is respectfully submitted that, in compliance with the Hon'ble National Green Tribunal (NGT) order dated 5.9.2024, a joint committee comprising the Central Pollution Control Board (CPCB), Madhya Pradesh Pollution Control Board (MPPCB), and a representative of the District Magistrate, Narmadapuram, conducted a site inspection on 3rd October 2024. The inspection focused on addressing the concerns raised in the letter petition.

During the visit, the committee collected water and air samples for analysis against prescribed parameters, including heavy metals. These samples were submitted to the MPPCB Central Laboratory for testing. As the analysis reports for heavy metals were still pending and the next hearing date was scheduled for 14.10.2024, the committee prepared its report without incorporating the heavy metals analysis. The report was subsequently submitted to the nodal agency, i.e., the District Administration, for further filing.

Further, after the Hon'ble NGT order dated 24.10.2024, MPPCB again carried out water sampling to get more assessment on the water quality w.r.t. Heavy metals concentration.

1.0 Status of heavy metal concentration:

1.1 Water samples collected from upstream (U/S) & downstream (D/S) of the natural drain passing through the industrial premises and the water sample of pond found constructed near the Kendriya Vidhyalay

S.No	Parameter	Unit	Sampling location and date of sampling					
			3.10.2024			5.11.2024		
			U/s of natural drain	D/s of natural drain	Pond water	U/s of natural drain	D/s of natural drain	Pond water
1	Copper	mg/l	0.012	0.014	0.031	BDL	BDL	Pond was found dried on 5.11.2024
2	Lead	mg/l	BDL	BDL	0.004	0.05	0.05	
3	Nickel	mg/l	0.07	0.007	0.010	BDL	BDL	
4	Cadmium	mg/l	BDL	BDL	BDL	BDL	BDL	
5	Barium	µg/l	0.398	0.394	0.193	BDL	BDL	
6	Arsenic	µg/l	BDL	BDL	BDL	BDL	BDL	
7	Zinc	mg/l	Not analysed	Not analysed	Not analysed	BDL	BDL	
8	Manganese	mg/l	Not analysed	Not analysed	Not analysed	0.06	0.05	
9	Iron	mg/l	Not analysed	Not analysed	Not analysed	BDL	BDL	
10	Chromium	mg/l	Not analysed	Not analysed	Not analysed	0.05	BDL	
11	Cobalt	mg/l	Not analysed	Not analysed	Not analysed	BDL	BDL	

As per the analysis report presence of heavy metals in low concentration was found in the water samples from natural drain and pond. As per the field report in natural drain presence of heavy metals may be due to idol immersion activity performed by local resident. The traces of heavy metals found in pond water, however pond was found dry on dated 5.11.2024. The analysis report is enclosed as **Annexure-I & Annexure-II**.

1.2 Water samples collected from Bore well inside the Kendriya Vidhyalay and Bore well near the main gate of factory premises.

S.No	Parameter	Unit	Sampling location and date of sampling				Drinking water standard as per IS: 10500:2012 Acceptable limit
			3.10.2024		5.11.2024		
			Borewell inside the Kendriya Vidhyalay	Borewell near main gate	Borewell inside the Kendriya Vidhyalay	Borewell near main gate No. 2	
1	Copper	mg/l	0.015	0.016	BDL	BDL	0.05
2	Lead	mg/l	0.027	0.004	0.06	0.05	0.01
3	Nickel	mg/l	0.010	0.010	BDL	BDL	0.02
4	Cadmium	mg/l	BDL	BDL	BDL	BDL	0.003
5	Barium	µg/l	0.307	0.222	BDL	BDL	0.7
6	Arsenic	µg/l	BDL	BDL	BDL	BDL	0.01
7	Zinc	mg/l	Not analysed	Not analysed	0.217	BDL	5.0
8	Manganese	mg/l	Not analysed	Not analysed	0.06	0.05	0.1
9	Iron	mg/l	Not analysed	Not analysed	BDL	BDL	0.3
10	Chromium	mg/l	Not analysed	Not analysed	BDL	BDL	0.05
11	Cobalt	mg/l	Not analysed	Not analysed	BDL	BDL	-

The concentration of Lead (Pb) in water samples of bore well was found

above the acceptable limit, while all other parameters were found to be within the acceptable limit. However, the water of bore well in the school premises and factory premises are not using for drinking purpose. The analysis report is enclosed as **Annexure-I & Annexure-II**.

1.3 Water samples collected from Ordnance Factory, Itarsi Treated water at Outlet of ETP and treated water before going outside of factory premises.

S.No	Parameter	Unit	Sampling location and date of sampling				Water Quality as per general standards for discharge of Environmental pollutants (EPA 1986)
			3.10.2024		5.11.2024		
			ETP Outlet	Treated wastewater before going outside the factory premises	ETP Outlet	Treated waste water before going outside the factory premises	
1	Copper	mg/l	0.076	0.861	BDL	BDL	3.0
2	Lead	mg/l	BDL	BDL	0.03	0.04	0.1
3	Nickel	mg/l	0.149	0.905	BDL	BDL	3.0
4	Cadmium	mg/l	0.007	BDL	BDL	BDL	2.0
5	Barium	µg/l	0.264	0.484	BDL	BDL	-
6	Arsenic	µg/l	BDL	BDL	BDL	BDL	0.2
7	Zinc	mg/l	Not analysed	Not analysed	BDL	0.11	5.0
8	Manganese	mg/l	Not analysed	Not analysed	0.34	0.211	2.0
9	Iron	mg/l	Not analysed	Not analysed	0.43	0.57	3.0
10	Chromium	mg/l	Not analysed	Not analysed	0.08	0.10	2.0
11	Cobalt	mg/l	Not analysed	Not analysed	BDL	BDL	-

The concentration of heavy metals in the above water samples were found within the prescribed limits. The analysis report is enclosed as **Annexure-I & Annexure-II**.

1.4 Air samples collected from Guest house 1(IB), Kendriya Vidyalaya & back side of N.C. Office.

S.No	Parameter	Unit	Monitoring Location			National Ambient Air Quality Standard
			Guest house-1 (IB)	Kendriya Vidyalaya	Back side of N.C. Office	
1	Lead	mg/l	BDL	BDL	BDL	1.0
2	Nickel	mg/l	BDL	BDL	BDL	20
3	Arsenic	µg/l	BDL	BDL	BDL	6.0

The concentration of heavy metals in ambient air quality found below detectable limit. The Monitoring report is enclosed as **Annexure-III**

2.0 Status of General Physiochemical concentration:

2.1 Water samples collected from upstream (U/S) & downstream (D/S) of the natural drain passing through the industrial premises and the water sample of pond found constructed near the Kendriya Vidhyalay

S. No	Parameter	Unit	Sampling location and date of sampling					Designated Best Use water quality Criteria as per CPCB	
			3.10.2024			5.11.2024			
			U/s of natural drain	D/s of natural drain	Pond water	U/s of natural drain	D/s of natural drain		Pond water
1	Colour	-	Dirty	Dirty	Colourless	Dirty	Dirty	Pond was found dried on 5.11.2024	-
2	Odour	-	Odourless	Odourless	Odourless	Odourless	Odourless		-
3	pH	-	7.42	7.66	8.26	7.57	7.45		6.5 - 8.5
4	Chloride	mg/l	24.63	38.43	15.76	21.68	35.47		-
5	Total Solids	mg/l	198	302	174	188	270		-
6	Total Dissolved Solids	mg/l	166	248	146	162	224		-
7	Total Suspended Solids	mg/l	32	54	28	26	46		-
8	DO	Mg/l	5.4	5.2	5.8	5.6	5.4		5.0 or more
9	BOD (3 days at 27°C)	mg/l	1.9	2.4	1.0	1.7	2.2		3.0 or less
10	COD	mg/l	19.6	29.4	9.8	20	28.80		-

The water quality was found to be of Category B – Outdoor Bathing as per Designated Best Use water quality Criteria as per CPCB. The analysis report is enclosed as **Annexure-IV & Annexure-V**.

2.2 Water samples collected from Bore well inside the Kendriya Vidhyalay and Bore well near the main gate of factory premises.


S.No	Parameter	Unit	Sampling location and date of sampling				Acceptable Limit (as per IS:10500-2012)
			3.10.2024		5.11.2024		
			Borewell inside the Kendriya Vidhyalay	Borewell near main gate No. 2	Borewell inside the Kendriya Vidhyalay	Borewell near main gate No. 2	
1	Turbidity	NTU	0.30	0.80	0.4	0.68	1
2	pH	-	7.16	6.61	7.42	6.81	6.5-8.5
3	Total Alkalinity	mg/l	156	178	182	170	200
4	Total hardness	mg/l	148	172	164	182	200
5	Chloride	mg/l	83.76	114.31	93.62	106.43	250
6	TDS	mg/l	342	384	384	392	500
7	NO ₃ -N	mg/l	0.10	0.35	0.150	0.52	45
8	Calcium	mg/l	38.4	40.4	43.2	47.25	75
9	Magnesium	mg/l	12.68	17.07	13.65	15.4	30

The above water samples were found within the acceptable limit. The bore well in the school premises and factory premises are not using for drinking purpose. The analysis report is enclosed as **Annexure-VI & Annexure-VII.**

2.3 Water samples collected from Ordnance Factory, Itarsi Treated water at Outlet of ETP and treated water before going outside of factory premises.

S.No	Parameter	Unit	Sampling location and date of sampling				Acceptable limit as per the Consent to Operate
			3.10.2024		5.11.2024		
			ETP Outlet	Treated wastewater before going outside the factory premises	ETP Outlet	Treated wastewater before going outside the factory premises	
1	pH	-	8.54	7.19	7.71	7.34	5.5-9.0
2	Chloride	mg/l	260.17	571.59	297.62	532.17	1000
3	TSS	mg/l	78	116	88	128	100
4	TDS	mg/l	836	1814	956	1786	2100
5	BOD (3 days 27°C)	mg/l	22	26	26	24	30
6	COD	mg/l	176.4	196	192	172.80	250

The treated effluent has shown the treatment as per the consent condition. However, the increasing values of TDS in the water going outside the premises. The analysis report is enclosed as **Annexure-VIII & Annexure-IX.**


(Abhay Saraf)
 Regional Officer
 MPPCB, Mandideep



Central Laboratory
M.P. Pollution Control Board, Bhopal [M.P.]
 E/5, Arera Colony, Paryawaran Parisar, Bhopal - 462016
 Ph. NO. 0755-2466191, email: cl_mppcb@rediffmail.com

Test Report

Report No. 177/1-7
 Sample from:
 Reference No:
 Sample Description:

Issue Date 10/10/2024

Regional Office, M.P. Pollution Control Board, Mandideep.
 Letter No.2459, Dated 04/10/2024

Sample Description:

Water Samples
 1. M/s. Ordnance factory Itarsi Treated water at outlet of ETP
 2. M/s. Ordnance factory Itarsi Treated waste water before going outside of factory premises
 3. Pond water near Kendriya Vidhyalay, Itarsi
 4. Bore well water inside premise of Kendriya Vidhyalay, Itarsi
 5. Upstream of natural water (Rainy water) passing through township, Itarsi
 6. Downstream of natural water (Rainy water) passing through township, Itarsi
 7. Bore well No. 2 near factory main gate, Itarsi.

Sample Container:

Polyethylene bottle.

Sample Volume:

7 x 100 ml.

Sampling by Client/Customer:

Regional Office, M.P. Pollution Control Board, Mandideep.

Sampling date:

03/10/2024 & 04/10/2024

Received on:

04/10/2024

Date of Start Analysis:

09/10/2024

Date of End Analysis:

09/10/2024

Sampling Method/Plan:

APHA-23rd Edition-2017-Method-1060

Environmental Condition:

Not mentioned

Preservation status:

Preserved as per Protocol

S. N.	Analyte Tested	Unit	Test Method Number	Result 1	Result 2	Result 3	Result 4	Result 5	Result 6	Result 7
1.	Copper 65	mg/l	3215-B APHA, 23 rd Edition, 2017	0.076	0.861	0.031	0.015	0.012	0.014	0.016
2.	Lead 208	mg/l		BDL	BDL	0.004	0.027	BDL	BDL	0.004
3.	Nickel 60	mg/l		0.149	0.905	0.010	0.010	0.007	0.007	0.010
4.	Cadmium 114	mg/l		0.007	BDL	BDL	BDL	BDL	BDL	BDL
5.	Barium 137	mg/l		0.264	0.484	0.193	0.307	0.398	0.394	0.222
6.	Arsenic (As)	µg/l	3113 B APHA, 23 rd Edition, 2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Remark: 1. No statutory liability accepted for samples not collected by M.P.P.C.B
 2. The results relate only to the items tested
 3. The report shall not be reproduced except in full without permission of Incharge Central Laboratory.
 MP, Pollution Control Board, Bhopal.
 4. BDL- Below Detection Limit, Cu - LOQ 0.0008 mg/l,
 Pb - LOQ 0.0024 mg/l, Cr - LOQ- 0.0053 mg/l, As- LOQ -(0.005 ppb)
 Cd- LOQ 0.002 mg/l, Co - LOQ - 0.002 mg/l, Ba- LOQ- 0.001 mg/l.

(Dr. Alok Saxena)
 Authorized Signatory
 Chief Chemist

Central Laboratory MPPCB Bhopal
 Page 1 of 1

End of Report





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Test Report

Issue No. **474**
 Issue Date 18/11/2024

Report No. 223-1-6
 Sample ID/ID
 Reference No.
 Sample Description

Regional Office, M.P. Pollution Control Board, Mandideep
 Letter No 2651, Dated 06/11/2024
 Water Samples

1. M/s. Ordnance factory Itarsi Treated water at outlet of ETP
2. M/s. Ordnance factory Itarsi Treated waste water before going outside of factory premises
3. Borewell water inside premise of Kendriya Vidyalay, Itarsi
4. Upstream of natural water (Rainy water) passing through township, Itarsi
5. Downstream of natural Nalla (Rainy water) passing through township, Itarsi
6. Bore well No. 2 near factory main gate, Itarsi

Sample Container: Polyethylene bottle
 Sample Volume: 6x 100 ml
 Sampling by: 64- Customer: Regional Office, M.P. Pollution Control Board, Mandideep.
 Sampling date: 05/11/2024
 Received on: 06/11/2024
 Date of Start Analysis: 08/11/2024
 Date of End Analysis: 11/11/2024
 Sampling Method/Plan: APHA-23rd Edition-2017-Method-1060
 Environmental Condition: Not mentioned
 Preservation status: Preserved as per Protocol

S. N	Analyte Tested	Unit	Test Method Number	Result 1	Result 2	Result 3	Result 4	Result 5	Result 6
1	Copper	mg/l	3111 B APHA, 23 rd Edition, 2017	BDL	BDL	BDL	BDL	BDL	BDL
2	Zinc	mg/l		BDL	0.11	0.217	BDL	BDL	BDL
3	Manganese	mg/l		0.34	0.211	0.06	0.06	0.05	0.05
4	Iron	mg/l		0.43	0.57	BDL	BDL	BDL	BDL
5	Lead	mg/l		0.03	0.04	0.06	0.050	0.05	0.05
6	Chromium	mg/l		0.08	0.10	BDL	0.05	BDL	BDL
7	Cobalt	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
8	Cadmium	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
9	Nickel	mg/l		BDL	BDL	BDL	BDL	BDL	BDL
10	Arsenic	-		-	*	*	*	*	*
11	Barium 137	-	-	*	*	*	*	*	*

- Remark:**
1. No statutory liability accepted for samples not collected by M.P.P.C.B
 2. The results relate only to the items tested
 3. The report shall not be reproduced except in full without permission of Incharge Central Laboratory, MP, Pollution Control Board, Bhopal.
 4. BDL - Below Detection Limit, MDL - Minimum Detection Limit, Cu - MDL 0.018 mg/l, Zn - MDL 0.008 mg/l, Mn - MDL 0.02 mg/l, Fe - MDL 0.119 mg/l, Pb - MDL 0.031 mg/l, Ni - MDL 0.26 mg/l, Cr - MDL 0.03 mg/l, Cd - MDL 0.05 mg/l, Co - MDL - 0.004 mg/l, As & Ba - *Analysis Under Process.

(Dr. Alak Saxena)
 Authorized Signatory
 Chief Chemist

Central Laboratory MPPCB Bhopal

End of Report

Page 1 of 1

AE
 18/11/24





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Test Report

Issue No. **483**
 Issue Date 21/11/2024

Report No. 223/1-6
 Sample from:
 Reference No:
 Sample Description:

Regional Office, M.P. Pollution Control Board, Mandideep.
 Letter No.2651, Dated 06/11/2024
 Water Samples


1. M/s. Ordnance factory Itarsi Treated water at outlet of ETP
2. M/s. Ordnance factory Itarsi Treated waste water before going outside of factory premises
3. Borewell water inside premise of Kendriya Vidhyalay, Itarsi
4. Upstream of natural water (Rainy water) passing through township, Itarsi
5. Downstream of natural Nalla (Rainy water) passing through township, Itarsi
6. Bore well No. 2 near factory main gate, Itarsi.

Sample Container:
 Sample Volume:
 Sampling by G4/Customer:
 Sampling date:
 Received on:
 Date of Start Analysis:
 Date of End Analysis:
 Sampling Method/Plan:
 Environmental Condition:
 Preservation status:

Polyethylene bottle.
 6x 100 ml.
 Regional Office, M.P. Pollution Control Board, Mandideep.
 05/11/2024
 06/11/2024
 19/11/2024 & 21/11/2024
 19/11/2024 & 21/11/2024
 APHA, 23rd Edition, 2017-Method-1060
 Not mentioned
 Preserved as per Protocol

S. N.	Analyte Tested	Unit	Test Method Number	Result 1	Result 2	Result 3	Result 4	Result 5	Result 6
1.	Arsenic	µg/l	3113 B APHA, 23 rd Edition, 2017	BDL	BDL	BDL	BDL	BDL	BDL
2.	Barium 137	µg/l	3215-B APHA, 23 rd Edition, 2017	BDL	BDL	BDL	BDL	BDL	BDL

- Remark:**
1. No statutory liability accepted for samples not collected by M.P.P.C.B
 2. The results relate only to the items tested
 3. The report shall not be reproduced except in full without permission of Incharge Central Laboratory, MP, Pollution Control Board, Bhopal.
 4. BDL- Below Detection Limit, MDL- Minimum Detection Limit, As- MDL 0.05 ppb. Ba-LOQ-3.8585 ppb


 (Dr. Alok Saxena)
 Authorized Signatory
 Chief Chemist
 Central Laboratory MPPCB Bhopal

End of Report

Page 1 of 1





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Test Report

Issue No. **922**
 Issue Date 10/10/2024


✓ Report No 81/T-3
 Sample from:
 Reference No.
 Sample Description:

Regional Office, M.P. Pollution Control Board, Mandideep.
 Letter No.2479, Dated 08/10/2024
 Air Samples of M/s. Ordnance Factory Itarsi Distt- Narmadapuram
 1. Ambient Air Monitoring Near Guest House (1) IB
 2. Ambient Air Monitoring Near P.M. Shree Kendriya Vidhyalaya
 3. Ambient Air Monitoring Near Back Side of N.C.Office

Sample Container: Polyethylene bottle.
 Sample Volume: 3x 40 ml (Approx)
 Sampling by CL/Customer: Regional Office, M.P. Pollution Control Board, Mandideep.
 Sampling date: 03-04/10/2024
 Received on: 08/10/2024
 Date of Start Analysis: 09/10/2024
 Date of End Analysis: 09/10/2024
 Sampling Method/Plan: *APHA, 23rd Edition, 2017 Method 1060*
 Environmental Condition: Not mentioned
 Preservation status: Preserved as per protocol

S. No.	Analyse Component	Unit	Test Method No.	Result 1	Result 2	Result 3
1.	Lead (Pb)	mg/l	3111 B APHA, 23 rd Edition, 2017	BDL	BDL	BDL
2.	Nickel (Ni)	mg/l		BDL	BDL	BDL
3.	Arsenic (As)	µg/l	3113 B APHA, 23 rd Edition, 2017	BDL	BDL	BDL

- Remark:** 1. No statutory liability accepted for samples not collected by M.P.P.C.B.
 2. The results relate only to the items tested
 3. The report shall not be reproduced except in full without permission of Incharge Central Laboratory, MP Pollution Control Board, Bhopal.
 4. BDL- Below Detectable Limit, MDL-Minimum Detection Limit - Pb (0.031 mg/l); Ni (0.26 mg/l) As- (0.005 ppb)
 # .Final result is to be calculated on the basis of volume of gas passed and reported data.


 (Dr. Alok Saxena)
 Authorized Signatory
 Chief Chemist
 Central Laboratory MPPCB Bhopal

End of report

Page 1 of 1

AE


 18/10/24



**REGIONAL OFFICE,
M.P POLLUTION CONTROL BOARD,
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WATER ANALYSIS REPORT

Report No. 859-860/24

Sample From – M/s Ordnance Factory, Itarsi

Sample Description- (i) U/s of Natural water (Rainy water) passing through township
(ii) D/s of Natural water (Rainy water) passing through township

Sample collected by – CPCB, MPPCB team

Date of Collection – 03/10/2024

Date of Receipt – 04/10/2024

Date of Analysis – 04/10/2024

Analysed by- P. Kothari, Jr.Sc

S.No	Parameter	Unit	Result (i)	Result (ii)	Remark
1	Colour	-	Dirty	Dirty	Water Quality as per IS2296-1982 found to be of category B- Outdoor Bathing
2	Odour	-	OL	OL	
3	PH	-	7.42	7.66	
4	Chloride	mg/L	24.63	38.43	
5	Total Solids	mg/L	198	302	
6	Total Dissolved Solids	mg/L	166	248	
7	Total Suspended Solids	mg/L	32	54	
8	DO	mg/L	5.4	5.2	
9	BOD (3 days at 27°C)	mg/L	1.9	2.4	
10	COD	mg/L	19.6	29.4	


Analyst


Lab Incharge
MPPCB, Mandideep

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WATER ANALYSIS REPORT

Report No.857/24

Sample From – M/s Ordanance Factory, Itarsi
Sample Description- (i) Pond water near Kendriya Vidyalaya
Sample collected by – CPCB, MPPCB team
Date of Collection – 03/10/2024
Date of Receipt – 04/10/2024
Date of Analysis – 04/10/2024

Analysed by- P. kothari, Jr.Sc

S.No	Parameter	Unit	Result (i)	Remark:
1	Turbidity	NTU	7.60	Water Quality as per IS2296-1982 found to be of category B-Outdoor Bathing
2	Colour	-	CL	
3	Odour	-	OL	
4	Spec. Conductivity	µmhos/cm	217	
5	PH	-	8.26	
6	Total Alkalinity	mg/L	104	
7	Total Hardness	mg/L	88	
8	Calcium Hardness	mg/L	74	
9	Magnesium Hardness	mg/L	14	
10	Chloride	mg/L	15.76	
11	Total Solids	mg/L	174	
12	Total Dissolved Solids	mg/L	146	
13	Total Suspended Solids	mg/L	28	
14	Nitrate Nitrogen	mg/L	0.20	
15	DO	mg/L	5.8	
16	BOD (3 days at 27°C)	mg/L	1.0	
17	COD	mg/L	9.8	
18	Calcium	mg/L	29.6	
19	Magnisium	mg/L	3.41	

J. K. Jaiswal
Analyst

P. Kothari
Lab Incharge
M.P.P.C.B. Mandideep



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WATER ANALYSIS REPORT

Report No-933/ 2024

Sample From :- M/s Ordnance Factory Itarsi.
 Narmadapuram.

Sample Details :- 1.Up stream of water (Rainy Water) passing through
 Township, Itarsi.

Sample collected by :- R.S.Bharti (Jr. Scientist)

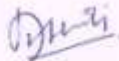
Date of Collection :- 05/11/2024

Date of Receipt :- 06/11/2024

Date of Analysis :- 06/11/2024

Analysed by- R.S.Bharti (Jr. Scientist)

S. No.	Parameters	Unit	Results	Remark
1	Appearance	-	Sl. Turbid	Water Quality as per IS2296-1982 found to be of category B- Outdoor Bathing
2.	Temperature	°C	--	
3.	Colour	-	Dirty	
4.	Odour	-	Odourless	
5.	pH	pH Unit	7.57	
6.	Total Solids	mg/l	188	
7.	Total Dissolved Solids	mg/l	162	
8.	Suspended Solids	mg/l	26	
9.	Chloride	mg/l	21.68	
10.	D. Oxygen	mg/l	5.6	
11.	BOD (3 days at 27°C)	mg/l	1.7	
12.	COD	mg/l	20.0	


 Jr. Scientist


 Lab Incharge

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WATER ANALYSIS REPORT

Report No. 934/24

Sample From – M/s Ordnance Factory, Itarsi
 Sample Description- D/s of Natural water (Rainy water) passing through township
 Sample collected by – Shri Ravi Bharti, Jr.Sc
 Date of Collection – 05/11/2024
 Date of Receipt – 06/11/2024
 Date of Analysis – 06/11/2024

Analysed by- P. Kothari, Jr.Sc

S.No	Parameter	Unit	Result (ii)	Remark
1	Colour	-	Dirty	Water Quality as per IS2296-1982 found to be of category B- Outdoor Bathing
2	Odour	-	OL	
3	PH	-	7.45	
4	Chloride	mg/L	35.47	
5	Total Solids	mg/L	270	
6	Total Dissolved Solids	mg/L	224	
7	Total Suspended Solids	mg/L	46	
8	DO	mg/L	5.4	
9	BOD (3 days at 27°C)	mg/L	2.2	
10	COD	mg/L	28.80	


Analyst


Lab Incharge

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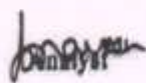
WATER ANALYSIS REPORT

Report No.858,861/24

Sample From – M/s Ordanance Factory, Itarsi
Sample Description- (i) Borewell water inside premise of Kendriya Vidyalaya
(ii) Borewell water No 2 near main gate.
Sample collected by – CPCB, MPPCB team
Date of Collection – 03/10/2024
Date of Receipt – 04/10/2024
Date of Analysis – 04/10/2024

Analysed by- P. kothari, Jr.Sc

S.No	Parameter	Unit	Result (ii)	Result (iii)	Acceptable Limit [As per IS:10500:2012]
1	Turbidity	NTU	0.30	0.80	1
2	Colour	-	CL	CL	-
3	Odour	-	OL	OL	-
4	Spec. Conductivity	µmhos/cm	514	575	-
5	PH	-	7.16	6.61	6.5-8.5
6	Total Alkalinity	mg/l	156	178	200
7	Total Hardness	mg/l	148	172	200
8	Calcium Hardness	mg/l	96	102	-
9	Magnesium Hardness	mg/l	52	70	-
10	Chloride	mg/l	83.76	114.31	250
11	Total Solids	mg/l	354	402	-
12	Total Dissolved Solids	mg/l	342	384	500
13	Total Suspended Solids	mg/l	12	18	-
14	Nitrate Nitrogen	mg/l	0.10	0.35	45
15	BOD (3 days at 27°C)	mg/l	0.9	1.0	-
16	COD	mg/l	9.8	9.8	-
17	Calcium	mg/l	38.4	40.8	75
18	Magnisium	mg/l	12.68	17.07	30




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WATER ANALYSIS REPORT

Report No.932/24

Sample From – M/s Ordnance Factory, Itarsi
 Sample Description- Borewell water inside premise of Kendriya Vidyalaya
 Sample collected by – Shri Ravi Bharti, Jr.Sc.
 Date of Collection – 05/11/2024
 Date of Receipt – 06/11/2024
 Date of Analysis – 06/11/2024

Analysed by- P. kothari, Jr.Sc

S.No	Parameter	Unit	Result	Acceptable Limit [As per IS:10500:2012]
1	Turbidity	NTU	0.4	1
2	PH	-	7.42	6.5-8.5
3	Total Alkalinity	mg/L	182	200
4	Total Hardness	mg/L	164	200
5	Chloride	mg/L	93.62	250
6	Total Dissolved Solids	mg/L	384	500
7	Nitrate Nitrogen	mg/L	0.150	45
8	Calcium	mg/L	43.2	75
9	Magnisium	mg/L	13.65	30


Analyst


Lab Incharge



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WATER ANALYSIS REPORT

Report No-935/2024

Sample From :- M/s Ordnance Factory Itarsi.
Narmadapuram.
Sample Details :- 1.Bore well no.02 Factory main gate, Itarsi.
Sample collected by :- R.S.Bharti (Jr. Scientist)
Date of Collection :- 05/11/2024
Date of Receipt :- 06/11/2024
Date of Analysis :- 06/11/2024

Analysed by- R.S.Bharti (Jr. Scientist)

S. No.	Parameters	Unit	Result	Acceptable Limit (As per IS:10500:2012)
1.	Turbidity	NTU	0.68	1
2.	pH	pH Unit	6.81	6.5-8.5
3.	Total Dissolved Solids	mg/l	392	500
4.	Chloride	mg/l	106.43	250
5.	Total Alkalinity	mg/l	170	200
6.	Total Hardness	mg/l	182	200
7.	Nitrate	mg/l	0.52	45
8.	Calcium	mg/l	47.25	75
9.	Magnesium	mg/l	15.54	30


Jr. Scientist


Lab Incharge

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WATER ANALYSIS REPORT

Report No. 855-856/24

Sample From – M/s Ordnance Factory, Itarsi

Sample Description- (i) Treated water at outlet of ETP

(ii) Treated waste water before going outside of factory premises.

Sample collected by – CPCB, MPPCB team

Date of Collection – 03/10/2024

Date of Receipt – 04/10/2024

Date of Analysis – 04/10/2024

Analysed by- P. Kothari, Jr.Sc

S.No	Parameter	Unit	Result (i)	Result (ii)	Acceptable Limit as per water consent
1	Colour	-	Dirty	Dirty	-
2	Odour	-	Sl.unpl.	Sl.unpl.	-
3	PH	-	8.54	7.19	5.5-9.0
4	Chloride	mg/l	260.17	571.59	1000 mg/L
5	Total Solids	mg/l	914	1930	-
6	Total Dissolved Solids	mg/l	836	1814	2100 mg/L
7	Total Suspended Solids	mg/l	78	116	100 mg/L
8	BOD (3 days at 27°C)	mg/l	22	26	30 mg/L
9	COD	mg/l	176.4	196	250 mg/L

[Signature]
Analyst

[Signature]
Lab Incharge

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WATER ANALYSIS REPORT

Report No. 930/24

Sample From – M/s Ordnance Factory, Itarsi

Sample Description- Treated water at outlet of ETP

Sample collected by – Shri Ravi Bharti, Jr.Sc.

Date of Collection – 05/11/2024

Date of Receipt – 06/11/2024

Date of Analysis – 06/11/2024

Analysed by-P. Kothari, Jr.Sc

S.No	Parameter	Unit	Result	Acceptable Limit as per water consent
1	PH	-	7.71	5.5-9.0
2	Chloride	mg/l	297.62	1000 mg/L
3	Total Dissolved Solids	mg/l	956	2100 mg/L
4	Total Suspended Solids	mg/l	88	100 mg/L
5	BOD (3 days at 27°C)	mg/l	26	30 mg/L
6	COD	mg/l	192.0	250 mg/L


Analyst


Lab Incharge



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WATER ANALYSIS REPORT

Report No-931/2024

Sample From :- M/s Ordnance Factory Itarsi.
 Narmadapuram.
 Sample Details :- 1.Treated Waste Water before going outside of factory
 premises.
 Sample collected by :- R.S.Bharti (Jr. Scientist)
 Date of Collection :- 05/11/2024
 Date of Receipt :- 06/11/2024
 Date of Analysis :- 06/11/2024

Analysed by- R.S.Bharti (Jr. Scientist)

S.No	Parameter	Unit	Result	Acceptable Limit as per water consent
1.	PH	-	7.34	5.5-9.0
2.	Chloride	mg/l	532.17	1000 mg/l
3.	Total Dissolved Solids	mg/l	1786	2100 mg/l
4.	Total Suspended Solids	mg/l	128	100 mg/l
5.	BOD (3 days at 27 °C)	mg/l	24.0	30 mg/l
6.	COD	mg/l	172.8	250 mg/l

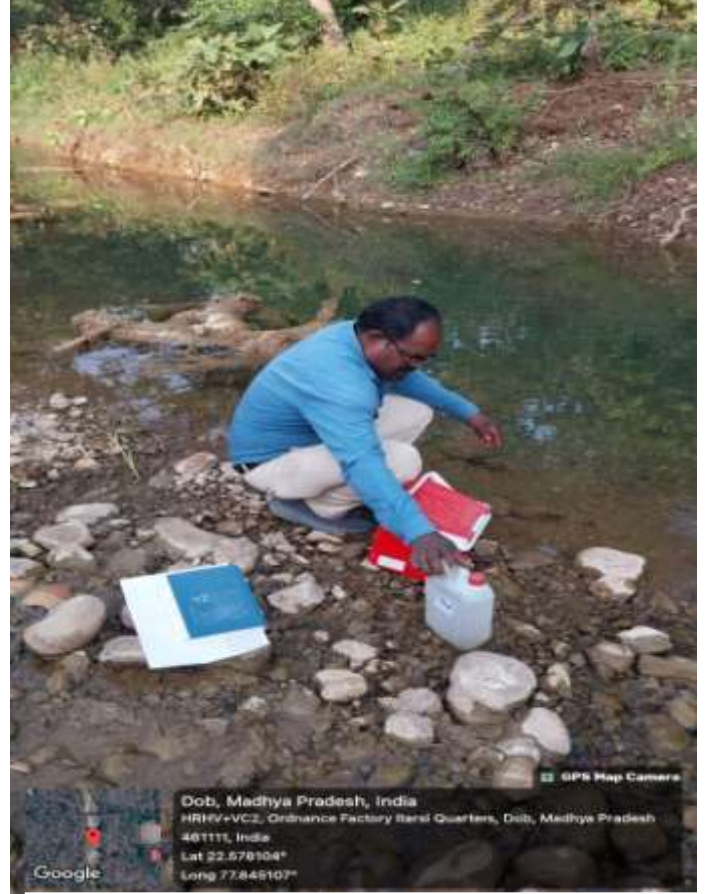

 Jr. Scientist


 Lab Incharge

Photographs of water sampling carried out on dated 05.11.2024



Sample collected from Up stream of Natural water (rainy water) passing through town ship



Sample collected from Downstream of Natural water (rainy water) passing through town ship



Sample collected from Treated wastewater before going outside the factory premises





Sample collected from Bore well inside the Kendriya Vidhyalay



Sample collected from Borewell near main gate No. 2



Sample collected from ETP Outlet





Pond beside the Kendriya Vidhyalay was found dry on 5.11.2024