

Vide Letter No.: HZLP/M&C/21-22/H-2

Date: 10/05/2022

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 October-2021 to March-2022.

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 October-2021 to March-2022.

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

Thanking you,
Yours faithfully,


(Himanshu Chhabra)
SBU Director

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

Pantnagar Zinc-Lead melting & casting Plant
Hindustan Zinc Limited

CC:

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

Hindustan Zinc Limited

Pantnagar Metal Plant
Plot No. 2 & 3, Sector 14, IIE, SIDCUL Pantnagar
☎: 05944-257300, www.hzindia.com

Regd. Office: Yashad Bhawan, Udaipur (Rajasthan) - 313 004
CIN : L27204RJ1966PLC001208

Compliance Report of Environment Clearance (October-2021 to March-2022)

Name of the Project: M/s Hindustan Zinc Limited
Location of the Project: Pantnagar Zinc-Lead melting & casting Plant
 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-2021 to March-2022

S. N.	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 level is 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 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 renewal having NOC Number-

		<p>CGWA/NOC/IND/REN/1/2021/6094 valid till 26.09.2023). No effluent being generated from the process. However, Effluent treatment plant of 87 KLD already provided for treating the combined trade effluents of Zinc & Lead melting casting and Silver refining plant so ETP is not in operation.</p> <p>Combined STP of 30 KLD already installed to treat the waste water 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.</p>
5	<p>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.</p>	<p>Being Complied. No effluent being generated from the process. Ground water being used for plant process and regular bore well monitoring being ensured. Zero Discharge is being maintained and no effluent discharged to surface water body.</p> <p>Provision for online monitoring of STP outlet for BOD, COD, pH, TSS & Flow has been made.</p> <p>Copy of ground water monitoring is attached herewith as Annexure 1(d).</p>
6	<p>Efforts shall be made to make use of rain water 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</p>	<p>Complied. Presently We have four rain water harvesting pond for rain water collection having capacity approx. 2542, 1500, 841 and 750 cu.m and collected rainwater is being utilized into the process. In FY 2021-22, we have reused around 23,166 cu.m rainwater in the process for conserving the fresh water. Photograph of the same is attached herewith as Annexure-3.</p>
7	<p>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.</p>	<p>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.</p> <p>Receiving copy was submitted along with compliance report vide letter no- HZLP/M&C/18-19/H-II dated 23.04.2019.</p>
8	<p>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.</p>	<p>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</p>

		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 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 in the plant premises. No housing facility provided in plant premises.
8	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 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 level is 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 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.	Being Complied. The domestic effluent is being 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 rain water harvesting pond for rain water collection having capacity approx. 2542, 1500, 841 and 750 cu.m and collected rainwater is being utilized into the process. In FY 2021-22, we have reused around 23,166 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 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	Complied. The copy of the clearance letter submitted to the Panchayat/ Zila Panchayat,

	Corporation, Urban Local Body and the local NGO, if any, 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.	Municipal Corporation and Urban Local Body (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 CPPCB, Lucknow, MS UEPPCB, Dehradun and RO UEPPCB, Kashipur being ensured. Six monthly compliance reports are being uploaded on company website. Link of website uploading EC compliance of April'21 to September'21 is https://www.hzlindia.com/wp-content/uploads/EC-Compliance-Report-Zinc-Lead-MC-Plant H1 2021-22.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 CPPCB, Lucknow, MS UEPPCB, Dehradun and RO UEPPCB, Kashipur being ensured. Link of website uploading EC compliance of April'21 to September'21 is https://www.hzlindia.com/wp-content/uploads/EC-Compliance-Report-Zinc-Lead-MC-Plant H1 2021-22.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/2020-21/01 dated 03.09.2021 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-of-Zn-Pb-Plant-Form-V-2020-21.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.

Hindustan Zinc Limited
Pantnagar Metal Plant
Plot No.2&3, Sector 14, IIE, SIDCUL,
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EKO PRO ENGINEERS PVT. LTD.

Environmental Consultants and Analytical Laboratory

(An ISO 9001:2015 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
 Contact No.: 9711150210, 9810240837, 9810240676 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT**Ambient Air Quality Monitoring**

Test Report No. : EKO/115/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED
 Plot No. 2, Sec - 14
 IIE, Sidcul Pantnagar
 Rudrapur - Uttarakhand

Sample Description : Ambient Air
 Sample Drawn on : 24/03/2022 To 25/03/2022
 Sample Drawn by : EPEPL (Mr. Harish Kumar)
 Sample Received on : 28/03/2022
 Sampling Location : Near Main Gate/Security
 Sampling Time : 24.0 Hrs.
 Sampling Plan & Procedure : SOP-AAQ/15
 Analysis Duration : 28/03/2022 To 01/04/2022
 Ambient Temperature (°C) : 31.0
 Average Flow Rate of SPM (m³/min.) : 1.1
 Average Flow Rate of Gases (lpm) : 1.0
 Weather Conditions : Clear
 Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per CPCB Notification, 18th Nov 2009
1	Particulate Matter (PM10)	IS: 5182 (P-23)	80.4	µg/m ³	100.0
2	Particulate Matter (PM2.5)	EKO/CHEM/SOP/AAQ-01	46.8	µg/m ³	60.0
3	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	14.7	µg/m ³	80.0
4	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	34.1	µg/m ³	80.0
5	Carbon Monoxide (as CO)	IS: 5182 (P-10)	1.19	mg/m ³	4.0
6	Lead (as Pb)	IS: 5182 (P-22)	<0.1	µg/m ³	1.0
7	Nickel (as Ni)	EKO/CHEM/SOP/AAQ-02	<15.0	ng/m ³	20.0
8	Arsenic (as As)	EKO/CHEM/SOP/AAQ-02	<5.0	ng/m ³	6.0
9	Ozone (as O ₃)	IS: 5182 (P-9)	<10.0	µg/m ³	180.0
10	Ammonia (as NH ₃)	APHA Method 401	<20.0	µg/m ³	400.0
11	Benzene (as C ₆ H ₆)	IS: 5182 (P-11)	<1.0	µg/m ³	5.0
12	Benzo(alpha) Pyrene-Particulate Phase Only	IS: 5182 (P-12)	<1.0	ng/m ³	1.0

Notes :

- The results given above are related to the tested sample, for various parameters, as observed at the time of at the time of Sampling. The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity
- The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer. Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
- Responsibility of the Laboratory is limited to the invoiced amount only.

**** End of Report ****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
 TECHNICAL MANAGER
 (Authorised Signatory)



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Contact No.: 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT

Ambient Air Quality Monitoring

Test Report No. : EKO/114/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2, Sec - 14

IIE, Sidcul Pantnagar

Rudrapur - Uttarakhand

Sample Description : Ambient Air
Sample Drawn on : 24/03/2022 To 25/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Sampling Location : SE Corner of Lead Plant
Sampling Time : 24.0 Hrs.
Sampling Plan & Procedure : SOP-AAQ/15
Analysis Duration : 28/03/2022 To 01/04/2022
Ambient Temperature (°C) : 31.0
Average Flow Rate of SPM (m³/min.) : 1.1
Average Flow Rate of Gases (lpm) : 1.0
Weather Conditions : Clear
Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per CPCB Notification, 18th Nov 2009
1	Particulate Matter (PM10)	IS: 5182 (P-23)	74.8	µg/m ³	100.0
2	Particulate Matter (PM2.5)	EKO/CHEM/SOP/AAQ-01	46.1	µg/m ³	60.0
3	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	13.7	µg/m ³	80.0
4	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	28.9	µg/m ³	80.0
5	Carbon Monoxide (as CO)	IS: 5182 (P-10)	1.18	mg/m ³	4.0
6	Lead (as Pb)	IS: 5182 (P-22)	<0.1	µg/m ³	1.0
7	Nickel (as Ni)	EKO/CHEM/SOP/AAQ-02	<15.0	ng/m ³	20.0
8	Arsenic (as As)	EKO/CHEM/SOP/AAQ-02	<5.0	ng/m ³	6.0
9	Ozone (as O ₃)	IS: 5182 (P-9)	<10.0	µg/m ³	180.0
10	Ammonia (as NH ₃)	APHA Method 401	<20.0	µg/m ³	400.0
11	Benzene (as C ₆ H ₆)	IS: 5182 (P-11)	<1.0	µg/m ³	5.0
12	Benzo(alpha) Pyrene-Particulate Phase Only	IS: 5182 (P-12)	<1.0	ng/m ³	1.0

Notes :

- The results given above are related to the tested sample, for various parameters, as observed at the time of at the time of Sampling. The customer asked for the above tests only.
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PURNIMA CHAUHAN
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TEST REPORT**Ambient Air Quality Monitoring**

Test Report No. : EKO/113/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2, Sec - 14

IIE, Sidcul Pantnagar

Rudrapur - Uttarakhand

Sample Description : Ambient Air
 Sample Drawn on : 24/03/2022 To 25/03/2022
 Sample Drawn by : EPEPL (Mr. Harish Kumar)
 Sample Received on : 28/03/2022
 Sampling Location : Back Side of DG Area
 Sampling Time : 24.0 Hrs.
 Sampling Plan & Procedure : SOP-AAQ/15
 Analysis Duration : 28/03/2022 To 01/04/2022
 Ambient Temperature (°C) : 31.0
 Average Flow Rate of SPM (m³/min.) : 1.1
 Average Flow Rate of Gases (lpm) : 1.0
 Weather Conditions : Clear
 Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per CPCB Notification, 18th Nov 2009
1	Particulate Matter (PM ₁₀)	IS: 5182 (P-23)	83.8	µg/m ³	100.0
2	Particulate Matter (PM _{2.5})	EKO/CHEM/SOP/AAQ-01	50.4	µg/m ³	60.0
3	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	13.9	µg/m ³	80.0
4	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	32.7	µg/m ³	80.0
5	Carbon Monoxide (as CO)	IS: 5182 (P-10)	1.24	mg/m ³	4.0
6	Lead (as Pb)	IS: 5182 (P-22)	<0.1	µg/m ³	1.0
7	Nickel (as Ni)	EKO/CHEM/SOP/AAQ-02	<15.0	ng/m ³	20.0
8	Arsenic (as As)	EKO/CHEM/SOP/AAQ-02	<5.0	ng/m ³	6.0
9	Ozone (as O ₃)	IS: 5182 (P-9)	<10.0	µg/m ³	180.0
10	Ammonia (as NH ₃)	APHA Method 401	<20.0	µg/m ³	400.0
11	Benzene (as C ₆ H ₆)	IS: 5182 (P-11)	<1.0	µg/m ³	5.0
12	Benzo(alpha) Pyrene-Particulate Phase Only	IS: 5182 (P-12)	<1.0	ng/m ³	1.0

Notes :

- The results given above are related to the tested sample, for various parameters, as observed at the time of at the time of Sampling. The customer asked for the above tests only.
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TEST REPORT**Ambient Air Quality Monitoring**

Test Report No. : EKO/116/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2, Sec - 14

IIE, Sidcul Panthnagar

Rudrapur - Uttarakhand

Sample Description : Ambient Air
Sample Drawn on : 24/03/2022 To 25/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Sampling Location : Canteen East Side in New Plant
Sampling Time : 24.0 Hrs.
Sampling Plan & Procedure : SOP-AAQ/15
Analysis Duration : 28/03/2022 To 01/04/2022
Ambient Temperature (°C) : 31.0
Average Flow Rate of SPM (m³/min.) : 1.1
Average Flow Rate of Gases (lpm) : 1.0
Weather Conditions : Clear
Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per CPCB Notification, 18th Nov 2009
1	Particulate Matter (PM10)	IS: 5182 (P-23)	82.4	µg/m ³	100.0
2	Particulate Matter (PM2.5)	EKO/CHEM/SOP/AAQ-01	46.1	µg/m ³	60.0
3	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	15.1	µg/m ³	80.0
4	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	32.4	µg/m ³	80.0
5	Carbon Monoxide (as CO)	IS: 5182 (P-10)	1.14	mg/m ³	4.0
6	Lead (as Pb)	IS: 5182 (P-22)	<0.1	µg/m ³	1.0
7	Nickel (as Ni)	EKO/CHEM/SOP/AAQ-02	<15.0	ng/m ³	20.0
8	Arsenic (as As)	EKO/CHEM/SOP/AAQ-02	<5.0	ng/m ³	6.0
9	Ozone (as O ₃)	IS: 5182 (P-9)	<10.0	µg/m ³	180.0
10	Ammonia (as NH ₃)	APHA Method 401	<20.0	µg/m ³	400.0
11	Benzene (as C ₆ H ₆)	IS: 5182 (P-11)	<1.0	µg/m ³	5.0
12	Benzo(alpha) Pyrene-Particulate Phase Only	IS: 5182 (P-12)	<1.0	ng/m ³	1.0

Notes :

- The results given above are related to the tested sample, for various parameters, as observed at the time of at the time of Sampling. The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity
- The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer. Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
- Responsibility of the Laboratory is limited to the invoiced amount only.

**** End of Report ****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
TECHNICAL MANAGER
(Authorised Signatory)

**EKO PRO ENGINEERS PVT. LTD.**

Environmental Consultants and Analytical Laboratory

(An ISO 9001:2015 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
 Contact No : 9818405427, 9810240678, 8826344487 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT**Stack Emission Analysis**

Test Report No. : EKO/120/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2 Sector -14

IIE, Sidcul Panthnagar

Rudrapur - (Uttarakhand)

Sample Description	: Stack Emission
Sample Drawn on	: 24/03/2022
Sample Drawn by	: EPEPL (Mr. Harish Kumar)
Sample Received on	: 28/03/2022
Time of Sampling (minutes)	: 30.0
Sampling Location	: NA
Sampling Plan & Procedure	: SOP-SE/09
Analysis Duration	: 28/03/2022 To 01/04/2022
Source of Emission	: Stack Attached To Furnace No. 1
Capacity	: 30.0 TPH
Operating Load	: Normal
Normal Operation Schedule	: As per requirement
Type of Stack	: Metal/Circular
Diameter of Stack (meter)	: 1.2 at top
Height of Stack from Ground Level (meter)	: 30.0
Height of Stack from Roof Level (meter)	: 10.5
Height of Sampling Location (meter)	: 19.8 From Ground Level
Type of Fuel Used	: Electricity
Fuel Consumed per hour	: -
Ambient Temperature (°C)	: 31.0
Stack Temperature (°C)	: 130.0
Average Velocity of Flue Emission (m/sec)	: 7.7
Average Flow Rate (lpm)	: 17.5
Control Measures (if any)	: Nil
Remark (if any)	: Sampling Instrument Used-Stack Monitoring kit APM-610

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per EPA-1986 Schedule -VI Part-D
1	Particulate Matter (as PM)	IS: 11255 (P-1)	25.8	mg/Nm ³	150.0
2	Sulphur Dioxide (as SO ₂)	IS: 11255 (P-2)	9.28	mg/Nm ³	-
3	Oxide of Nitrogen (as NO _x)	IS: 11255 (P-7)	46.7	mg/Nm ³	-
4	Carbon Monoxide (as CO)	IS: 13270	<0.2	% V/V	1.0
5	Lead (as Pb)	USEPA (P-12)	<1.0	mg/Nm ³	10.0
6	Total Hydrocarbon (as HC)	IS: 5182 (P-17)	ND	mg/Nm ³	-
7	Total VOC	IS: 5182 (P-11)	ND	mg/Nm ³	-

Notes :

- The results given above are related to the tested sample, for various parameters, as observed at the time of Sampling. The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity
- The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer.
- Responsibility of the Laboratory is limited to the invoiced amount only.

**** End of Report ****

For EKO PRO ENGINEERS PVT. LTD.

RURNIMA CHANDAN
 TECHNICAL MANAGER
 (Authorised Signatory)

**EKO PRO ENGINEERS PVT. LTD.**Environmental Consultants and Analytical Laboratory
(An ISO 9001:2015 Certified Company)Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
Contact No.: 9818405427, 9810240678, 8826344487 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in**TEST REPORT****Stack Emission Analysis**

Test Report No. : EKO/121/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED
Plot No. 2 Sector -14
IIE, Sidcul Pantnagar
Rudrapur - (Uttarakhand)

Sample Description : Stack Emission
Sample Drawn on : 24/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Time of Sampling (minutes) : 30.0
Sampling Location : NA
Sampling Plan & Procedure : SOP-SE/09
Analysis Duration : 28/03/2022 To 01/04/2022
Source of Emission : Stack Attached To Furnace No. 2
Capacity : 30.0 TPH
Operating Load : Normal
Normal Operation Schedule : As per requirement
Type of Stack : Metal/Circular
Diameter of Stack (meter) : 1.2 at top
Height of Stack from Ground Level (meter) : 30.0
Height of Stack from Roof Level (meter) : 10.5
Height of Sampling Location (meter) : 19.8 From Ground Level
Type of Fuel Used : Electricity
Fuel Consumed per hour : -
Ambient Temperature (°C) : 31.0
Stack Temperature (°C) : 135.0
Average Velocity of Flue Emission (m/sec) : 7.5
Average Flow Rate (lpm) : 18.1
Control Measures (if any) : Nil
Remark (if any) : Sampling Instrument Used-Stack Monitoring kit APM-610

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per EPA-1986 Schedule -VI Part-D
1	Particulate Matter (as PM)	IS: 11255 (P-1)	30.4	mg/Nm ³	150.0
2	Sulphur Dioxide (as SO ₂)	IS: 11255 (P-2)	10.71	mg/Nm ³	-
3	Oxide of Nitrogen (as NO _x)	IS: 11255 (P-7)	48.8	mg/Nm ³	-
4	Carbon Monoxide (as CO)	IS: 13270	<0.2	% V/V	1.0
5	Lead (as Pb)	USEPA (P-12)	<1.0	mg/Nm ³	10.0
6	Total Hydrocarbon (as HC)	IS: 5182 (P-17)	ND	mg/Nm ³	-
7	Total VOC	IS: 5182 (P-11)	ND	mg/Nm ³	-

Notes :

1. The results given above are related to the tested sample, for various parameters, as observed at the time of Sampling. The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
3. The test report will not be used for any publicity.
4. The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer.
5. Responsibility of the Laboratory is limited to the invoiced amount only.

**** End of Report ****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
TECHNICAL MANAGER
(Authorized Signatory)

**EKO PRO ENGINEERS PVT. LTD.**

Environmental Consultants and Analytical Laboratory
(An ISO 9001:2015 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
Contact No. : 9818405427, 9810240678, 8826344487 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT**Stack Emission Analysis**

Test Report No. : EKO/126/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED.

Plot No. 2 Sec-14

IIE, Sidcul Panthnagar

Rudrapur - Uttarakhand

Sample Description : Stack Emission
Sample Drawn on : 25/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Time of Sampling (minutes) : 30.0
Sampling Location : NA
Sampling Plan & Procedure : SOP-SE/09
Analysis Duration : 28/03/2022 To 01/04/2022
Source of Emission : Stack Attached To Lead Kettles
Capacity : 180 MT*5 Port
Operating Load : Normal
Normal Operation Schedule : As per requirement
Type of Stack : Metal Only
Diameter of Stack (meter) : 1.2 at top
Height of Stack from Ground Level (meter) : 40.0
Height of Stack from Roof Level (meter) : 24.5
Height of Sampling Location (meter) : 23.3 From Ground Level
Type of Fuel Used : HSD/PNG
Fuel Consumed per hour : 200.0 lph.
Ambient Temperature (°C) : 31.0
Stack Temperature (°C) : 165.0
Average Velocity of Flue Emission (m/sec) : 9.2
Average Flow Rate (lpm) : 22.5
Control Measures (if any) : Nil
Remark (if any) : Sampling Instrument Used-Stack Monitoring kit APM-610

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per EPA-1986 Schedule -VI Part-D
1	Particulate Matter (as PM)	IS: 11255 (P-1)	36.8	mg/Nm ³	150.0
2	Sulphur Dioxide (as SO ₂)	IS: 11255 (P-2)	11.2	mg/Nm ³	-
3	Oxide of Nitrogen (as NOx)	IS: 11255 (P-7)	57.8	mg/Nm ³	-
4	Carbon Monoxide (as CO)	IS: 13270	<0.2	% V/V	1.0
5	Lead (as Pb)	USEPA (P-12)	<1.0	mg/Nm ³	10.0
6	Total Hydrocarbon (as HC)	IS: 5182 (P-17)	ND	mg/Nm ³	-
7	Total VOC	IS: 5182 (P-11)	ND	mg/Nm ³	-

Notes :

- The results given above are related to the tested sample, for various parameters, as observed at the time of Sampling. The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity
- The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer.
- Responsibility of the Laboratory is limited to the invoiced amount only.

**** End of Report ****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
TECHNICAL MANAGER
(Authorized Signatory)

**EKO PRO ENGINEERS PVT. LTD.**Environmental Consultants and Analytical Laboratory
(An ISO 9001:2015 Certified Company)Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
Contact No.: 9818405427, 9810240678, 8826344487 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in**TEST REPORT****Stack Emission Analysis**

Test Report No. : EKO/124/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED
Plot No. 2 Sector -14
IIE, Sidcul Panthnagar
Rudrapur - (Uttarakhand)

Sample Description	: Stack Emission
Sample Drawn on	: 25/03/2022
Sample Drawn by	: EPEPL (Mr. Harish Kumar)
Sample Received on	: 28/03/2022
Time of Sampling (minutes)	: 30.0
Sampling Location	: NA
Sampling Plan & Procedure	: SOP-SE/09
Analysis Duration	: 28/03/2022 To 01/04/2022
Source of Emission	: Stack Attached To DG Set No. 1
Capacity	: 7.5 MW
Operating Load	: Normal
Normal Operation Schedule	: As per requirement
Type of Stack	: Metal/Circular
Diameter of Stack (meter)	: 1.1
Height of Stack from Ground Level (meter)	: 50.0
Height of Stack from Roof Level (meter)	: 36.0
Height of Sampling Location (meter)	: 24.0 From Ground Level
Type of Fuel Used	: HSD
Fuel Consumed per hour	: 1600.0 lph
Ambient Temperature (°C)	: 31.0
Stack Temperature (°C)	: 260.0
Average Velocity of Flue Emission (m/sec)	: 13.4
Average Flow Rate (lpm)	: 17.9
Control Measures (if any)	: Nil
Remark (if any)	: Sampling Instrument Used-Stack Monitoring kit APM-610

RESULTS

S.No.	Parameters	Test Methods	Results	Units	Limits as per EPA-1986, (SL-96 Schedule-I)
1	Particulate Matter (as PM)	IS: 11255 (P-1)	32.4	mg/Nm ³	75.0
2	Sulphur Dioxide (as SO ₂)	IS: 11255 (P-2)	26.1	mg/Nm ³	-
3	Oxide of Nitrogen (as NOx)	IS: 11255 (P-7)	231.8	mg/Nm ³	710.0
4	Carbon Monoxide (as CO)	USEPA (P-10)	61.7	mg/Nm ³	150.0
5	NMHC	IS: 5182 (P-21)	19.4	mg/Nm ³	100.0
6	Total VOC	IS: 5182 (P-11)	ND	mg/Nm ³	-

Remark- PM, NOx, & CO at 15% O₂ Correction.**Notes :**

1. The results given above are related to the tested sample, for various parameters, as observed at the time of Sampling. The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
3. The test report will not be used for any publicity
4. The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer.
5. Responsibility of the Laboratory is limited to the invoiced amount only.

**** End of Report ****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHADHAN
TECHNICAL MANAGER
(Authorised Signatory)

EKO PRO ENGINEERS PVT. LTD.Environmental Consultants and Analytical Laboratory
(An ISO 9001:2015 Certified Company)Office & Laboratory : 33/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
Contact No. : 9810405427, 9810240678, 8826344487 E-mail : anal@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in**TEST REPORT****Stack Emission Analysis**

Test Report No. : EKO/125/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2 Sector -14

IIE, Sidcul Panthnagar

Rudrapur - (Uttarakhand)

Sample Description : Stack Emission
 Sample Drawn on : 25/03/2022
 Sample Drawn by : EPEPL (Mr. Harish Kumar)
 Sample Received on : 28/03/2022
 Time of Sampling (minutes) : 30.0
 Sampling Location : NA
 Sampling Plan & Procedure : SOP-SE/09
 Analysis Duration : 28/03/2022 To 01/04/2022
 Source of Emission : Stack Attached To DG Set No. 2
 Capacity : 7.5 MW
 Operating Load : Normal
 Normal Operation Schedule : As per requirement
 Type of Stack : Metal/Circular
 Diameter of Stack (meter) : 1.1
 Height of Stack from Ground Level (meter) : 50.0
 Height of Stack from Roof Level (meter) : 36.0
 Height of Sampling Location (meter) : 24.0 From Ground Level
 Type of Fuel Used : HSD
 Fuel Consumed per hour : 1600.0 lph
 Ambient Temperature (°C) : 31.0
 Stack Temperature (°C) : 262.0
 Average Velocity of Flue Emission (m/sec) : 12.7
 Average Flow Rate (lpm) : 17.3
 Control Measures (if any) : Nil
 Remark (if any) : Sampling Instrument Used-Stack Monitoring kit APM-610

RESULTS

S.No.	Parameters	Test Methods	Results	Units	Limits as per EPA-1986, (SL-96 Schedule-I)
1	Particulate Matter (as PM)	IS: 11255 (P-1)	36.7	mg/Nm ³	75.0
2	Sulphur Dioxide (as SO ₂)	IS: 11255 (P-2)	25.2	mg/Nm ³	-
3	Oxide of Nitrogen (as NO _x)	IS: 11255 (P-7)	218.4	mg/Nm ³	710.0
4	Carbon Monoxide (as CO)	USEPA (P-10)	75.1	mg/Nm ³	150.0
5	NMHC	IS: 5182 (P-21)	19.3	mg/Nm ³	100.0
6	Total VOC	IS: 5182 (P-11)	ND	mg/Nm ³	-

Remark- PM, NO_x, & CO at 15% O₂ Correction.**Notes :**

1. The results given above are related to the tested sample, for various parameters, as observed at the time of Sampling. The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
3. The test report will not be used for any publicity
4. The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer.
5. Responsibility of the Laboratory is limited to the invoiced amount only.

**** End of Report ****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA GHOSHAN

TECHNICAL MANAGER

(Authorized Signatory)

**EKO PRO ENGINEERS PVT. LTD.**

Environmental Consultants and Analytical Laboratory

(An ISO 9001:2015 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
 Contact No.: 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT**Workzone Air Quality Monitoring**

Test Report No. : EKO/128/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED.

Plot No. 2 Sec-14

IIE, Sidcul Pantnagar

Rudrapur - Uttarakhand

Sample Description : Workzone Air
 Sample Drawn on : 24/03/2022
 Sample Drawn by : EPEPL (Mr. Harish Kumar)
 Sample Received on : 28/03/2022
 Sampling Location : Zinc Casting Machine Floor
 Sampling Plan & Procedure : SOP-AAQ/15
 Analysis Duration : 28/03/2022 To 01/04/2022
 Sampling Time : 08 Hrs.
 Ambient Temperature (°C) : 26.0
 Average Flow Rate of SPM (m³/min) : 1.65
 Average Flow Rate of Gases (lpm) : 1.65
 Weather Condition : Clear
 Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Permissible Limits
1	SPM	IS: 5182 (P-4)	0.742	mg/m ³	15.0 as per OSHA
2	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	0.009	mg/m ³	5.0 as per Factories Act, 1948
3	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	0.024	mg/m ³	6.0 as per Factories Act, 1948
4	Lead (as Pb)	EKO/CHEM/SOP/AAQ-02	< 0.1	mg/m ³	0.15 as per Factories Act, 1948
5	Zinc (as Zn)	EKO/CHEM/SOP/AAQ-02	< 0.1	mg/m ³	-

Notes :

- The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity/legal purpose.
- The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer. Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
- Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA MAHAJAN
 TECHNICAL MANAGER
 (Authorised Signatory)

**EKO PRO ENGINEERS PVT. LTD.**

Environmental Consultants and Analytical Laboratory

(An ISO 9001:2015 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
 Contact No.: 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT**Workzone Air Quality Monitoring**

Test Report No. : EKO/132/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED.

Plot No. 2 Sec-14

: IIE, Sidcul Pantnagar

Rudrapur - Uttarakhand

Sample Description : Workzone Air
 Sample Drawn on : 25/03/2022
 Sample Drawn by : EPEPL (Mr. Harish Kumar)
 Sample Received on : 28/03/2022
 Sampling Location : Lead Furnace Top Floor
 Sampling Plan & Procedure : SOP-AAQ/15
 Analysis Duration : 28/03/2022 To 01/04/2022
 Sampling Time : 08 Hrs.
 Ambient Temperature (°C) : 26.0
 Average Flow Rate of SPM (m³/min) : 1.7
 Average Flow Rate of Gases (lpm) : 1.7
 Weather Condition : Clear
 Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Permissible Limits
1	SPM	IS: 5182 (P-4)	1.264	mg/m ³	15.0 as per OSHA
2	Sulphur Dioxide (as SO ₂)	IS: 5182 (P-2)	0.011	mg/m ³	5.0 as per Factories Act, 1948
3	Nitrogen Dioxide (as NO ₂)	IS: 5182 (P-6)	0.021	mg/m ³	6.0 as per Factories Act, 1948
4	Lead (as Pb)	EKO/CHEM/SOP/AAQ-02	< 0.1	mg/m ³	0.15 as per Factories Act, 1948
5	Zinc (as Zn)	EKO/CHEM/SOP/AAQ-02	< 0.1	mg/m ³	-

Notes :

- The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity/legal purpose.
- The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer. Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
- Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
 TECHNICAL MANAGER
 (Authorised Signatory)

EKO PRO ENGINEERS PVT. LTD.

Environmental Consultants and Analytical Laboratory

(An ISO 9001:2015 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA
 Contact No. : 9711159210, 9810240837, 9810240675 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT

Water Sample Analysis

Test Report No. : EKO/144/280322-A

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED,

Plot No. 2 Sec-14

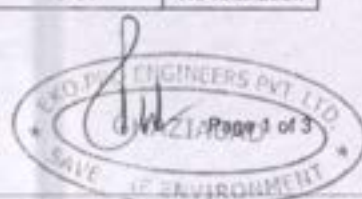
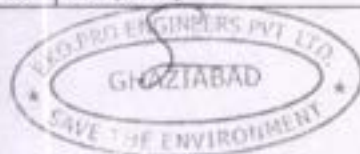
IIE, Sidcul Pantnagar

Rudrapur - Uttarakhand

Sample Description : Ground Water
 Sample Drawn on : 26/03/2022
 Sample Drawn by : EPEPL (Mr. Harish Kumar)
 Sample Received on : 28/03/2022
 Sampling Location : From Borewell
 Sampling Plan & Procedure : SOP-W/66
 Sample Quantity : 3.0 Litre
 Environmental Conditions : Normal
 Analysis Duration : 28/03/2022 To 01/04/2022
 Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per IS:10500-2012 (Amd.No.3 Feb-2021)	
					Acceptable	Permissible
1	Colour	IS: 3025 (P-4)	< 1.0	Hazen	5.0	15.0
2	Odour	IS: 3025 (P-5)	Agreeable	-	Agreeable	Agreeable
3	Taste	IS: 3025 (P-7)	Agreeable	-	Agreeable	Agreeable
4	Turbidity	IS: 3025 (P-10)	< 1.0	NTU	1.0	5.0
5	pH	IS: 3025 (P-11)	7.38	-	6.5-8.5	No relaxation
6	Total Hardness (as CaCO ₃)	IS: 3025 (P-21)	142.0	mg/L	200.0	600.0
7	Calcium (as Ca)	IS: 3025 (P-40)	34.07	mg/L	75.0	200.0
8	Iron (as Fe)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	1.0	No relaxation
9	Chloride (as Cl)	IS: 3025 (P-32)	34.5	mg/L	250.0	1000.0
10	Sodium (as Na)	APHA 3500-Na	11.8	mg/L	-	-
11	Potassium (as K)	IS 3025 (Part-45)	<1.0	mg/L	-	-
12	Chloramines (as Cl ₂)	IS: 3025 (P-26)	<1.0	mg/L	4.0	No relaxation
13	Fluoride (as F)	IS: 3025 (P-60)	< 1.0	mg/L	1.0	1.5
14	Total Dissolved Solids	IS: 3025 (P-16)	340.0	mg/L	500.0	2000.0
15	Magnesium (as Mg)	IS: 3025 (P-46)	13.9	mg/L	30.0	100.0
16	Copper (as Cu)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.05	1.5
17	Manganese (as Mn)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.1	0.3
18	Sulphate (as SO ₄)	IS: 3025 (P-24)	30.4	mg/L	200.0	400.0
19	Nitrate (as NO ₃)	IS: 3025 (P-34)	1.18	mg/L	45.0	No relaxation
20	Phenolic Compounds (as C ₆ H ₅ OH)	IS: 3025 (P-43)	< 0.001	mg/L	0.001	0.002
21	Mercury (as Hg)	EKO/CHEM/SOP-ICPMS/W-01	< 0.001	mg/L	0.001	No relaxation
22	Selenium (as Se)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.01	No relaxation
23	Arsenic (as As)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.01	No relaxation
24	Cyanide (as CN)	APHA 4500 CN-K	Absent	mg/L	0.05	No relaxation
25	Lead (as Pb)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.01	No relaxation

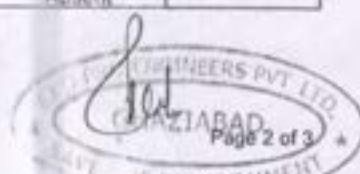
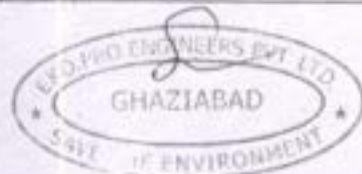


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 Contact No. : 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

Test Report No. : EKO/144/280322-A

Issue Date : 01/04/2022

26	Zinc (as Zn)	EKO/CHEM/SOP-ICPMS/W-01	< 0.01	mg/L	5.0	15.0
27	Barium (as Ba)	EKO/CHEM/SOP-ICPMS/W-01	< 0.01	mg/L	0.7	No relaxation
28	Mineral Oil	IS: 3025 (P-39)	ND (LOQ-0.1)	mg/L	1.0	No relaxation
29	Ammonia (as Total Ammonia-N)	IS: 3025 (P-34)	< 0.1	mg/L	0.5	No relaxation
30	Silver (as Ag)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.1	No relaxation
31	Total Chromium (as Cr)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.05	No relaxation
32	Total Alkalinity (as CaCO ₃)	IS: 3025 (P-23)	134.0	mg/L	200.0	600.0
33	Aluminium (as Al)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.03	0.2
34	Boron (as B)	IS: 3025 (P-57)	< 0.25	mg/L	0.5	2.4
35	Cadmium (as Cd)	EKO/CHEM/SOP-ICPMS/W-01	< 0.001	mg/L	0.003	No relaxation
36	Anionic Detergents (as MBAS)	APHA 5540	< 0.1	mg/L	0.2	1.0
37	Sulphide (as H ₂ S)	IS: 3025 (P-29)	< 0.05	mg/L	0.05	No relaxation
38	Molybdenum (as Mo)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.07	No relaxation
39	Nickel (as Ni)	EKO/CHEM/SOP-ICPMS/W-01	< 0.005	mg/L	0.02	No relaxation
40	Polychlorinated biphenyls (PCB)	EKO/CHEM/SOP-GCMSMS/W-02	ND (LOQ-0.00001)	mg/L	0.0005	No relaxation
41	Polycyclic aromatic hydrocarbons (PAH)	EKO/CHEM/SOP-GCMSMS/W-03	ND (LOQ-0.00001)	mg/L	0.0001	No relaxation
42	Atrazine	EKO/CHEM/SOP-GCMSMS/W-01	ND (LOQ-0.01)	µg/l	2.0	No relaxation
43	Alachlor		ND (LOQ-0.01)	µg/l	20.0	No relaxation
44	Aldrin/Dieldrin		ND (LOQ-0.01)	µg/l	0.03	No relaxation
45	Alpha HCH		ND (LOQ-0.01)	µg/l	0.01	No relaxation
46	Beta HCH		ND (LOQ-0.01)	µg/l	0.04	No relaxation
47	Butachlor		ND (LOQ-0.01)	µg/l	125.0	No relaxation
48	Chlorpyrifos		ND (LOQ-0.01)	µg/l	30.0	No relaxation
49	Delta HCH		ND (LOQ-0.01)	µg/l	0.04	No relaxation
50	DDT (o,p and p,p-isomers of DDT, DDE and DDD)		ND (LOQ-0.01)	µg/l	1.0	No relaxation
51	Endosulfan (Alpha, Beta & Sulphate)		ND (LOQ-0.01)	µg/l	0.4	No relaxation
52	Ethion		ND (LOQ-0.01)	µg/l	3.0	No relaxation
53	Gamma-HCH (Lindane)		ND (LOQ-0.01)	µg/l	2.0	No relaxation
54	Malathion		ND (LOQ-0.01)	µg/l	190.0	No relaxation
55	Methyl parathion		ND (LOQ-0.01)	µg/l	0.3	No relaxation
56	Monocrotophos		ND (LOQ-0.01)	µg/l	1.0	No relaxation
57	Phorate		ND (LOQ-0.01)	µg/l	2.0	No relaxation
58	2,4 Dichlorophenoxyacetic acid	EKO/CHEM/SOP-LCMS/W-01	ND (LOQ-0.01)	µg/l	30.0	No relaxation
59	Isoproturon		ND (LOQ-0.01)	µg/l	9.0	No relaxation
60	Bromoform	APHA 6232	< 0.05	mg/L	0.1	No relaxation
61	Dibromochloromethane	APHA 6232	< 0.05	mg/L	0.1	No relaxation
62	Bromodichloromethane	APHA 6232	< 0.05	mg/L	0.06	No relaxation
63	Chloroform	APHA 6232	< 0.05	mg/L	0.2	No relaxation
64	Total Coliform	IS: 1622	Absent	MPN/100ml	Should be Absent	No relaxation
65	E.coli	IS: 1622	Absent	Per 100mL	Should be Absent	No relaxation



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Environmental Consultants and Analytical Laboratory

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 Contact No.: 9711159210, 9810240837, 9810240678 E-mail: email@ekopro.in, ekoproengineers@gmail.com, website: www.ekopro.in

Test Report No. : EKO/144/280322-A

Issue Date : 01/04/2022

Remark:- Standard Applicable only for Drinking Water.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
3. The test report will not be used for any publicity/legal purpose.
4. The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer. Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
5. Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.

SHIVANGI SINGH RAIZADA
SECTION INCHARGE MICROBIOLOGY

(Authorized Signatory)

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
TECHNICAL MANAGER

(Authorized Signatory)



Contact : +91 - 9810243870

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TEST REPORT**Effluent Sample Analysis**

Test Report No. : EKO/148/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2 Sector -14

IIE, Sidcul Panthnagar

Rudrapur - (Uttarakhand)

Sample Description : STP Outlet (After Ultrafiltration)
Sample Drawn on : 26/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Sampling Location : From STP Plant
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 2.0 Litre
Environmental Condition : Normal
Analysis Duration : 28/03/2022 To 01/04/2022
Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Method	Results	Units	Limits as per CPCB (EPR-1986 Schedule- VI Part-A)
1	pH	IS : 3025 (P-11)	6.81	-	5.5-9.0
2	Total Suspended Solids	IS : 3025 (P-17)	18.0	mg/l	100.0
3	COD (as O ₂)	IS : 3025 (P-58)	34.7	mg/l	250.0
4	BOD (@27°C for 3 days)	IS : 3025 (P-44)	8.8	mg/l	30.0
5	Total Nitrogen (as N)	APHA 4500 N	3.71	mg/l	100.0
6	Phosphate (as P)	IS : 3025 (P-31)	0.58	mg/l	5.0
7	Ammonical Nitrogen (as N)	APHA 4500 NH ₃	1.39	mg/l	50.0
8	Faecal Coliform	APHA 9221 E	40	MPN/100ml	1000.0

Notes:

- The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity
- The test samples will be disposed off after 15 days from the date of reporting of result, unless until specified by the customer. Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
- Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.

SHIVANGI SINGH RAIZADA
SECTION INCHARGE MICROBIOLOGY
(Authorised Signatory)

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
TECHNICAL MANAGER
(Authorised Signatory)

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Contact No. : 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekopropengineers@gmail.com, website : www.ekopro.in

Noise Monitoring

Issue Date : 01/04/2022

Sample Description	: Ambient Noise
Sample Drawn on	: 25/03/2022
Sample Drawn by	: EPEPL (Mr. Harish Kumar)
Sample Received on	: 28/03/2022
Sampling Location	: Near Compressor Area
Sampling Plan & Procedure	: SOP-N/01
Weather Condition	: Normal
Analysis Duration	: 28/03/2022 To 29/03/2022
Remark (if any)	: NA

S. No.	Parameters	Test Methods	Results	Units	Limits as per "The Noise Pollution (Regulation & Control) Rules, 2000"
1	Leq (Day Time)	EKO/CHEM/SOP/S/N-01	70.8	dB (A)	75.0
2	Leq (Night Time)	EKO/CHEM/SOP/S/N-01	65.1	dB (A)	70.0

1. The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
3. The test report will not be used for any publicity
4. Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

* PURNIMA CHAUHAN
TECHNICAL MANAGER
(Authorised Signatory)

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Environmental Consultants and Analytical Laboratory

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TEST REPORT**Noise Monitoring**

Test Report No. : EKO/134/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2 Sector-14

IIE, Sidcul Pantnagar

Rudrapur - (Uttarakhand)

Sample Description : Ambient Noise
Sample Drawn on : 25/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Sampling Location : Back Side of DG Area
Sampling Plan & Procedure : SOP-N/01
Weather Condition : Normal
Analysis Duration : 28/03/2022 To 29/03/2022
Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per "The Noise Pollution (Regulation & Control) Rules, 2000"
1	Leq (Day Time)	EKO/CHEM/SOP/S/N-01	69.8	dB (A)	75.0
2	Leq (Night Time)	EKO/CHEM/SOP/S/N-01	61.2	dB (A)	70.0

Notes :

- The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
- The test report will not be used for any publicity
- Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.

* PURNIMA CHAUHAN
TECHNICAL MANAGER
(Authorised Signatory)

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TEST REPORT**Noise Monitoring**

Test Report No. : EKO/136/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2 Sector-14

IIE, Sidcul Pantnagar

Rudrapur - (Uttarakhand)

Sample Description : Ambient Noise
Sample Drawn on : 25/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Sampling Location : East Side of Canteen In New Plant
Sampling Plan & Procedure : SOP-N/01
Weather Condition : Normal
Analysis Duration : 28/03/2022 To 29/03/2022
Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per "The Noise Pollution (Regulation & Control) Rules, 2000"
1	Leq (Day Time)	EKO/CHEM/SOP/S/N-01	70.9	dB (A)	75.0
2	Leq (Night Time)	EKO/CHEM/SOP/S/N-01	60.4	dB (A)	70.0

Notes :

1. The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
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3. The test report will not be used for any publicity
4. Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA DIXIT
TECHNICAL MANAGER
(Authorised Signatory)



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TEST REPORT**Noise Monitoring**

Test Report No. : EKO/139/280322

Issue Date : 01/04/2022

Issued To

: HINDUSTAN ZINC LIMITED

Plot No. 2 Sec-14

IIE, Sidcul Pantnagar

Rudrapur - Uttarakhand

Sample Description

: Workzone Noise

Sample Drawn on

: 25/03/2022

Sample Drawn by

: EPEPL (Mr. Harish Kumar)

Sample Received on

: 28/03/2022

Sampling Location

: Zinc M&C Area

Sampling Plan & Procedure

: SOP-N/01

Weather Condition

: Normal

Analysis Duration

: 28/03/2022 To 29/03/2022

Remark (if any)

: NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per "The Noise Pollution (Regulation & Control) Rules, 2000"
1	Leq (Day Time)	EKO/CHEM/SOP/S/N-01	73.9	dB (A)	75.0
2	Leq (Night Time)	EKO/CHEM/SOP/S/N-01	67.8	dB (A)	70.0

Notes :

- The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
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****End of Report****

For EKO PRO ENGINEERS PVT. LTD.

PURNIMA CHAUHAN
TECHNICAL MANAGER
(Authorised Signatory)

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TEST REPORT**Noise Monitoring**

Test Report No. : EKO/143/280322

Issue Date : 01/04/2022

Issued To : HINDUSTAN ZINC LIMITED.
Plot No. 2 Sec-14
IIE, Sidcul Panthnagar
Rudrapur - Uttarakhand

Sample Description : Workzone Noise
Sample Drawn on : 25/03/2022
Sample Drawn by : EPEPL (Mr. Harish Kumar)
Sample Received on : 28/03/2022
Sampling Location : Lead M&C Area
Sampling Plan & Procedure : SOP-N/01
Weather Condition : Normal
Analysis Duration : 28/03/2022 To 29/03/2022
Remark (if any) : NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per "The Noise Pollution (Regulation & Control) Rules, 2000"
1	Leq (Day Time)	EKO/CHEM/SOP/S/N-01	71.8	dB (A)	75.0
2	Leq (Night Time)	EKO/CHEM/SOP/S/N-01	66.4	dB (A)	70.0

Notes :

- The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
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- Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.
(PURNIMA CHAUHAN)
TECHNICAL MANAGER
(Authorised Signatory)

CAAQMS



PH analyzer installed at stack



PM analyzer

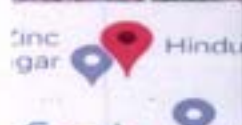
Rain Water Storage Pond HZL-Pantnagar

(ANNEXURE-3)

Ground Water Withdrawal FY 2021-22			
Month	Ground Water Withdrawal	UOM	Rain water utilization
Apr-21	6527	Cu.m	0
May-21	4558	Cu.m	968
Jun-21	1947	Cu.m	2972
Jul-21	1835	Cu.m	3205
Aug-21	1133	Cu.m	3125
Sep-21	1107	Cu.m	2612
Oct-21	955	Cu.m	4135
Nov-21	912	Cu.m	3434
Dec-21	3701	Cu.m	129
Jan-22	2873	Cu.m	651
Feb-22	1895	Cu.m	1387
Mar-22	4447	Cu.m	548
Total	31,890	Cu.m	23,166

- All reading recorded in cubic meter.

Water Withdrawal Point – Borewell



Tanda Range, Uttarakhand, India
Hindustan Zinc Ltd Rd, Tanda Range, Uttarakhand 263153,
India
Lat 29.036083°
Long 79.396594°

Rain Water Storage Pond HZL-Pantnagar



Pond No-1



Pond No-2



Pond No-3



Pond No-4

ANNEXURE-4

On-Going CSR Activities at PMP FY2021-22



Youth Skill Development Program- Imparting Skill training 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 FY2021-22



निःशुल्क नेत्र जांच शिविर आयोजित

2007年12月15日，在2007年中国足协杯决赛中，北京国安队以1比0战胜山东鲁能队，夺得队史首个足协杯冠军。图中为国安队主教练金志扬在赛后与球员们庆祝。



On-Going CSR Activities at PMP FY2021-22



Women 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 FY2021-22



Misc. activities-

- Donation of 20 Nos. Oxygen Concentrators to State Covid-19 relief facility, Dehradun for the benefit to general public of Uttarakhand.
- 1000 Dry ration packets distributed through District Administration to the flood affected families of Rudrapur in the month of Oct'21.
- 12 bed ICU Ward equipments at Covid Hospital, Govt. of Uttarakhand is under pipeline.

On-Going CSR Activities at PMP FY2021-22



Misc. activities-

- Glimpse of Basic Fire Fighting and Self Defense Awareness Program conducted in Nearby Girl Schools under CSR initiatives

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	