

Vide Letter No.: HZLP/M&C/24-25/H-I

Date: 24/10/2024

To,
The Regional Officer (North Central Zone),
Ministry of Environment, Forests & Climate Change,
25, Subhash Road, Dehradun, Uttarakhand-248001

Subject: Submission of Environment Clearance compliance report for Pantnagar Zinc-Lead melting & casting Plant (Zinc Metal- 4,65,000 TPA & Lead Metal- 1,50,000 TPA) of M/s Hindustan Zinc Limited, Plot No 2 & 3, Sector 14, IIE, SIDCUL, Pantnagar, Dist. U.S. Nagar for the period **April-2024 to September-2024.**

Ref; Letter No:- J-11011/327/2010/IA-II (I) dated 26.04.2011 from MoEF&CC.

Dear Sir,

With reference to the aforesaid subject, we have obtained Environment Clearance from Ministry of Environment, Forest and Climate Change, New Delhi for Pantnagar Zinc-Lead melting & casting Plant (Zinc Metal- 4, 65,000 TPA & Lead metal- 1, 50,000 TPA) on dated 26.04.2011.

Please find enclosed herewith the Compliance report of Environment Clearance for Pantnagar Zinc-Lead melting & casting Plant of M/s Hindustan Zinc Limited, Plot No 2 & 3, Sector 14, IIE, SIDCUL, Pantnagar, Dist. U.S. Nagar for the period of April-2024 to September-2024.

In case any additional information / documents / clarifications are required, the same may kindly be informed to us.

Thanking you.



(Anamika Jha)

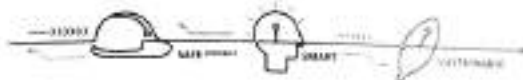
SBU Director

Pantnagar Zinc-Lead melting & casting Plant
Hindustan Zinc Limited

Hindustan Zinc Limited
Pantnagar Metal Plant
Plot No 2&3, Sector 14, IIE, SIDCUL
Rudrapur - 263153, Uttarakhand

CC:

1. Regional Officer, CPCB, Lucknow
2. MS office, UEPPCB, Dehradun
3. Regional Officer, UEPPCB, Kashipur
4. Office copy, HZL



Compliance Report of Environment Clearance (April-2024 to September-2024)

Name of the Project: M/s Hindustan Zinc Limited
Pantnagar Zinc-Lead melting & casting Plant
Location of the Project: Plot No.- 2 & 3, Sector 14, IIE, SIDCUL,
Pantnagar, District - Udham Singh Nagar,
Uttarakhand - 263153

Clearance Letter No: J-11011/327/2010/IA-II (I) Dt.26th April 2011 from MoEF&CC

Period of Compliance Report: October-2023 to March-2024

S.No	Condition	Compliance Status
A	Specific conditions.	
1	On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. bag filters shall be provided to keep the emission levels below 50 mg/Nm ³ by installing energy efficient technology.	Being Complied. Efficient bag filters and continuous stack monitoring PM analyzers have been provided in all process stacks. Continuous on-line Ambient air quality monitoring station (CAAQMS) is also installed in the plant premises to monitor the ambient air continuously. Emission levels are being maintained well within the stipulated limit. Copy of Ambient air & Stack emission quality monitoring reports attached herewith as Annexure-1(a) & 1 (b) respectively. Photograph of CEMS & CAAQMS are attached herewith as Annexure-2.
2	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16 th November, 2009 should be followed.	Noted and being Complied. Ambient air quality monitoring results are well within the NAAQs limits.
3	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30 th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB should be followed.	Being Complied. All Gaseous emission are being controlled through efficient bag filters connected to adequate stacks height provided for proper dispersion. In addition, monthly work zone monitoring is also being carried out. Reports of stack emission and work zone are attached herewith as Annexure-1(b) & 1(c) respectively.
4	The total water requirement shall not exceed 500 KLD. Permission to draw water from the Competent Authority shall be obtained. No effluent shall be discharged and 'zero' discharge should be adopted.	Being Complied. Water requirement of Zinc and Lead M&C process and silver process is limited to 260m ³ /day (20% reduction from previously issued NOC- 325m ³ /day). For which CGWA is already given consent (Letter no.: CGWA/NOC/IND/ORIG/2018/4160 on dated 17 Oct 2018 & 01 Mar 2019 and corrigendum letter against condition no 3 on date 02 July 2019 & its

Hindustan Zinc Limited
Pantnagar Metal Plant
Plot No.2&3, Sector 14, IIE, SIDCUL
Rudrapur - 263153, Uttarakhand

		renewal). No effluent is being generated from the process. However, Effluent treatment plant of 87 KLD is already provided for treating the combined trade effluents of Zinc & Lead melting casting and Silver refining plant so ETP is not in operation. Combined STP of 30 KLD already installed to treat the wastewater of Zinc and Lead Melting & Casting unit as well as silver plant. Treated water of the same is being used for horticulture/plantation. Zero discharge is being maintained.
5	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Lucknow, SPCB and CPCB.	Being Complied. No effluent is being generated from the process. Ground water being used for plant operation and regular bore well monitoring being ensured. Zero Discharge is being maintained and no effluent discharged to surface water body. Provision for online monitoring of STP outlet for BOD, COD, pH, TSS & Flow has been made. Copy of ground water monitoring is attached herewith as Annexure 1(d).
6	Efforts shall be made to make use of rainwater harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources	Complied. Presently We have four rainwater harvesting pond for rainwater collection having capacity approx. 2542, 1500, 841 and 750 cu.m and collected rainwater is being utilized into the process. In FY 2024-25, H1, we have reused around 6,603 cu.m rainwater in the process for conserving the fresh water. Photograph of the same is attached herewith as Annexure-3.
7	Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Lucknow, SPCB and CPCB within 3 months of issue of environment clearance letter.	Complied. Risk and Disaster Management Plan has been submitted to Ministry's Regional Office at Lucknow, SPCB and CPCB on 20.07.2011. Also, we have prepared and submitted On Site Emergency plan to the competent authority. Receiving copy was submitted along with compliance report vide letter no- HZLP/M&C/18-19/H-II dated 23.04.2019 & 29.05.2023 and its amendment on 16.02.2024.
8	As proposed, green belt shall be developed in 33 % of the plant area. Selection of plant species should be as per the CPCB guidelines in consultation with the DFO.	Complied. More than 33% Green Belt of total plant area has already been provided with three rows along with boundary wall in plant premises in consultation with DFO (Divisional Forest Officer) and CPCB guidelines. Gap filling

		plantation being carried out for maintaining the survival rate of Plantation.
9	At least 5 % of the total cost of the project shall be earmarked towards the enterprise social commitment (ESC) and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Lucknow. Implementation of such program should be ensured accordingly in a time bound manner.	Being Complied. CSR plan prepared and submitted to MOEF-Regional Office Lucknow, CPCB regional office Lucknow and UEPPCB Dehradun along with E.C compliance report as dated 20.07.2012, This is being implemented in phased manner with the help of local administration. Many CSR development activities are being carried out for upliftment of nearby communities. CSR projects details is attached herewith as Annexure 4.
10	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied. Safe drinking water, sanitation facilities. Medical health care etc. provided at the plant premises. No housing facility provided in plant premises.
B	General Conditions	
1	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB) and the State Government.	Noted and being Complied.
2	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted and being Complied.
3	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ , SO ₂ and NO _x are anticipated in consultation with the SPCB including one ambient air quality monitoring station in the downwind direction. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Lucknow and the SPCB / CPCB once in six months.	Being Complied. In consultation with RO, UEPPCB, 4 Ambient air quality monitoring location finalized including downwind direction as well as maximum ground level concentration anticipated areas. CAAQMS also installed at plant premises. Monthly monitoring is being carried out in plant area. Data on ambient air quality and stack emission is being submitted regularly as stipulated. Continuous on-line Ambient air quality monitoring station (CAAQMS) is also installed in the plant premises to monitor the ambient air continuously. Emission levels are being maintained well within the stipulated limit. Copy of Ambient air & Stack emission quality monitoring reports attached herewith as Annexure-1(a) & 1 (b) respectively. Photograph of CEMS & CAAQMS are attached herewith as Annexure-2.
4	Industrial wastewater shall be properly collected, treated	Being Complied. The domestic effluent is being

	so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	treated in the STP to ensure stipulated quality and used for plantation. Photograph of STP is attached herewith as Annexure-5.
5	The overall noise levels in and around the plant area shall be kept well within the standards (85 dB) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB (daytime) and 70 dB (nighttime)	Being Complied. Acoustic enclosures/silencers are provided for DG, compressors, blowers and exhaust fans to ensure the noise levels within the factory premises is within the stipulated levels for industrial area. Green Belt along with boundary provided to limit the noise from the plant to surrounding areas. Noise monitoring reports are attached herewith as Annexure 1(e).
6	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Being complied. Pre-employment & periodic medical examinations are being carried out for the relevant occupational hazards at a regular frequency, as per statutory requirements.
7	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Complied. Presently We have four rainwater harvesting pond for rainwater collection having capacity approx. 2542, 1500, 841 and 750 cu.m and collected rainwater is being utilized into the process. In FY 2024-25, H1, we have reused around 6,603 cu.m rainwater in the process for conserving the fresh water. Photograph of the same is attached herewith as Annexure-3.
8	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	Being Complied. Environment protection measures and safeguards recommended in the EIA/EMP report being implemented, Socio-Economic development activities are being implemented as per action plan. Many CSR development activities are being carried out for upliftment of nearby communities. CSR projects photographs is attached herewith as Annexure 4.
9	The requisite funds shall be earmarked towards the capital cost and recurring cost/annum for environmental protection measures and judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	Being Complied. Sufficient funds available for operation and maintenance of the facility during operation phase. The said funds not been diverted for any other purpose.
10	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any,	Complied. The copy of the clearance letter submitted to the Panchayat/ Zila Panchayat, Municipal Corporation and Urban Local Body

	from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	(SIDCUL). EC letter is also available on company website. Link of website https://www.hzlindia.com/wp-content/uploads/Environment-Clearance-Letter-for-Pantnagar-Metal-Plant-Melting-and-Castingmpm.pdf
11	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO ₂ , NO _x and Lead (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Being Complied. Submission of Six-monthly compliance report of environmental condition with monitoring results (in hard copies as well as by e-mail) to RO, MOEF&CC, Dehradun, Zonal Office CPCB, Lucknow, MS UEPPCB, Dehradun and RO UEPPCB, Kashipur being ensured. Six monthly compliance reports are being uploaded on the company website. Link of website uploading EC compliance of October'23 to March'24 is https://www.hzlindia.com/wp-content/uploads/PMP-Zn-Lead-EC-Compliance-H2-2023-24.pdf Display board on all criteria pollutants provided at main gate which is being updated regularly. Photograph of board is attached herewith as Annexure 6.
12	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF at Lucknow, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Lucknow / CPCB / SPCB shall monitor the stipulated conditions.	Being Complied. Submission of Six-monthly compliance report of environmental condition with monitoring results (in hard copies as well as by e-mail) to RO, MOEF&CC, Dehradun, Zonal Office CPCB, Lucknow, MS UEPPCB, Dehradun and RO UEPPCB, Kashipur being ensured. Link of website uploading EC compliance of October'23 to March'24 is https://www.hzlindia.com/wp-content/uploads/PMP-Zn-Lead-EC-Compliance-H2-2023-24.pdf
13	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	Environmental statement of every year is being submitted to Regional Office MoEF, CPCB and UEPPCB. Last Environment statement was submitted to RO, MoEF&CC vide letter no. HZL/PMP/ENV/M&C/2022-23/01 dated 05.09.2023. Environment statement of every year has been uploaded on company website. Link of last Environment Statement is https://www.hzlindia.com/wp-

		content/uploads/Environment-statement-2023-24MC.pdf
14	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office at Lucknow.	Complied. Published in newspapers of Dainik Jagaran and Amar Ujala. Copies have been submitted to Regional office at Lucknow along with reply of letter No. IV/ENV/Utr/Ind-34/110/2011/156 dated 08.06.2011 & on 20.07.2011 to CPCB Regional office Lucknow and UEPPCB Dehradun.
15	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Noted & complied. Plant was commissioned in March 2012.



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TC-12021

TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-026/28/09/24	DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153

SAMPLING DETAIL

Sample Name	: AMBIENT AIR	Analysis End Date	: 03/10/2024
Analysis Start Date	: 28/09/2024	Sampling Done By	: NCL
Date of Sampling	: 27/09/2024	Sampling Location	: NEAR MAIN GATE/SECURITY
Time of Sampling	: 11:00 AM (27/09) TO 11:00 AM (28/09)	Sample ID No.	: NCL/EP-026/28/09/24
Sampling Protocol	: IS : 5182 (P-5) AS PER CPCB GUIDELINES	Sampling Flow Rate of SPM (Average)	: 1.24 mtr ³ /min
Sampling Flow Rate for Gases	: 0.5 LPM	Sampling Machine Placed at Height (from ground)	: 3.0 Mtr
Sampling Duration	: 24 Hrs	Equipments Used	: Respirable Dust Sampler (PM10)+Fine Particulate Sampler (PM2.5) With Gaseous Attachment

PHYSICAL OBSERVATIONS

Ambient Temperature	: 30°C	Wind Direction	: East to West
Weather Conditions	: Clear		

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification As per CPCB
1	Particulate Matters (Size Less Than 10µm) (PM10)	µg/m ³	IS:5182 (Part 23)	64	For 24 Hrs=100
2	Particulate Matters (Size Less Than 2.5µm) (PM2.5)	µg/m ³	IS:5182 (Part 24)	36	For 24 Hrs=60
3	Sulphur Dioxide (SO ₂)	µg/m ³	IS:5182 (Part 2)	19.1	For 24 Hrs=60
4	Carbon Monoxide (CO)	mg/m ³	IS:5182 (Part 10)	0.055	For 08 Hrs=02 For 1 Hrs =04
5	Nitrogen Dioxide (NO ₂)	µg/m ³	IS:5182 (Part 6)	30.8	For 24 Hrs=80
6	Lead (Pb)	µg/m ³	IS:5182 (Part 22)	BDL(DL-0.05)	For 24 Hrs=1.0
7	Ozone (O ₃)	µg/m ³	IS:5182 (Part-9)	BDL(DL-20.0)	For 8 Hrs=100 For 1 Hr=180
8	Ammonia (NH ₃)	µg/m ³	IS:5182 (Part 25)	BDL(DL-20.0)	For 24 Hrs=400
9	Benzene (C ₆ H ₆)	µg/m ³	IS:5182 (Part-11)	BDL(DL-1.0)	For Annual=05

EP-026/28/09/24-1



Checked by
Jitendra
Sr. Analyst

Authorized Signatory
Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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- Endorsement of the same is neither inferred nor implied.
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- The report is not to be produced wholly or in part without prior permission of the Managing Partner. All disputes subject to Ghaziabad Jurisdiction.

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TEST REPORT No. NCL/EP-026/28/09/24

DATE OF REPORT : 03/10/2024

S.No.	Test Parameters	Units	Test Method	Results	Specification As per CPCB
10	Benzo (a) Pyrene (BaP)	ng/m3	IS:5182 (Part-12)	BDL(DL-0.1)	For Annual=01
11	Arsenic (As)	ng/m3	NAAQMS/36	BDL(DL-1.0)	For Annual=06
12	Nickel (Ni)	ng/m3	IS : 5182 (P-26)	BDL(DL-5.0)	For Annual=20

End of Report

Remarks : BDL=Below Detection Limit.

EP-026/28/09/24-2



Checked by
Jitendra
Sr. Analyst

Authorized Signatory
Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TC-12821

TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-025/28/09/24	DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153

SAMPLING DETAIL

Sample Name	: AMBIENT AIR	Analysis End Date	: 03/10/2024
Analysis Start Date	: 28/09/2024	Sampling Done By	: NCL
Date of Sampling	: 27/09/2024	Sampling Location	: BACK SIDE OF DG AREA
Time of Sampling	: 11:00 AM (27/09) TO 11:00 AM (28/09)	Sample ID No.	: NCL/EP-025/28/09/24
Sampling Protocol	: IS : 5182 (P-5) AS PER CPCB GUIDELINES	Sampling Flow Rate of SPM (Average)	: 1.21 mtr ³ /min
Sampling Flow Rate for Gases	: 0.5 LPM	Sampling Machine Placed at Height (from ground)	: 3.0 Mtr
Sampling Duration	: 24 Hrs	Equipments Used	: Respirable Dust Sampler (PM10)+Fine Particulate Sampler (PM2.5) With Gaseous Attachment

PHYSICAL OBSERVATIONS

Ambient Temperature	: 30°C	Wind Direction	: East to West
Weather Conditions	: Clear		

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification As per CPCB
1	Particulate Matters (Size Less Than 10µm) (PM10)	µg/m ³	IS:5182 (Part 23)	58	For 24 Hrs=100
2	Particulate Matters (Size Less Than 2.5µm) (PM2.5)	µg/m ³	IS:5182 (Part 24)	40	For 24 Hrs=60
3	Sulphur Dioxide (SO ₂)	µg/m ³	IS:5182 (Part 2)	18.3	For 24 Hrs=80
4	Carbon Monoxide (CO)	mg/m ³	IS:5182 (Part 10)	0.059	For 08 Hrs=02 For 1 Hrs =04
5	Nitrogen Dioxide (NO ₂)	µg/m ³	IS:5182 (Part 6)	31.2	For 24 Hrs=80
6	Lead (Pb)	µg/m ³	IS:5182 (Part 22)	BDL(DL-0.05)	For 24 Hrs=1.0
7	Ozone (O ₃)	µg/m ³	IS:5182 (Part-9)	BDL(DL-20.0)	For 8 Hrs=100 For 1 Hr=180
8	Ammonia (NH ₃)	µg/m ³	IS:5182 (Part 25)	BDL(DL-20.0)	For 24 Hrs=400
9	Benzene (C ₆ H ₆)	µg/m ³	IS:5182 (Part-11)	BDL(DL-1.0)	For Annual=05

EP-025/28/09/24-1



[Signature]
Checked by

Jitendra
Sr. Analyst

[Signature]
Authorized Signatory

Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

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DATE OF REPORT : 03/10/2024

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11	Arsenic (As)	ng/m3	NAAQMS/36	BDL(DL-1.0)	For Annual=06
12	Nickel (Ni)	ng/m3	IS : 5182 (P-26)	BDL(DL-5.0)	For Annual=20

End of Report

Remarks : BDL=Below Detection Limit.

EP-025/28/09/24-2



Checked by
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TC-12621

TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-023/28/09/24	DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153

SAMPLING DETAIL

Sample Name	: AMBIENT AIR	Analysis End Date	: 03/10/2024
Analysis Start Date	: 28/09/2024	Sampling Done By	: NCL
Date of Sampling	: 26/09/2024	Sampling Location	: SE Corner of Lead Plant
Time of Sampling	: 11:10 AM (26/09) TO 11:10 AM (27/09)	Sample ID No.	: NCL/EP-023/28/09/24
Sampling Protocol	: IS : 5182 (P-5) AS PER CPCB GUIDELINES	Sampling Flow Rate of SPM (Average)	: 1.22 mtr ³ /min
Sampling Flow Rate for Gases	: 0.5 LPM	Sampling Machine Placed at Height (from ground)	: 3.0 Mtr
Sampling Duration	: 24 Hrs	Equipments Used	: Respirable Dust Sampler (PM10)+Fine Particulate Sampler (PM2.5) With Gaseous Attachment

PHYSICAL OBSERVATIONS

Ambient Temperature	: 31°C	Wind Direction	: East to West
Weather Conditions	: Clear		

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification As per CPCB
1	Particulate Matters (Size Less Than 10µm) (PM10)	µg/m ³	IS:5182 (Part 23)	72	For 24 Hrs=100
2	Particulate Matters (Size Less Than 2.5µm) (PM2.5)	µg/m ³	IS:5182 (Part 24)	43	For 24 Hrs=60
3	Sulphur Dioxide (SO ₂)	µg/m ³	IS:5182 (Part 2)	19.8	For 24 Hrs=80
4	Carbon Monoxide (CO)	mg/m ³	IS:5182 (Part 10)	0.065	For 08 Hrs=02 For 1 Hrs =04
5	Nitrogen Dioxide (NO ₂)	µg/m ³	IS:5182 (Part 6)	31.2	For 24 Hrs=80
6	Lead (Pb)	µg/m ³	IS:5182 (Part 22)	BDL(DL-0.05)	For 24 Hrs=1.0
7	Ozone (O ₃)	µg/m ³	IS:5182 (Part-9)	BDL(DL-20.0)	For 8 Hrs=100 For 1 Hr=180
8	Ammonia (NH ₃)	µg/m ³	IS:5182 (Part 25)	BDL(DL-20.0)	For 24 Hrs=400
9	Benzene (C ₆ H ₆)	µg/m ³	IS:5182 (Part-11)	BDL(DL-1.0)	For Annual=05

EP-023/28/09/24-1



Checked by
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Sr. Analyst

Authorized Signatory
Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT No. NCL/EP-023/28/09/24

DATE OF REPORT : 03/10/2024

S.No.	Test Parameters	Units	Test Method	Results	Specification As per CPCB
10	Benzo (a) Pyrene (BaP)	ng/m3	IS:5182 (Part-12)	BDL(DL-0.1)	For Annual=01
11	Arsenic (As)	ng/m3	NAAQMS/38	BDL(DL-1.0)	For Annual=06
12	Nickel (Ni)	ng/m3	IS : 5182 (P-26)	BDL(DL-5.0)	For Annual=20

End of Report

Remarks : - BDL=Below Detection Limit.

EP-023/28/09/24-2



Checked by
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TEST REPORT No. NCL/EP-024/28/09/24		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: AMBIENT AIR	Analysis End Date	: 03/10/2024
Analysis Start Date	: 28/09/2024	Sampling Done By	: NCL
Date of Sampling	: 26/09/2024	Sampling Location	: Canteen East Side
Time of Sampling	: 11:10 AM (26/09) TO 11:10 AM (27/09)	Sample ID No.	: NCL/EP-024/28/09/24
Sampling Protocol	: IS : 5182 (P-5) AS PER CPCB GUIDELINES	Sampling Flow Rate of SPM (Average)	: 1.21 mtr ³ /min
Sampling Flow Rate for Gases	: 0.5 LPM	Sampling Machine Placed at Height (from ground)	: 3.0 Mtr
Sampling Duration	: 24 Hrs	Equipments Used	: Respirable Dust Sampler (PM10)+Fine Particulate Sampler (PM2.5) With Gaseous Attachment

PHYSICAL OBSERVATIONS

Ambient Temperature	: 30°C	Wind Direction	: East to West
Weather Conditions	: Clear		

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification As per CPCB
1	Particulate Matters (Size Less Than 10µm) (PM10)	µg/m ³	IS:5182 (Part 23)	61	For 24 Hrs=100
2	Particulate Matters (Size Less Than 2.5µm) (PM2.5)	µg/m ³	IS:5182 (Part 24)	34	For 24 Hrs=80
3	Sulphur Dioxide (SO ₂)	µg/m ³	IS:5182 (Part 2)	16.9	For 24 Hrs=80
4	Carbon Monoxide (CO)	mg/m ³	IS:5182 (Part 10)	0.053	For 08 Hrs=02 For 1 Hrs =04
5	Nitrogen Dioxide (NO ₂)	µg/m ³	IS:5182 (Part 6)	29.7	For 24 Hrs=80
6	Lead (Pb)	µg/m ³	IS:5182 (Part 22)	BDL(DL-0.05)	For 24 Hrs=1.0
7	Ozone (O ₃)	µg/m ³	IS:5182 (Part-9)	BDL(DL-20.0)	For 8 Hrs=100 For 1 Hr=180
8	Ammonia (NH ₃)	µg/m ³	IS:5182 (Part 25)	BDL(DL-20.0)	For 24 Hrs=400
9	Benzene (C ₆ H ₆)	µg/m ³	IS:5182 (Part-11)	BDL(DL-1.0)	For Annual=05

EP-024/28/09/24-1



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TEST REPORT No. NCL/EP-024/28/09/24

DATE OF REPORT : 03/10/2024

S.No.	Test Parameters	Units	Test Method	Results	Specification As per CPCB
10	Benzo (a) Pyrene (BaP)	ng/m ³	IS-5182 (Part-12)	BDL(DL-0.1)	For Annual=01
11	Arsenic (As)	ng/m ³	NAAQMS/36	BDL(DL-1.0)	For Annual=06
12	Nickel (Ni)	ng/m ³	IS : 5182 (P-26)	BDL(DL-5.0)	For Annual=20

End of Report

Remarks : BDL=Below Detection Limit.

EP-024/28/09/24-2



Checked by
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Sr. Analyst

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TEST REPORT

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TEST REPORT No. NCL/EP-032/28/09/24		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: STACK EMISSION	Analysis End Date	: 03/10/2024
Analysis Start Date	: 28/09/2024	Sampling Done By	: NCL
Date of Sampling	: 27/09/2024	Duration of Sampling	: 30 Minutes
Sampling Protocol	: AS PER CPCB GUIDELINES	Sample ID No.	: NCL/EP-032/28/09/24
Sampling Location	: Zinc F-1 Stack	Area Category	:
Equipments Used	: Vayubodhan Stack Sampler No-1 VSS-1 (S.No-321 DTC 01)		

DETAILS OF STACK

Stack Attached to	: Furnace No.1	Capacity	: 30 TPH
Type of fuel used	: Electricity	Quantity of fuel used	: NA
Stack height above the ground level	: 30.0 Mtr	Stack height above the roof top	: NA
Stack dia at the top	: 1200 mm	Material of Construction	: MS
Attached APCS	: Bag Filter	Normal Operating Schedule	: AS PER REQUIREMENT
Commissioning date	: March 2012		

PHYSICAL OBSERVATIONS

Ambient Temperature	: 30°C	Flue gas temperature	: 112°C
Velocity of the flue gases	: 8.1 mtr/sec	Sampling Flow Rate of SPM	: 26.5 LPM
Sampling Flow Rate for Gases	: 2.0 LPM	Quantity of Emission discharged	: 24842.39 Nm³/hr

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification As Per CPCB
1	Particulate Matters (PM)	mg/Nm³	IS:11255 (Part-1)	14	150
2	Sulphur Dioxide (SO₂)	mg/Nm³	IS:11255 (Part-2)	BDL(DL-3.4)	Not Specified
3	Oxides of Nitrogen (NOx)	mg/Nm³	IS:11255 (Part-7)	BDL(DL-5.0)	Not Specified
4	Carbon Monoxide (CO)	% By Vol	IS:13270	BDL(DL-0.02)	1.0
5	Lead	mg/Nm³	NCL/STP/AAS/01	BDL(DL-0.1)	10.0
6	Hydro Carbon (HC)	mg/Nm³	GC Method	BDL(DL-1.0)	Not Specified

EP-032/28/09/24-1



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Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT

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TEST REPORT No. NCL/EP-031/28/09/24		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: STACK EMISSION	Analysis End Date	: 03/10/2024
Analysis Start Date	: 28/08/2024	Sampling Done By	: NCL
Date of Sampling	: 27/09/2024	Duration of Sampling	: 30 Minutes
Sampling Protocol	: AS PER CPCB GUIDELINES	Sample ID No.	: NCL/EP-031/28/09/24
Sampling Location	: Zinc F-2 Stack	Area Category	:
Equipments Used	: Vayubodhan Stack Sampler No-1 VSS-1 (S.No-321 DTC 01)		

DETAILS OF STACK

Stack Attached to	: Furnace No.2	Capacity	: 30 TPH
Type of fuel used	: Electricity	Quantity of fuel used	: NA
Stack height above the ground level	: 30.0 Mtr	Stack height above the roof top	: NA
Stack dia at the top	: 1200 mm	Material of Construction	: MS
Attached APCS	: Bag Filter	Normal Operating Schedule	: AS PER REQUIREMENT
Commissioning date	: March 2012		

PHYSICAL OBSERVATIONS

Ambient Temperature	: 30°C	Flue gas temperature	: 114°C
Velocity of the flue gases	: 8.4 mtr/sec	Sampling Flow Rate of SPM	: 27.0 LPM
Sampling Flow Rate for Gases	: 2.4 LPM	Quantity of Emission discharged	: 25629.34 Nm ³ /hr

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification As Per CPCB
1	Particulate Matters (PM)	mg/Nm ³	IS:11255 (Part-1)	15	150
2	Sulphur Dioxide (SO ₂)	mg/Nm ³	IS:11255 (Part-2)	BDL(DL-3.4)	Not Specified
3	Oxides of Nitrogen (NO _x)	mg/Nm ³	IS:11255 (Part-7)	BDL(DL-5.0)	Not Specified
4	Carbon Monoxide (CO)	% By Vol	IS:13270	BDL(DL-0.02)	1.0
5	Lead	mg/Nm ³	NCL/STP/AAS/1	BDL(DL-0.1)	10.0
6	Hydro Carbon (HC)	mg/Nm ³	GC Method	BDL(DL-1.0)	Not Specified

EP-031/28/09/24-1



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Sr. Analyst (Instrument)

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Authorized Signatory
Shashi Solanki
Lab Head

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Page No.: 1 of 1

TEST REPORT No. NCL/EP-029/28/09/24		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: STACK EMISSION	Analysis End Date	: 03/10/2024
Analysis Start Date	: 28/09/2024	Sampling Done By	: NCL
Date of Sampling	: 27/09/2024	Duration of Sampling	: 30 Minutes
Sampling Protocol	: AS PER CPCB GUIDELINES	Sample ID No.	: NCL/EP-029/28/09/24
Sampling Location	: DG Set No.1 (7.5 MW)	Area Category	: -
Equipments Used	: Vayubodhan Stack Sampler No-1 VSS-1 (S.No-321 DTC 01)		

DETAILS OF STACK

Stack Attached to	: DG Set No.1	Capacity of D.G.	: 7.5 MW
Type of fuel used	: HSD	Quantity of fuel used	: 1600.0 lph
Stack height above the ground level	: 50.0 Mtr	Stack height above the roof top	: NA
Stack dia at the top	: 1100 mm	Material of Construction	: MS
Attached APCS	: -	Normal Operating Schedule	: AS PER REQUIREMENT
D.G.set commissioning date	: March 2012		

PHYSICAL OBSERVATIONS

Ambient Temperature	: 30°C	Flue gas temperature	: 312°C
Velocity of the flue gases	: 17.0 mtr/sec	Sampling Flow Rate of SPM	: 14.0 LPM
Sampling Flow Rate for Gases	: 2.2 LPM	Quantity of Emission discharged	: 28832.68 Nm³/hr

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification (Max) As Per CPCB
1	Particulate Matters (PM) (at 15% O2 Correction)	Mg/Nm³	IS:11255 (P-1)	47	75
2	Sulphur Dioxide (SO2)	Mg/Nm³	IS:11255 (P-2)	26	Not Specified
3	Oxides of Nitrogen (at 15% O2 Correction)	ppmv	IS:11255 (P-7)	203	710
4	Carbon Monoxide (CO) (at 15% O2 Correction)	Mg/Nm³	IS:13270	68	150
5	NMHC (at 15% O2 Correction)	Mg/Nm³	GC Method	27	100

End of Report

EP-029/28/09/24-1



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TEST REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-030/28/09/24

DATE OF REPORT : 03/10/2024

Name and Address of Customer

M/S HINDUSTAN ZINC LIMITED
Pantnagar Metal Plant, Pantnagar-263153

SAMPLING DETAIL

Sample Name : STACK EMISSION
Analysis Start Date : 28/09/2024 Analysis End Date : 03/10/2024
Date of Sampling : 27/09/2024 Sampling Done By : NCL
Sampling Protocol : AS PER CPCB GUIDELINES Duration of Sampling : 30 Minutes
Sample ID No. : NCL/EP-030/28/09/24
Sampling Location : DG Set No.2 (7.5 MW)
Equipments Used : Vayubodhan Stack Sampler No-1 Area Category : -
VSS-1 (S.No-321 DTC 01)

DETAILS OF STACK

Stack Attached to : DG Set No.2
Type of fuel used : HSD Capacity of D.G. : 7.5 MW
Stack height above the ground : 50.0 Mtr Quantity of fuel used : 1600.0 lph
level
Stack dia at the top : 1100 mm
Attached APCS : - Stack height above the roof top : NA
Material of Construction : MS
Normal Operating Schedule : AS PER REQUIREMENT
D.G.set commissioning date : March 2012

PHYSICAL OBSERVATIONS

Ambient Temperature : 30°C Flue gas temperature : 305°C
Velocity of the flue gases : 18.9 mtr/sec Sampling Flow Rate of SPM : 14.0 LPM
Sampling Flow Rate for Gases : 2.3 LPM Quantity of Emission discharged : 29010.20 Nm³/hr

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification (Max) As Per CPCB
1	Particulate Matters (PM) (at 15% O2 Correction)	Mg/Nm³	IS:11255 (P-1)	45	75
2	Sulphur Dioxide (SO2)	Mg/Nm³	IS:11255 (P-2)	23	Not Specified
3	Oxides of Nitrogen (at 15% O2 Correction)	ppmv	IS:11255 (P-7)	195	710
4	Carbon Monoxide (CO) (at 15% O2 Correction)	Mg/Nm³	IS:13270	55	150
5	NMHC (at 15% O2 Correction)	Mg/Nm³	GC Method	26	100

End of Report

EP-030/28/09/24-1



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TEST REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-028/28/09/24	DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153

SAMPLING DETAIL

Sample Name	: STACK EMISSION	Analysis End Date	: 03/10/2024
Analysis Start Date	: 26/09/2024	Sampling Done By	: NCL
Date of Sampling	: 27/09/2024	Duration of Sampling	: 30 Minutes
Sampling Protocol	: AS PER CPCB GUIDELINES	Sample ID No.	: NCL/EP-028/28/09/24
Sampling Location	: DG Set No.3 (1250 KVA)	Area Category	: --
Equipments Used	: Vayubodhan Stack Sampler No-1 VSS-1 (S.No-321 DTC 01)		

DETAILS OF STACK

Stack Attached to	: DG Set No.3	Capacity of D.G.	: 1250 KVA = 1000 KW
Type of fuel used	: HSD	Quantity of fuel used	: 250 Ltr/Hr
Stack height above the ground level	: 30.0 Mtr	Stack height above the roof top	: NA
Stack dia at the top	: 500 mm	Material of Construction	: MS
Attached APCS	: --	Normal Operating Schedule	: AS PER REQUIREMENT
D.G.set commissioning date	: March 2012		

PHYSICAL OBSERVATIONS

Ambient Temperature	: 30°C	Flue gas temperature	: 284°C
Velocity of the flue gases	: 16.2 mtr/sec	Sampling Flow Rate of SPM	: 14.0 LPM
Sampling Flow Rate for Gases	: 2.2 LPM	Quantity of Emission discharged	: 5962.20 Nm³/hr

TEST RESULT

S.No.	Test Parameters	Units	Test Method	Results	Specification (Max) As Per CPCB
1	Particulate Matters (PM) (at 15% O2 Correction)	Mg/Nm³	IS:11255 (P-1)	42	75
2	Sulphur Dioxide (SO2)	Mg/Nm³	IS:11255 (P-2)	19	Not Specified
3	Oxides of Nitrogen (at 15% O2 Correction)	ppmv	IS:11255 (P-7)	148	710
4	Carbon Monoxide (CO) (at 15% O2 Correction)	Mg/Nm³	IS:13270	52	150
5	NMHC (at 15% O2 Correction)	Mg/Nm³	GC Method	22	100

End of Report

EP-028/28/09/24-1



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TC-12621

TEST REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-010/27/09/24/A		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: Workzone Air	Analysis End Date	: 03/10/2024
Analysis Start Date	: 27/09/2024	Sampling Done By	: NCL
Date of Sampling	: 26/09/2024	Equipments Used	: Handy Sampler
Time of Sampling	: 09:00 AM TO 05:00 PM		
Sampling Location	: Zinc Furnace Top Floor	Sample ID No.	: NCL/EP-010/27/09/24
Sampling Protocol	: IS:5182 (P-5)	Sample Duration	: 8 Hrs
Ambient Temperature	: 28°C	Sampling Flow Rate	: 1.0 LPM

TEST RESULT

S.No.	Test Parameter	Units	Test Method	Results	Specification As Per Factory Act 1948 Sch. II/OSHA
1	Particulate Matters (Size Less Than 10µm) (Pm10)	mg/m ³	IS:5182 (Part 23)	0.054	5.0
2	Sulphur Dioxide (as SO ₂)	mg/m ³	IS:5182 (Part 2)	0.0128	5.0
3	Carbon Monoxide (as CO)	mg/m ³	IS:15206	0.48	55.0
4	Nitrogen Dioxide (as NO ₂)	mg/m ³	IS:5182 (Part 6)	0.0205	6.0
5	Lead	mg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	0.15
6	Arsenic (as As)	mg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	0.2

End of Report

Remarks : BDL-Below Detection Limit.

EP-010/27/09/24-1



Checked by
Jitendra
Sr. Analyst

Authorized Signatory
Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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Page No.: 1 of 1

TEST REPORT No. NCL/EP-010/27/09/24/B		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: Workzone Air	Analysis End Date	: 03/10/2024
Analysis Start Date	: 27/09/2024	Sampling Done By	: NCL
Date of Sampling	: 26/09/2024	Equipments Used	: Handy Sampler
Time of Sampling	: 09:00 AM TO 05:00 PM		
Sampling Location	: Zinc Furnace Top Floor	Sample ID No.	: NCL/EP-010/27/09/24
Sampling Protocol	: IS:5182 (P-5)	Sample Duration	: 8 Hrs
Ambient Temperature	: 28°C	Sampling Flow Rate	: 1.0 LPM

TEST RESULT

S.No.	Test Parameter	Units	Test Method	Results	Specification As Per Factory Act 1948 Sch. II/OSHA
1	Zinc	mg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified
2	Sb	µg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified
3	Bi	µg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified
4	Iron (as Fe)	µg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified

End of Report

Remarks : BDL=Below Detection Limit.

EP-010/27/09/24-1



Checked by
Jitendra
Sr. Analyst

Authorized Signatory
Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

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Shashi Solanki
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TEST REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-011/27/09/24/A		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: Workzone Air	Analysis End Date	: 03/10/2024
Analysis Start Date	: 27/09/2024	Sampling Done By	: NCL
Date of Sampling	: 26/09/2024	Equipments Used	: Handy Sampler
Time of Sampling	: 09:00 AM TO 05:00 PM		
Sampling Location	: Zinc Casting Machine Floor	Sample ID No.	: NCL/EP-011/27/09/24
Sampling Protocol	: IS:5182 (P-5)	Sample Duration	: 8 Hrs
Ambient Temperature	: 28°C	Sampling Flow Rate	: 1.0 LPM

TEST RESULT

S.No.	Test Parameter	Units	Test Method	Results	Specification As Per Factory Act 1948 Sch. II/OSHA
1	Particulate Matters (Size Less Than 10µm) (Pm10)	mg/m³	IS:5182 (Part 23)	0.056	5.0
2	Sulphur Dioxide (as SO2)	mg/m³	IS:5182 (Part 2)	0.0124	5.0
3	Carbon Monoxide (as CO)	mg/m³	IS:15206	0.50	55.0
4	Nitrogen Dioxide (as NO2)	mg/m³	IS:5182 (Part 6)	0.0208	6.0
5	Lead	mg/m³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	0.15
6	Arsenic (as As)	mg/m³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	0.2

End of Report

Remarks : BDL=Below Detection Limit.

EP-011/27/09/24-1



Checked by
Jitendra
Sr. Analyst

Authorized Signatory
Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-011/27/09/24/B		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Sample Name	: Workzone Air	Analysis End Date	: 03/10/2024
Analysis Start Date	: 27/09/2024	Sampling Done By	: NCL
Date of Sampling	: 26/09/2024	Equipments Used	: Handy Sampler
Time of Sampling	: 09:00 AM TO 05:00 PM		
Sampling Location	: Zinc Casting Machine Floor	Sample ID No.	: NCL/EP-011/27/09/24
Sampling Protocol	: IS:5182 (P-5)	Sample Duration	: 8 Hrs
Ambient Temperature	: 28°C	Sampling Flow Rate	: 1.0 LPM

TEST RESULT

S.No.	Test Parameter	Units	Test Method	Results	Specification As Per Factory Act 1948 Sch. II/OSHA
1	Zinc	mg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified
2	Sb	µg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified
3	Bi	µg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified
4	Iron (as Fe)	µg/m ³	NCL/LAB/STP/AIR-9	BDL(DL-0.001)	Not Specified

End of Report

Remarks : BDL=Below Detection Limit.

EP-011/27/09/24-1



[Signature]

Checked by
Jitendra
Sr. Analyst

[Signature]

Authorized Signatory
Arvind Choudhary
Sr. Analyst (Instrument)

FOR NEWCON CONSULTANTS & LABORATORIES

[Signature]

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TEST REPORT

Page No.: 1 of 2

TEST REPORT No. NCL/EP-027/30/08/24/A	ULR No.: TC126212400000975F	DATE OF REPORT : 04/09/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAILS

Sample Name	: Ground Water	Analysis End Date	: 04/09/2024
Analysis Start Date	: 30/08/2024	Sample ID No.	: NCL/EP-027/30/08/24
Date of Sampling	: 29/08/2024	Sample Receipt Date	: 30/08/2024
Time of Sampling	: 03:30 PM	Environmental Condition	: 25±2°C
Sampling Done By	: NCL	Sample Quantity	: 2+1 Ltr
Sample Description	: Ground Water	Packing	: PVC CANE
Sampling Location	: Borewell		
Sampling Protocol	: IS:17814 (P-1)		
Packing Condition	: Sealed		

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Colour	Hazen	IS : 3025 (P-4) Clause-4	BDL(DL-1.0)	5.0	15
2	Odour	—	IS : 3025 (P-5)	Agreeable	Agreeable	Agreeable
3	Taste	—	IS : 3025 (P-8)	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	IS : 3025 (P-10)	BDL(DL-1.0)	1.0	5
5	pH Value	—	IS : 3025 (P-11)	7.15	6.5-8.5	No Relaxation
6	Total Dissolved Solids	mg/L	IS : 3025 (P-16)	318	500	2000
7	Total Hardness (as CaCO ₃)	mg/L	IS : 3025 (P-21)	180	200	600
8	Calcium (as Ca)	mg/L	IS : 3025 (P-40)	48	75	200
9	Magnesium (as Mg)	mg/L	IS : 3025 (P-46) Clause-6	14.6	30	100
10	Total Alkalinity (as CaCO ₃)	mg/L	IS : 3025 (P-23)	172	200	600
11	Sodium	mg/L	APHA 3500Na (B)	BDL(DL-10.0)	Not Specified	Not Specified
12	Potassium	mg/L	APHA 3500 K (B)	BDL(DL-1.0)	Not Specified	Not Specified
13	Chloride (as Cl)	mg/L	IS : 3025 (P-32) Clause-2	14	250	1000
14	Nitrate (as NO ₃)	mg/L	IS : 3025 (P-34) Clause 3.3	BDL(DL-0.2)	45	No Relaxation
15	Nitrite (as NO ₂)	mg/L	IS : 3025 (P-34) Clause 4	BDL(DL-0.5)	Not Specified	Not Specified

EP-027/30/08/24-1



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT No. NCL/EP-027/30/08/24/A

ULR No.:TC1262124000000976F

DATE OF REPORT : 04/09/2024

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
16	Sulphate (as SO ₄)	mg/L	IS : 3025 (P-24) Sec-1 Clause-5	BDL(DL-2.0)	200	400
17	Fluoride (as F)	mg/L	APHA 4500-F-D	BDL(DL-0.1)	1.0	1.5
18	Chloramines (as Cl ₂)	mg/L	IS : 3025 (P-26) Clause-7	BDL(DL-0.1)	4.0	No Relaxation
19	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS : 3025 (P-43) Sec-1 Clause-4	BDL(DL-0.0005)	0.001	0.002
20	Anionic Surfactant (as MBAS)	mg/L	IS : 3025 (P-68)	BDL(DL-0.1)	0.2	1.0
21	Iron (as Fe)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	1.0	No Relaxation
22	Zinc (as Zn)	mg/L	IS : 3025 (P-68)	BDL(DL-0.001)	6.0	15.0
23	Manganese (as Mn)	mg/L	IS : 3025 (P-65)	BDL(DL-0.01)	0.1	0.3
24	Lead (as Pb)	mg/L	IS : 3025 (P-85)	BDL(DL-0.005)	0.01	No Relaxation
25	Copper (as Cu)	mg/L	IS : 3025 (P-85)	BDL(DL-0.01)	0.05	1.5
26	E.Coli	cfu/100ml	IS : 1622	Absent	Not Specified	Not Specified
27	Total Coliform	cfu/100ml	IS : 1622	Absent	Not Specified	Not Specified

End of Report

Remarks : BDL=Below Detection Limit.

EP-027/30/08/24-2



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavna Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TEST REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-027/30/08/24/B

DATE OF REPORT : 04/09/2024

Name and Address of Customer

M/S HINDUSTAN ZINC LIMITED

Pantnagar Metal Plant, Pantnagar-263153

SAMPLING DETAILS

Sample Name : Ground Water

Analysis Start Date : 30/08/2024

Date of Sampling : 29/08/2024

Time of Sampling : 03:30 PM

Sampling Done By : NCL

Sample Description : Ground Water

Sampling Location : Borewell

Sampling Protocol : IS:17614 (P-1)

Packing Condition : Sealed

Analysis End Date : 04/09/2024

Sample ID No. : NCL/EP-027/30/08/24

Sample Receipt Date : 30/08/2024

Environmental Condition : 25±2°C

Sample Quantity : 2+1 Ltr

Packing : PVC CANE

TEST RESULT

S.No.	Parameters	Unit	Test Method	Result	Specification /Limit As Per IS:10500, Amd. 2018	
					Desirable Limit	Permissible Limit
1	Cyanide (as CN)	mg/L	IS : 3025 (P-27) Sec-1 Clause-4	BDL(DL-0.02)	0.05	No Relaxation
2	Ammonia (as total Ammonia)	mg/L	IS : 3025 (P-34) Clause 2.4	BDL(DL-0.2)	0.5	No Relaxation
3	Selenium (as Se)	mg/L	IS : 3025 (P-85)	BDL(DL-0.001)	0.01	No Relaxation
4	Arsenic (as As)	mg/L	IS : 3025 (P-86)	BDL(DL-0.001)	0.01	No Relaxation
5	Cadmium (as Cd)	mg/L	IS : 3025 (P-88)	BDL(DL-0.001)	0.003	No Relaxation

End of Report

Remarks : BDL=Below Detection Limit.

EP-027/30/08/24-1



Checked by

Sonu Gupta

Sr. Analyst

Authorized Signatory

Bhavna Sharma

HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory

Shashi Solanki

Lab Head

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TC-12621

TEST REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-003/30/09/24		DATE OF REPORT : 05/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAILS

Sample Name : WASTE WATER
Analysis Start Date : 30/09/2024 Analysis End Date : 05/10/2024
Date of Sampling : 28/09/2024 Sample ID No. : NCL/EP-003/30/09/24
Time of Sampling : 02:30 PM Sample Receipt Date : 30/09/2024
Sampling Done By : NCL Environmental Condition : 25±2°C
Sample Description : SEWAGE WATER AFTER TREATMENT
Sampling Location : STP OUTLET (FINAL EXIT POINT)

Sampling Protocol : IS:17814 (P-1) Sample Quantity : 2 ltr
Packing Condition : Sealed Packing : PVC CANE

TEST RESULT

S.No.	Parameter	Units	Test Method	Results	Specification/limits as per CPCB
1	pH	-	IS : 3025 (P-11)	7.35	6.5-9.0
2	Total Suspended Solids (TSS)	mg/L	IS : 3025 (P-17)	BDL(DL-5.0)	100
3	Bio Chemical Oxygen Demand (3 days at 27°C)	mg/L	IS : 3025 (P-44)	5	30.0
4	Chemical Oxygen Demand (COD)	mg/L	APHA-5220 (B)	20	Not Specified
5	Oil & Grease	mg/L	IS : 3025 (P-39)	BDL(DL-1.0)	Not Specified
6	Faecal Coliform	MPN/100ml	APHA 23rd -9221	170	1000
7	Total Nitrogen	mg/L	APHA 4500-Norg (B)	BDL(DL-0.1)	Not Specified
8	Total Phosphorous(P)	mg/L	4500-D, P-APHA, 23rd ED.	BDL(DL-0.05)	Not Specified
9	Ammonical Nitrogen (as N)	mg/L	APHA 4500 (B,C)	BDL(DL-1.0)	Not Specified

End of Report

Remarks : BDL=Below Detection Limit.

EP-003/30/09/24-1



Checked by
Sonu Gupta
Sr. Analyst

Authorized Signatory
Bhavana Sharma
HOD (Microbiologist)

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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AMBIENT NOISE REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-034/28/09/24		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Analysis Start Date	: 28/09/2024	Analysis End Date	: 28/09/2024
Date of Monitoring	: 27/09/2024	Monitoring Done By	: NCL
Monitoring Duration	: 24 hrs.	Place of Monitoring	: NEAR MAIN GATE
Time of Monitoring	: 12:30 PM (27/09) TO 12:30 PM (28/09)	Protocol	: CPCB method - PCLS/06/2000-01
Category of Area	: Industrial Area		

OBSERVATIONS

Observation No.	1	2	3	4	5	6	7	8	9	10
Day Time Reading (dB(A))	65.2	68.8	68.6	69.1	67.4	65.7	66.5	67.2	66.7	69.4
Night Time Reading (dB(A))	52.2	52.6	55.7	55.3	54.2	53.8	54.9	55.3	57.1	56.8

TEST RESULT

S.No.	Test Parameter	Results	Specification As Per CPCB
Day Time Noise Level			
1	Average Noise Level	67.8	-
2	L Max	69.8	-
3	L Min	65.2	-
4	Day Leq	68.0	75.0 Max
Night Time Noise Level			
5	Average Noise Level	54.8	-
6	L Max	57.1	-
7	L Min	52.2	-
8	Night Leq	55.0	70.0 Max

End of Report

Remarks : >Day time reckoned between 6:00AM To 10:00PM.
>Night time reckoned between 10:00PM To 06:00AM.

EP-034/28/09/24-1



Tilendra
Checked by
Tilendra
Sr. Analyst

FOR NEWCON CONSULTANTS & LABORATORIES

Shashi Solanki
Authorized Signatory
Shashi Solanki
Lab Head

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TC-12621

AMBIENT NOISE REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-035/28/09/24	DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263163

SAMPLING DETAIL

Analysis Start Date	: 28/09/2024	Analysis End Date	: 28/09/2024
Date of Monitoring	: 27/09/2024	Monitoring Done By	: NCL
Monitoring Duration	: 24 hrs.	Place of Monitoring	: East Side Of Canteen in New Plot
Time of Monitoring	: 12:50 PM (27/09) TO 12:50 PM (28/09)	Protocol	: CPCB method – PCLS/06/2000-01
Category of Area	: Industrial Area		

OBSERVATIONS

Observation No.	1	2	3	4	5	6	7	8	9	10
Day Time Reading (dB(A))	63.2	63.7	64.5	65.8	65.3	66.1	66.7	67.2	65.3	64.2
Night Time Reading (dB(A))	47.7	48.8	48.5	47.3	46.2	49.5	51.2	50.8	52.3	51.7

TEST RESULT

S.No.	Test Parameter	Results	Specification As Per CPCB
Day Time Noise Level			
1	Average Noise Level	65.2	-
2	L Max	67.2	-
3	L Min	63.2	-
4	Day Leq	65.4	75.0 Max
Night Time Noise Level			
5	Average Noise Level	49.5	-
6	L Max	52.3	-
7	L Min	46.2	-
8	Night Leq	49.7	70.0 Max

End of Report

Remarks : >Day time reckoned between 6:00AM To 10:00PM.
>Night time reckoned between 10:00PM To 05:00AM.

EP-035/28/09/24-1



Checked by
Jitendra
Sr. Analyst

FOR NEWCON CONSULTANTS & LABORATORIES

Authorized Signatory
Shashi Solanki
Lab Head

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TC-12821

AMBIENT NOISE REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-012/27/09/24	DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153

SAMPLING DETAIL

Analysis Start Date	: 27/09/2024	Analysis End Date	: 27/09/2024
Date of Monitoring	: 26/09/2024	Monitoring Done By	: NCL
Monitoring Duration	: 24 hrs.	Place of Monitoring	: Near Compressor Area
Time of Monitoring	: 02:00 PM (26/09) TO 02:00 PM (27/09)	Protocol	: CPCB method – PCLS/06/2000-01
Category of Area	: Industrial Area		

OBSERVATIONS

Observation No.	1	2	3	4	5	6	7	8	9	10
Day Time Reading (dB(A))	63.8	64.2	65.6	66.3	67.8	69.2	68.7	68.2	66.9	65.2
Night Time Reading (dB(A))	51.2	53.5	54.2	59.1	56.5	55.4	58.1	54.7	55.8	56.7

TEST RESULT

S.No.	Test Parameter	Results	Specification As Per CPCB
Day Time Noise Level			
1	Average Noise Level	66.8	-
2	L Max	69.2	-
3	L Min	63.8	-
4	Day Leq	66.8	75.0 Max
Night Time Noise Level			
5	Average Noise Level	55.8	-
6	L Max	59.1	-
7	L Min	51.2	-
8	Night Leq	55.7	70.0 Max

End of Report

Remarks : >Day time reckoned between 6:00AM To 10:00PM.
>Night time reckoned between 10:00PM To 06:00AM.

EP-012/27/09/24-1



Checked by
Jitendra
Sr. Analyst

FOR NEWCON CONSULTANTS & LABORATORIES

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Shashi Solanki
Lab Head

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TC-12821

AMBIENT NOISE REPORT

Page No.: 1 of 1

TEST REPORT No. NCL/EP-013/27/09/24		DATE OF REPORT : 03/10/2024
Name and Address of Customer	M/S HINDUSTAN ZINC LIMITED Pantnagar Metal Plant, Pantnagar-263153	

SAMPLING DETAIL

Analysis Start Date	: 27/09/2024	Analysis End Date	: 27/09/2024
Date of Monitoring	: 26/09/2024	Monitoring Done By	: NCL
Monitoring Duration	: 24 hrs.	Place of Monitoring	: BACK SIDE OF DG AREA
Time of Monitoring	: 02:30 PM (26/09) TO 02:30 PM (27/09)	Protocol	: CPCB method - PCLS/06/2000-01
Category of Area	: Industrial Area		

OBSERVATIONS

Observation No.	1	2	3	4	5	6	7	8	9	10
Day Time Reading (dB(A))	64.6	66.6	67.2	65.5	66.3	68.8	67.7	69.5	70.2	68.4
Night Time Reading (dB(A))	50.1	51.8	51.4	50.6	52.3	53.9	53.5	52.8	54.6	55.8

TEST RESULT

S.No.	Test Parameter	Results	Specification As Per CPCB
Day Time Noise Level			
1	Average Noise Level	67.5	-
2	L Max	70.2	-
3	L Min	64.6	-
4	Day Leq	67.7	75.0 Max
Night Time Noise Level			
5	Average Noise Level	52.7	-
6	L Max	55.8	-
7	L Min	50.1	-
8	Night Leq	52.9	70.0 Max

End of Report

Remarks : >Day time reckoned between 6:00AM To 10:00PM.
>Night time reckoned between 10:00PM To 05:00AM.

EP-013/27/09/24-1



Checked by
Jitendra
Sr. Analyst

FOR NEWCON CONSULTANTS & LABORATORIES

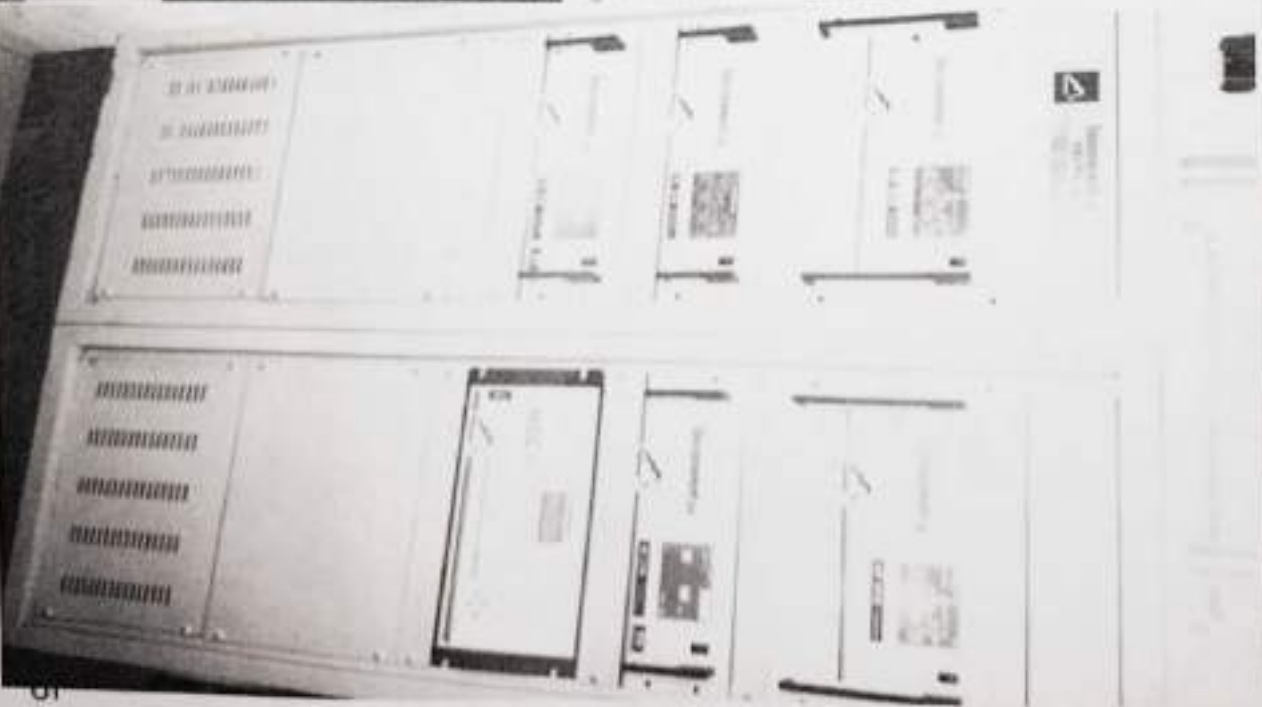
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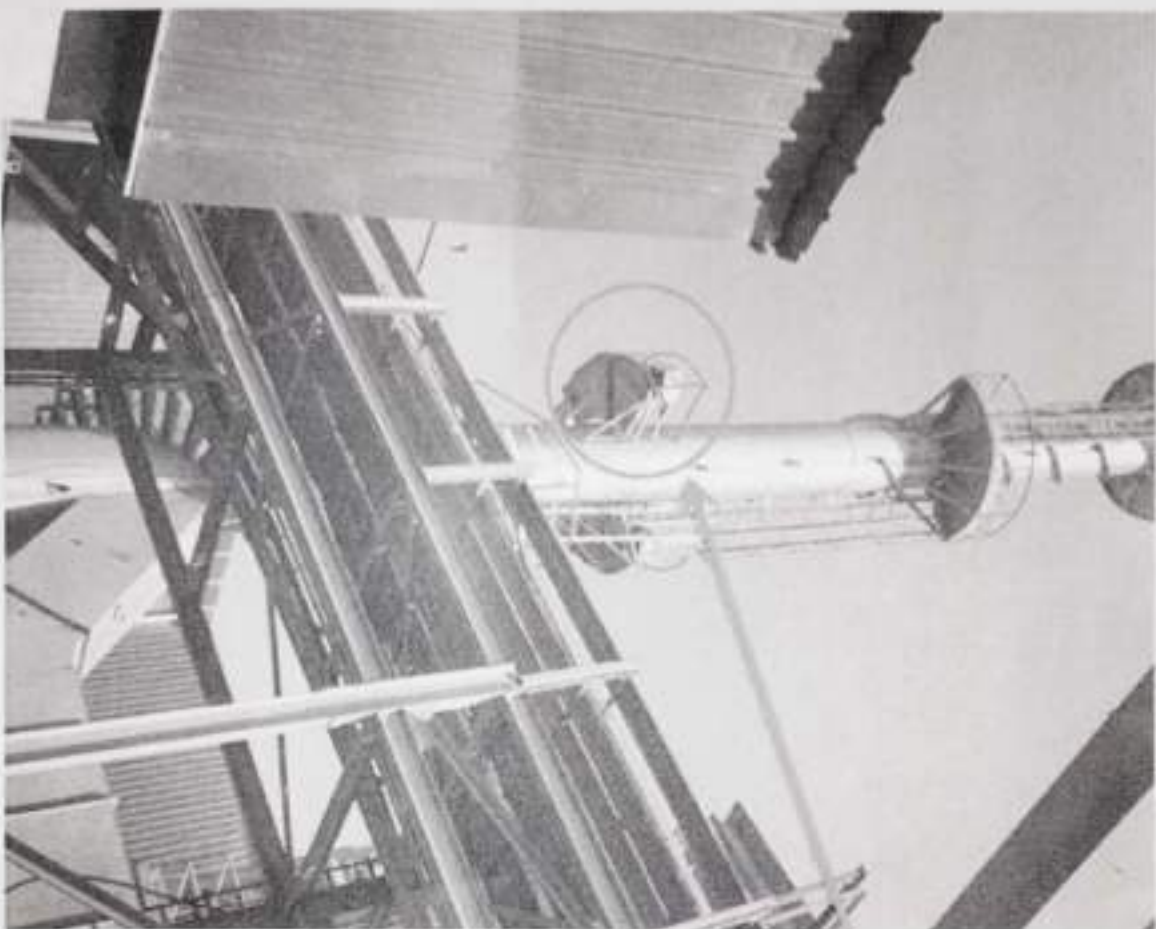
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ANNE XURE-2

CAAQMS



PH analyzer installed at stack



PM analyzer

Hygiene ventilation system



Bag filter
arrangement for
hygiene ventilation

ANNEXURE -3

Ground Water Withdrawal FY 2024-25, H1			
Month	Ground Water Withdrawal	UOM	Rain water utilization
Apr-24	4,794	Cu.m	538
May-24	5,887	Cu.m	280
Jun-24	5,304	Cu.m	0
Jul-24	4,480	Cu.m	1,647
Aug-24	4,052	Cu.m	2,273
Sep-24	3,814	Cu.m	1,865
		Cu.m	
		Cu.m	
		Cu.m	
		Cu.m	
		Cu.m	
		Cu.m	
Total	28,331	Cu.m	6,603

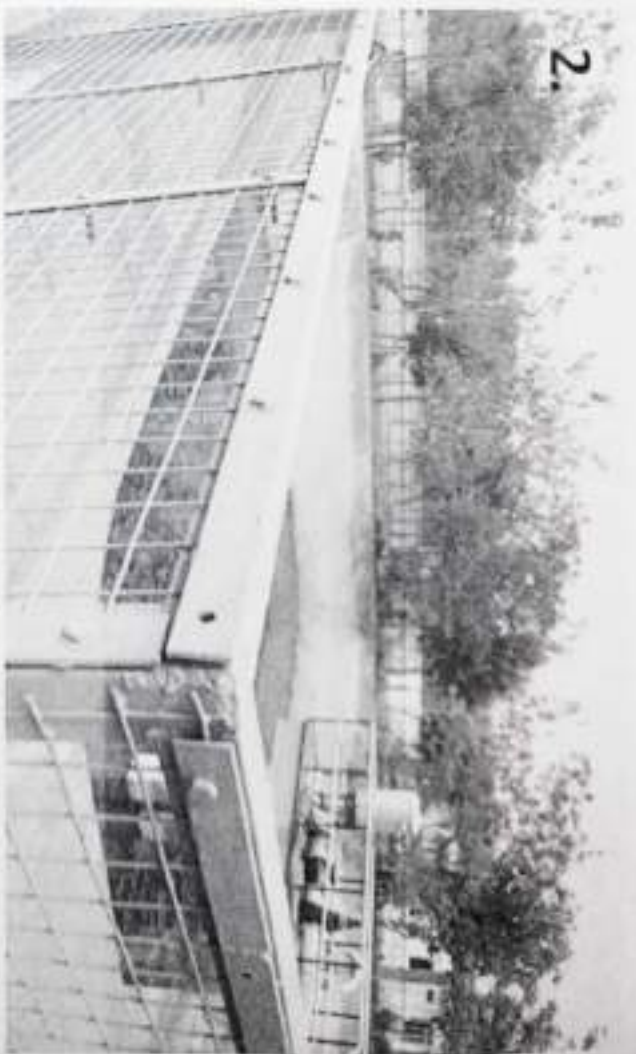
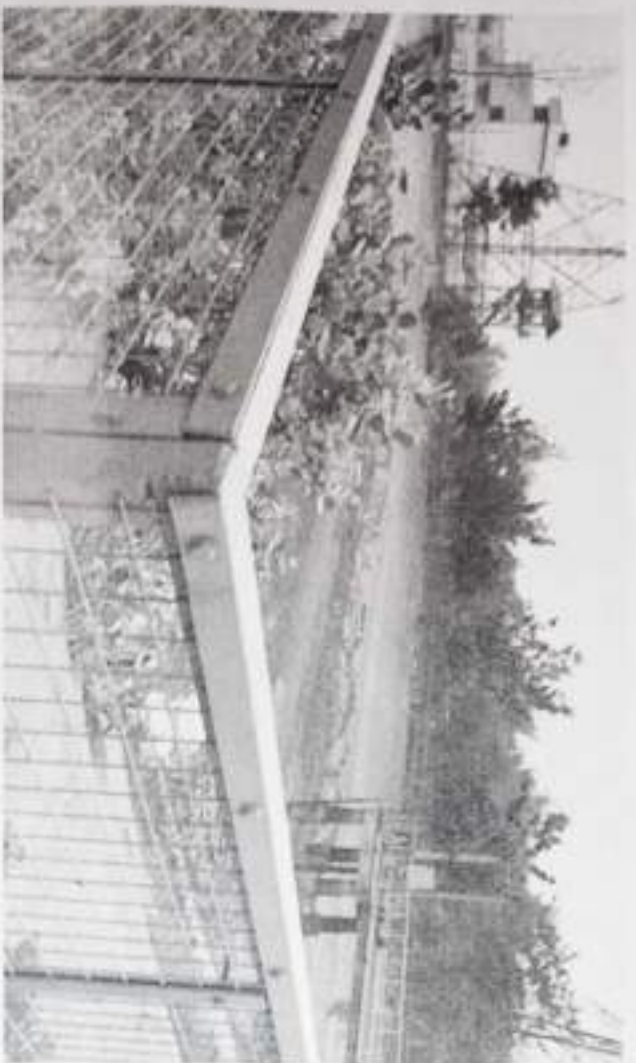
- All reading recorded in cubic meter.

Water Withdrawal Point – Borewell

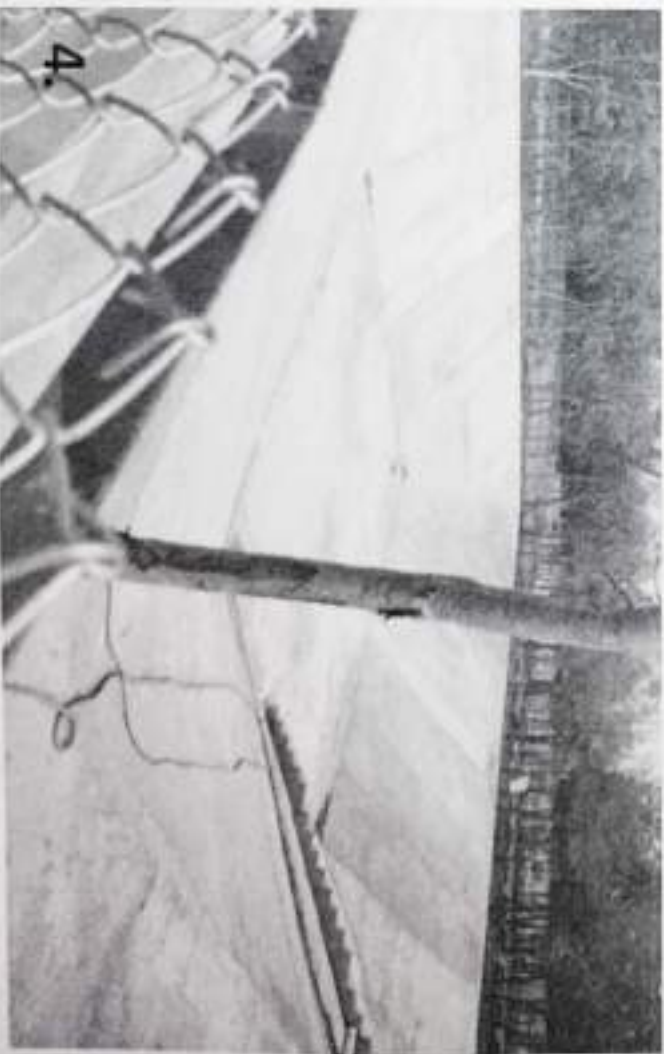


Sensitively Internal Use

Rain Water Storage Ponds and reuse the water into the process



2.



4.

ANNEXURE-4

On-Going CSR Activities at PMP FY2024-25 H1

Flag Ship Projects: Continuing in FY 24-25 H1

1. Sakhi Project – Strengthening Women Empowerment.
2. ME – Providing Micro Enterprises support to SHG women for their sustainability.
3. Zinc Kaushal – Providing skilling training to rural youth through Tata Motors Tata Strive Project.
4. Health Project - Mobile Health project started by covering 100 patients per day from 25 villages per month.

Other Activities:

- Kept Pharindeys in plant premises and in community for birds by keeping heavy temperature. And inculcated culture to do such activities in communities as well.
- Started Keeping or our Pickle unit products stall in local Veg. market nearby company premises and residents.
- Sent 16 students for summer camp conducted at Udaipur from PMP. And UH taken feedback on completion above training program on students return from Udaipur.
- Conducted Unchi Udaan IIT coaching entrance exam at rudrapur Dist. Total 82 students participated in this exam from various Govt. schools.
- Khaana Khaya Kya - Nand Ghar Movement Campaigning was done Pantnagar as well.
- Conducted awareness program on Menstrual Hygiene in nearby Govt. Girls schools.
- Conducted safety awareness program to Summer camp students while going for training by Head - Safety.
- Ganesh , Durga & Viswa Karma Pooja celebrated at PMP being conducted by HR Department in Admin Block.

On-Going CSR Activities at PMP FY2024-25 H1

Other Activities:

- Interacted with PMP Unchi Udaan students studying at Vidhya Bhawan Udaipur.
- ON 15th August, Unit Head, Dy. SBU Director, HR Head participated and interacted with beneficiaries of 55 SHG's Credit Linkage of amounting 55 Lakhs from Uttarakhand Grameen Bank at concessional rate of interest , the same shall benefitted to 500+ Sakhi SHG Women with their Livelihood initiatives.
- On 26.09.2024 interacted with Govt. Girls Inter college with SARD team and explaining benefits and futures how it will be helpful students to enhance their skills through digitalization and integrated science lab which is providing by HZL PMP Unit. NCERT team also given live demo to students and teachers about VR cameras etc.
- On 17th July, UH and District Education Officer interacting with students selected for Unchi Udaan Batch -9 from PMP. Total 82 students written exam and 7 students selected from Pantnagar Metal Plant.
- On 27th July special eye check up camp was conducted at Jayanagar along with regular Mobile Health Check up camp. Total 115 patients were benefitted through this camp.
- Mensural Hygiene awareness program conducted in nearby schools with the health team.
- Breastfeeding awareness session was conducted in nearby community as well.

On-Going CSR Activities at PMP FY2024-25 H1



Special Camp;

Topic – Mensuration Hygiene
Conducted on – 24/05/2024
No of attendees -550 (Govt. Inter
College- Jainagar, Pantnagar, Fajalpur)



Special Camp;

Topic – Breast Feeding Awareness
Session
Conducted on – 05/08/2024
No of attendees -20



Special Camp;

Topic – Eye Vision camp for nearby
community
Conducted On – 27/07/2024
No of attendees – 115

On-Going CSR Activities at PMP FY2024-25 H1



Women Skill Development & Empowerment- Strengthening of Self-Help Group by 33 villages and covered around 3000+ families. This project (Sakhi) was implementing through Manjari Foundation. Started in the year 2017 and continuing.

On-Going CSR Activities at PMP FY2024-25 H1



Environment Day Celebration

Yoga Day Celebration

World Youth Skills Day Celebration

On-Going CSR Activities at PMP FY2024-25 H1



TATA Strive Project:- Various guest session conducted on topics- POSH (Prevention of Sexual Harassment), Auto technician Roles, Workplace & Industrial Safety, Fire Drill & extinguishing, Field visit, Morning Assembly & Mindfulness activities, etc.

On-Going CSR Activities at PMP FY2024-25 H1



Youth Skill Development Program- Imparting Skill training practical program with TATA STRIVE in field of Auto Sales, Auto technicians, Automotive Services in two, three & four wheelers for Youth from nearby community.

On-Going CSR Activities at PMP FY2024-25 H1



Health Camp for nearby Community- Under Health, Water & Sanitation, Running mobile health clinic van in 25 villages on daily basis. Providing free doctor consultation, free medicine distribution etc. being done through this project. Daily in one village this camp will be held.

ANNEXURE-5



STP PLANT



ETP PLANT



PHOTOGRAPHS OF HAZARDOUS WASTE STORAGE YARD

S. No.	Name of the waste	Photographs
1.	Zinc Dross Storage Yard	
2.	Lead Dross Storage Yard	
3.	Used Oil Storage Yard	