

Registered AD

HZL/DZS/A-01/ENV/2019/  
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Date: 21-11-2019

To,  
Director,  
Ministry of Environment & Forest  
Regional Office (Central)  
Kendriya Bhawan, 5<sup>th</sup> Floor, Sector 'H' Aliganj,  
Lucknow-226024

**Sub: Compliance Status for Zinc Smelter (80,000 TPA to 1, 00,000 TPA) at Debari,  
Udaipur, Rajasthan by Hindustan Zinc Limited**

**Ref: J-11011/479/2006-IA.II (I) dated 19th / 25th March, 2008**

Dear Sir,

With reference to above mentioned subject, please find enclosed herewith the compliance report of stipulated conditions of Environmental clearance for the period from April 2019 to September 2019 for Zinc Smelter, Debari.

Thanking you,  
Yours faithfully



(Anil Tripathi)  
Director, Zinc Smelter Debari

CC:

1. Member Secretary,  
Rajasthan State Pollution Control Board  
4, Institutional Area, Jhalana Doongri,  
Jaipur-302004
2. Regional Officer,  
Rajasthan State Pollution Control Board  
F-470, Mewar Industrial Area, Udaipur (RAJ.) -313001
3. Scientist 'D' & In charge  
Zonal Office (Central),  
Central Pollution Control Board, 3<sup>rd</sup> Floor, Sahkar Bhawan,  
North T.T. Nagar, Bhopal-462003

**Hindustan Zinc Limited**

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T +91-2942658028 F +91-2942658147 www.hzindia.com  
Registered Office: Yashad Bhawan, Udaipur (Rajasthan)- 313 004  
CIN : L27204RJ1966PLC001208

## Status of EC compliance

**Name of the project:** Expansion of Zinc Smelter (80,000TPA to 1, 00,000TPA) at Debari, Udaipur Rajasthan by M/s Hindustan Zinc Ltd. – Environmental clearance regarding

**Project Code:**

**Clearance Letter No. :** J-11011/479/2006-IA.II (I) dated 19<sup>th</sup> / 25<sup>th</sup> March, 2008

**Period of Compliance Report:** April-19 to September-2019

**Specific Conditions:**

Sr.No	Condition	Compliance Status
1	The company shall install on-line stack emission monitoring equipments for continuous monitoring of SO <sub>2</sub> , NO <sub>x</sub> , SPM and O <sub>2</sub> and all the pollution control measures shall be inter-locked. The company shall install fume extractors and bag filters to control the emissions from all melting and casting units including Moore cake treatment plant. Cyclone, scrubber, wet ESP, Fluoride removal plant, absorption tower, demister etc. shall be installed in the Sulphuric acid plant I & II to control dust and SO <sub>2</sub> emissions within the stipulated limits of 50 mg/Nm <sup>3</sup> and reports submitted to the Ministry including its Regional Office at Lucknow, CPCB and RSPCB.	All PCM's like Cyclone, scrubber, wet ESP, absorption tower, demister, Mercury removal Plant etc. have already been installed. All PCEs are interlocked & On-line analyzer for SO <sub>2</sub> , NO <sub>x</sub> , SPM & O <sub>2</sub> installed at Stack of Roaster & Acid Plant-2&3 in the month of August-2009. Bag filters are provided and are being operated efficiently in Zinc Melting, casting unit, Calcine handling system and Moore cake treatment plant. Online analysers for PM emission are installed and connected to PCB server and results of emissions are attached as Annexure – 1 for the period April 2019 to September 2019 and also reported to Pollution Control Board.
2	SO <sub>2</sub> emissions shall be controlled less than 1.5 Kg/ton of Sulphuric acid (H <sub>2</sub> SO <sub>4</sub> ) produced and acid mist less than 50 mg/Nm <sup>3</sup> .	SO <sub>2</sub> & Acid mist are being regularly monitored and results are attached as Annexure - 1 for the period April 2019 to September 2019.
3	Secondary fugitive emissions from all the sources including Roaster plant shall be controlled, regularly monitored and data submitted to the Regional Office at Lucknow, CPCB and RSPCB	Fugitive emission is being monitored and results are being regularly submitted to RSPCB and results are attached as Annexure - 1 for the period April 2019 to September 2019.
4	Total water requirement from Udai Sagar Dam shall not exceed 8,000 m <sup>3</sup> /day as per the agreement signed with Govt. of Rajasthan. No ground water will be used. As reflected in the EIA/EMP, all the effluent generated from gas cleaning plant, Sulphuric acid plant, anode & cathode	Total water consumption does not exceed 7,100 m <sup>3</sup> /day. Water Cess return submitted to RSPCB regularly till July 2017. Due to implementation of GST wef 01/07/2017, Water Cess Act, 1977 has been abolished. No ground water is used. The effluents from these sources are treated in Effluent

	<p>washing, demineralization plant and cooling tower shall be treated in the effluent treatment plant (ETP). The treated effluent shall conform to the prescribed standards and recycled to maintain the 'zero' discharge. Sewage shall be treated in sewage treatment plant (STP).</p>	<p>Treatment Plant followed by RO. Domestic effluent is being treated in sewage treatment plant (STP). The sample of treated effluent are regularly collected and analyzed as per IS &amp; CPCB approved procedures &amp; treated effluent conforms the limits prescribed by the Board. The treated water is recycled and zero discharge is being maintained. Results of treated water are attached as Annexure -2. Results of Piezowells are attached as Annexure - 3 for the period April 2019 to September 2019.</p>
5	<p>All the process residues, spent catalyst, Cobalt cake, anode mud, cooler cake, Copper cake etc. shall be disposed off in common hazardous waste management facility (CHWMF) at Gudli of M/s Ramky. The Jarosite sludge shall be neutralized with hydrated lime and disposed off in secured landfill (SLF) inside the plant premises. ETP sludge in the form of cake shall be recycled in the Moore cake treatment Plant. Waste/used oil shall be sold to registered recyclers. Valid membership to CHWMF shall be obtained.</p>	<p>Anode mud are being recycled &amp; Cooler cake, Spent catalyst are disposed at CHWMF Gudli. Copies of manifest are being sent to RSPCB every month. Waste oil/used oil are sold to registered recyclers. The Jarosite sludge are being neutralized with hydrated lime and disposed off in captive secured landfill (SLF). Also we are dispatching jarosite to cement industries for gainful utilization. All the process residues &amp; other Hazardous wastes are being handled &amp; disposed as per granted Authorization &amp; HWR-2016. Membership no. 373 obtained for CHWMF through UCCI, Udaipur vide letter no. UCCI/UIWM&amp;RC/2006-07/103 Dtd. 13.10.2006 &amp; letter No. UCCI/HWM/373/2019-20-60 dtd 18.07.2019.</p>
6	<p>As proposed in EIA/EMP, canopy based green belt of adequate width and density in and around the periphery of plant in 67.5 ha. Out of total 190.05 ha. Shall be developed as per CPCB guidelines.</p>	<p>About 68.0 hectare area is covered under green belt out of 190.05 hectare including lawns and about 35.78 % area covered under Green belt. Green belt developed in the factory is being maintained .</p>
7	<p>Permission and recommendations of the State Forest Department regarding impact of the proposed expansion on surrounding 18 reserve forests shall be obtained and all the recommendations shall be implemented. Further, Conversation Plan for the conservation of wild fauna in consultation with the State Forest Department shall be prepared and implemented.</p>	<p>In consultation with forest department following actions are taken for conservation of wild fauna around premises:</p> <ol style="list-style-type: none"> <li>1. Biodiversity study of Flora, Fauna &amp; butterfly for Zinc Smelter, Debari within 10 Km radius have been completed by the expert.</li> <li>2. Display board for awareness indicating conservation of wild fauna.</li> <li>3. 1000 nos. of medicinal plants are planted</li> </ol>

		<p>in colony. Medicinal plants also planted in factory premises. Dense greenery in &amp; around the factory.</p> <ol style="list-style-type: none"> <li>4. Preservation of trees and shrubs for providing better niche for the animals.</li> <li>5. Installation of artificial nesting of Birds to promote Biodiversity conservation.</li> <li>6. Awareness program conducted for employees and their families on the occasion of Sparrow day, Water day, Biodiversity day, Earth day &amp; World Environment Day.</li> </ol>
8	<p>Regular medical examination and health monitoring of all the employees for Lead (Pb) and Cadmium (Cd) shall be carried out and if cases of presence of Lead (Pb) and Cadmium (Cd) are detected, necessary compensation shall be arranged under the existing laws. A competent occupational health physician shall be appointed to carry out medical surveillance. Occupational health of all the workers shall be monitored for relevant parameters and records maintained for at least 40 years from the beginning of the employment or 15 years after the retirement or cessation of employment whichever is later.</p>	<p>Regularly, all the employees are undergoing periodical medical check-ups for health impact due to industrial activity. Check up for lead and cadmium is being carried out for all workmen working in that area and randomly for others. The blood samples are analyzed by expert team of HZL. We are having qualified &amp; experienced medical officers with us.</p> <ol style="list-style-type: none"> <li>1. Dr. Sumit Siroya – MBBS, PGDD, FID with 9.0 years experience.</li> <li>2. Dr. Mihir Thakkar – MBBS with 2.0 year experience</li> </ol> <p>Records are maintained as per requirement. From April 2019 to September 2019, total 1511 of employee's underwent periodical medical examination including contractor. No occupational disease was observed.</p>
9	<p>All the recommendations made in Charter for Corporate Responsibility for Environment Protection (CREP) for Zinc Smelter shall be implemented.</p>	<ol style="list-style-type: none"> <li>1. Meeting SO<sub>2</sub> emission 950 mg/NM<sup>3</sup> 1.5 Kg/tonne of 100% H<sub>2</sub>SO<sub>4</sub> produced, 50 mg/Nm<sup>3</sup> of acid mist.</li> <li>2. Online SO<sub>2</sub> monitoring system has been installed at Acid Plant-2 &amp; Acid Plant-3 and real time data is being transmitted to PCB server. It is working satisfactorily.</li> <li>3. Solid and Hazardous Waste disposal: Captive secured landfill for disposal of waste Jarosite cake after neutralization, and other wastes are recycled / disposed as per authorization under HW (M, H &amp; T) Rules 2016.</li> </ol>

		<p>4. Wastewater treatment and disposal: Dedicated ETP plant and RO are in operation and zero discharge is being maintained by reuse/recycle. Domestic effluent is treated in STP and treated water is used in plantation.</p> <p>5. Housekeeping: Reduction of the generation of fugitive dust by Water spray, Regular water spray on roads and drain cleaning in entire plant area, routine cleaning activities, using Mechanical and hand- driven road vacuum cleaners and by installing Bag filters in Zinc melting, Calcine handling system and Moore cake section to minimize the dust emission.</p> <p>6. Green Belt: The details of developed greenbelt as per CPCB guidelines is as below:  Total ZSD area: 190.05 Hectare  Green-belt area: 68.0 Hectare  Total % of Green-belt: 35.78%</p>
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**General Conditions:**

Sr. No	Condition	Compliance Status
1	The project authorities must strictly adhere to the stipulations made by the Rajasthan State Pollution Control Board (RSPCB) and the State Government.	We are following all the stipulations made by RSPCB and State Government.
2	No expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	We shall apply for prior approval of the ministry of Environment & Forest for any expansion or modification in the plant.
3	<p>The gaseous emissions from various process units shall conform to the standards prescribed by the concerned authorities from time to time.</p> <p>The Rajasthan State Pollution Control Board (RSPCB) may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.</p> <p>At no time, the emissions level shall go beyond the prescribed standards.</p> <p>In the event of failure of any pollution control system adopted by the unit, the</p>	The emission results are mentioned above against specific condition no. 1 & 2 and are well within prescribed standards.

	respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.	
4	<p>Adequate number of ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the Rajasthan State Pollution Control Board.</p> <p>Data on ambient air quality and stack emission shall be regularly submitted to the Ministry including its Regional Office at Lucknow and the CPCB/ RSPCB once in six months.</p>	Four ambient air quality monitoring stations are established in consultation with Rajasthan State Pollution Control Board. Reports are being sent to statutory authorities periodically.
5	<p>Fugitive emissions, acid mist vapours, fumes and SO<sub>2</sub> shall be controlled and work environment monitored for prevailing contaminants regularly. Fugitive dust emissions in the handling area and at various transfer points shall be minimized by provision of dust suppression system.</p> <p>Bag filters shall be installed in Roaster, calcine handling &amp; storage section, Zn atomizing unit, Dross milling section to control fugitive emissions.</p> <p>The company shall improve overall housekeeping by asphaltting the internal roads and to reduce the generation of fugitive dust from vehicle movements.</p>	<p>Monitoring of all said parameters is done regularly.</p> <p>For dust suppression regular water spraying is done. Also mechanized road sweeping machine has been deployed to clean roads. Bag filters are installed at said locations to control fugitive emissions</p> <p>All the roads are asphaltted &amp; cemented. To minimize the fugitive dust, mechanized vacuum dust cleaner is used for road sweeping/cleaning.</p>
6	<p>Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time.</p> <p>The treated wastewater shall be recycled in this plant as well as utilization for plantation purpose.</p>	The sample of treated effluent are regularly collected and analyzed as per IS & CPCB approved procedures & treated effluent conforms the limits prescribed by the Board. The treated water is recycled and zero discharge is being maintained.
7	The project authorities must strictly comply with the rules and regulations with regards to handling and disposal of hazardous wastes in accordance with the Hazardous Waste (Management and Handling) Rule,	Authorization issued by RSPCB under the HW Rules vide RSPCB letter no. F(HSW)/Udaipur(Girwa)/2547(1)/2015-2016/1022-1024 dtd 18-05-2018, is valid up to date 31-12-2021. Disposal / recycling /

	2003. Authorization from the state pollution control board must be obtained for collection, storage, treatment and disposal of hazardous waste.	reuse of HWs is as per the revised Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.																						
8	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures, etc. on all sources of noise generation. The ambient noise level should conform the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) to 70 dBA (nighttime).	Ambient noise level is monitored in Day & Night times. Report is submitted for the period April 2019 to September 2019.																						
9	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Periodic Medical Examination for occupational health is being done on regular basis and records are maintained.																						
10	The project proponent shall also comply with all the environmental protection measures and safeguards maintained as per the EIA/EMP/ risk analysis and DMP report.	Noted and all are implemented.																						
11	The project authorities shall provide Rs. 76.00 crores towards environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the Government and submit and implementation schedule for all the conditions stipulated herein to this Ministry and its Regional Office at Lucknow. The funds so provided shall not be diverted for any other purposes.	Incurred Rs. 76 Crore towards environmental pollution control measures.  Breakup expenditure for Rs. 76 Crore is as under:  <table border="1" data-bbox="906 1344 1492 2016"> <thead> <tr> <th>Area/Equipments</th> <th>Cost (Rs. in Crores)</th> </tr> </thead> <tbody> <tr> <td>Acid Plant</td> <td>33.0</td> </tr> <tr> <td>Gas Cleaning</td> <td>16.0</td> </tr> <tr> <td>ESP, Bag Filter, Stacks</td> <td>13.0</td> </tr> <tr> <td>Stack Analyser</td> <td>0.5</td> </tr> <tr> <td>Covered conveyers</td> <td>2.0</td> </tr> <tr> <td>Modification/addition in water/Effluent Treatment Facilities/RO Plant</td> <td>5.0</td> </tr> <tr> <td>Solid waste disposal facilities (Jarosite SLF etc)</td> <td>5.0</td> </tr> <tr> <td>Monitoring Facilities (Additional)</td> <td>0.5</td> </tr> <tr> <td>Green belt</td> <td>1.0</td> </tr> <tr> <td>Total</td> <td>76.0</td> </tr> </tbody> </table>	Area/Equipments	Cost (Rs. in Crores)	Acid Plant	33.0	Gas Cleaning	16.0	ESP, Bag Filter, Stacks	13.0	Stack Analyser	0.5	Covered conveyers	2.0	Modification/addition in water/Effluent Treatment Facilities/RO Plant	5.0	Solid waste disposal facilities (Jarosite SLF etc)	5.0	Monitoring Facilities (Additional)	0.5	Green belt	1.0	Total	76.0
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		The Environmental, Health & safety																						

		<p>expenditure for last five years are as under:</p> <p>2014-2015 Rs 172.8 lacs</p> <p>2015-2016 Rs. 1227.6 lacs</p> <p>2016-2017 Rs. 187.49 Lacs</p> <p>2017-2018 Rs. 92.31 Lacs</p> <p>2018-2019 Rs. 171.94 Lacs</p> <p>2019-20 (Apr-Sept) Rs. 64.53 Lacs</p>
12	<p>The Regional Office of this Ministry at Lucknow, CPCB/RSPCB shall monitor the stipulated conditions.</p> <p>A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.</p>	<p>Compliance status is submitted regularly to the Ministry. Previous compliance of EC was submitted vide letter no. HZL/DZS/A-01/ENV/2019/37 dtd 20.05.2019.</p>
13	<p>The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies if the clearance letter are available with the Rajasthan Pollution Control Board and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>.</p> <p>This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspaper 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.</p>	<p>Noted and informed.</p> <p>The information published in two local newspapers (Dainik Bhasker &amp; Prthakal) on 25.03.2008). It was forwarded to regional office on date. 25.03.2008.</p>
14	<p>The 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</p>	<p>Date of commencement of land development work is 4<sup>th</sup> January-2007.</p>



(Anil Tripathi)

Director, Zinc Smelter Debari





# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory  
 ISO 9001:2008      OHSAS 18001:2007      JDA, UDH

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## TEST REPORT

Report No./IIR No.	TC10251940000090519	Date	03-05-2019
Issued To:	M/S Hindustan Zinc Limited (Debra Zinc Smelter) (PO Zinc Smelter, District Udaipur (Rajasthan))	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Location	03-04-2019
Point of Collection	Laboratory Top (24°2588571 N 73.4528E)	Date of Receipt	08-04-2019
Date of Test/Analysis	08-04-2019 to 03-05-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample		Sample Collected By	Vishal Kumar Yadav
Unit's representative	Anurag	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5162 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.2	IS 5162 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	13.93	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977 Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	32.89	CPCB Guidelines	60.00

Note

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 E-mail: teamtesthouse@gmail.com

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Compliance with National Ambient Air Quality Standard 2009
7	Sulphur Dioxide (microgram/m <sup>3</sup> )	7.59	IS 5182 (Part 2): 2001 Reaffirmed 2012	60.00
8	Particulate Matter (PM 10) (microgram/m <sup>3</sup> )	79.52	IS 5182 (Part 23): 2006 Reaffirmed 2012	100.00
9	Benzene (microgram/m <sup>3</sup> )	BDL (<1.0)	IS 5182 (Part 11): 2005	5.00
10	Benz(a)-Pyrene (ng/m <sup>3</sup> )	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic (ng/m <sup>3</sup> )	BDL (<2.0)	IS 5182 (Part 22): 2004 Reaffirmed 2014	5.00
12	Nickel (ng/m <sup>3</sup> )	3	IS 5182 (Part 22): 2004 Reaffirmed 2014	20.00

### Notes

1. Parameters No. 7, 8, 9, 10, 11 & 12 covered under NAHL scope and Parameters No. 1 & 12 covered under NAHL scope.
2. Results of NAHL activities are for testing.
3. The results are for only 1 (one) sampling for 5 parameters by Exposure of products and other related activity.
4. The results are for only 1 (one) sampling for 5 parameters by Exposure of products and other related activity.
5. The results are for only 1 (one) sampling for 5 parameters by Exposure of products and other related activity.



Near ETP [24°36'35.6"N, 73°49'23.8"E]

*[Signature]*  
 Senior Analyst

*[Signature]*  
 Authorized Signatory  
 Report No. TG502519-00002516/2P



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## TEST REPORT

Report No. / Ref.	TC/5825/19/42370/0984/01	Date	03.05.2019
Report To	M. S. Sawhney Iron & Zinc Limited (Debari Zinc Smelter) PCZ Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Service	Ambient Air Quality Monitoring	Date of Sample Collection/ Monitorng	03.04.2019
Client's Address	Area - 1, Talaputa, Jaipur-302022 (Raj.)	Date of Receipt	08-04-2019
Duration of Test Analysis	03.04.2019 to 03.05.2019	Sampling Plan	IS 5182:2000 (Part 14) RA 2014
Client's Name		Sample Collected By	Vimal Kumar Yadav
Client's Address	Aurang	Condition of Sample	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ambient Sulphur dioxide (SO <sub>2</sub> ) (microgram/m <sup>3</sup> )	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide (microgram/m <sup>3</sup> )	340	IS 5182 (Part 10), 1999	4000
3	Lead (microgram/m <sup>3</sup> )	0.0	IS 5182 (Part 22), 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> (microgram/m <sup>3</sup> )	14.62	IS 5182 (Part 6), 2006 Reaffirmed 2012	80.00
5	Ozone (microgram/m <sup>3</sup> )	BDL (<20.0)	APHA 1977 Part B15	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) (microgram/m <sup>3</sup> )	37.83	CPCB Guidelines	60.00

Note:

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 E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./LR No.	TC6225-1940(12000098)	Date	03-05-2019
Issue To	M/S Hindustan Zinc Limited (Debari Zinc Smelter) P.O. Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	03-04-2019
Point of Collection	Near Railway Gate [24°35'22.133 N 73°45'24.460 E]	Date of Receipt	08-04-2019
Date of Test/Analysis	05-04-2019 to 03-05-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample		Sample Collected by	Vinay Kumar Yadav
Units representative	Ambient	Condition of Sample	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.28	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	13.05	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APIIA 1977 Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	33.58	CPCB Guidelines	60.00

Note:

Continue to next page

*Vinay Kumar Yadav*



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JDA/UDH

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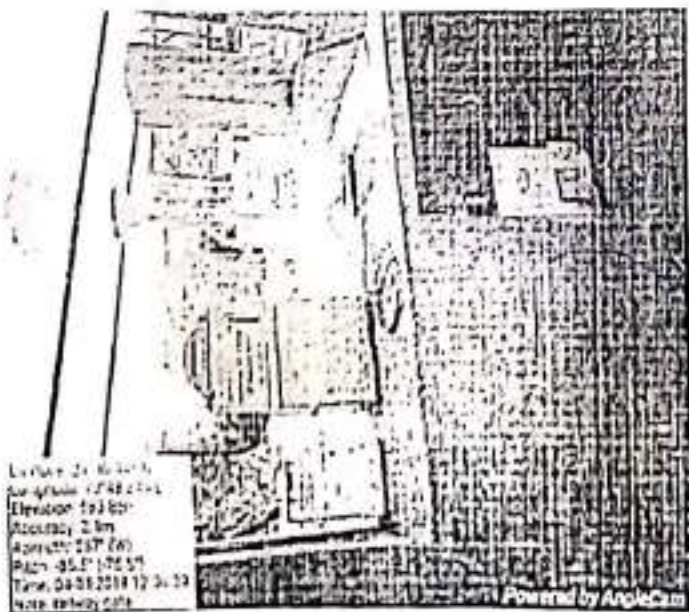
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E-mail : teamtesthouse@gmail.com  
E-mail : director@teamtesthouse.com

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	8.52	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	73.96	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	5.1	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes

- 1. Parameter No. 7, 8, 9, 10, 11 & 12 are covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope.
- 2. Facility No. N/A for calibration for testing.
- 3. The test is based refer only to the tested sample (s) & parameters (s). Enforcement of products is neither inferred nor implied.
- 4. This report is not to be reproduced wholly or in part and can not be used as evidence in the court of law and should not be used in any court of law without a written permission in writing.
- 5. All samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near Railway Gate [24°36'44.6"N-73°48'84.4"E]

*Handwritten signature*



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E-mail: director@teamtesthouse.com

## TEST REPORT

Report No./ULR No	10502519400000968P	Date	03-05-2019
Issued To	M/S Hindustan Zinc Limited [Debari Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	03-04-2019
Point of Collection	Near DG Set (24°36'22 293 N 73°48'24 270 E.)	Date of Receipt	08-04-2019
Date of Test Analysis	08-04-2019 to 03-05-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample		Sample Collected By	Vimal Kumar Yadav
Units representative	Anurag	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	310	IS 5182 (Part 10) 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.2	IS 5182 (Part 22) 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	16.19	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part B19	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	45.65	CPCB Guidelines	60.00

Note

Continue to next page

*Vimal Kumar Yadav*



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**CHESAS 18001:2007** **HEAV 101**

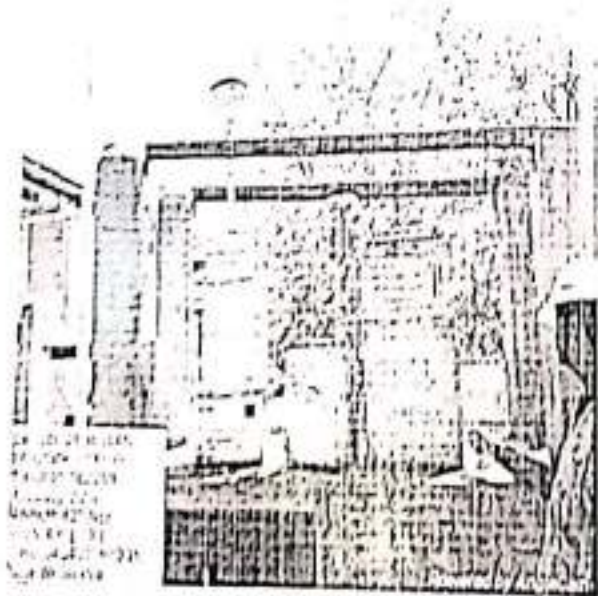
Lab. No. 504, Sitapona Industrial Estate,  
Park Road, DAPUR, 400071, India  
Ph. 94002 29039, 94002 29059  
E-mail : teamtest@teamtesthouse.com  
E-mail : director@teamtesthouse.com

### RESULTS

S.No	Parameter's	Observed Value	Testing Protocol	Compliance through COC (units as per National Ambient Air Quality Standard 2009)
7	Sulphur Dioxide [microgramm/m <sup>3</sup> ]	8.43	IS 5182 (Part 2) - 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgramm/m <sup>3</sup> ]	82.19	IS 5182 (Part 23) - 2006 Reaffirmed 2012	100.00
9	Benzene [microgramm/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) - 2006	5.00
10	Benzo-a-pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	GPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) - 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	4.1	IS 5182 (Part 22) - 2004 Reaffirmed 2014	20.00

**Notes:**

1. The report is valid only for the parameters listed in the report. Parameters not listed in the report are not tested.
2. The report is valid only for the parameters listed in the report. Parameters not listed in the report are not tested.
3. The report is valid only for the parameters listed in the report. Parameters not listed in the report are not tested.
4. The report is valid only for the parameters listed in the report. Parameters not listed in the report are not tested.
5. The report is valid only for the parameters listed in the report. Parameters not listed in the report are not tested.



Near DG Area [24°36'384"N / 73°48'71"E]

Puran Mahalingi

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Website : www.teamtesthouse.com

## TEST REPORT

Report No./LR No	TC502519400001159*	Date	07-05-2019
Issued To	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO - Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	26-04-2019
Point of Collection	Near DG Set [24°36'22.293 N 73°48'24.270 E]	Date of Receipt	01-05-2019
Date of Test/Analysis	01-05-2019 to 07-05-2019	Sampling Plan	IS 5182-2000, Part 14:RA 2014
Quantity of Sample	-	Sample Collected By	Kushan Mishra
Units representative	Anurag -	Condition of Sample	Fitted testing

### RESULTS

S.No.	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	350	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.2	IS 5182 (Part 27) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	15.12	IS 5182 (Part 6) : 2005 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APIA 1977, Part S19	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	30.69	CPCB Guidelines	60.00

Note:

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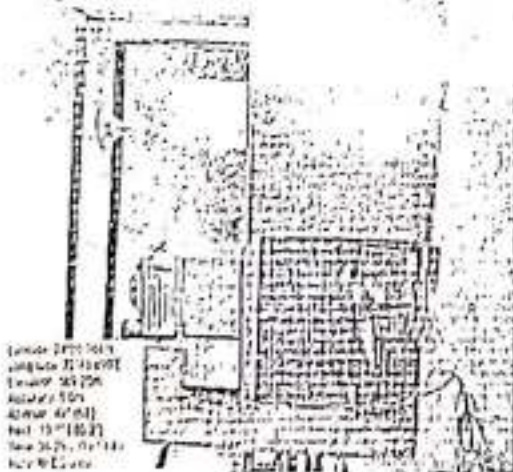
Lab.: G1-564, Sitapura Industrial Area  
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E-mail : director@teamtesthouse.com

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	7.42	IS 5182 (Part 2) : 2001 Reaffirmed 2012	30.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	83.67	IS 5182 (Part 23)-2005 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2005	5.00
10	Benzo-a[ <i>a</i> ] Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	2.9	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### NOTES

- 1. Report No. TC 502519-00001159P is valid under NABL scope and Parameter No. 5182 does not cover under NABL scope.
- 2. Report No. NDNR-2019-000001 is for testing.
- 3. The results valid only for the tested sample(s) & parameter(s). Endorsement of products is neither intended nor implied.
- 4. This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing.
- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near DG Area [24°36'38.4"N- 73°48'69.9"E]

*Puran*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh*  
**Rajesh Maheshwari**  
Authorized Signatory  
(Report No. TC502519-00001159P)



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(Unit)

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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No /ULIR No	TC5025194000011561	Date	07-05-2019
Issued To	M/S Hindustan Zinc Limited [Debari Zinc Smelter] PO- Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	27-04-2019
Point of Collection	Laboratory Top (24°25'88.871 N 73°45'28E)	Date of Receipt	01-05-2019
Date of Test/Analysis	01-05-2019 to 07-05-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample	N/A	Sample Collected by	kishan murari
Unit's representative	Anurag -	Condition of Sample	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	330	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.18	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	14.77	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	25.34	CPCB Guidelines	60.00

Note:

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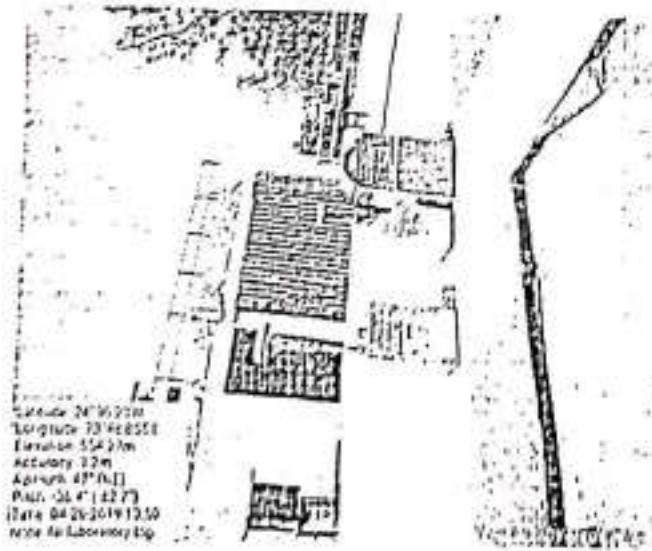
Lab.: G1-584, Sitapura Industrial Area  
Tonk Road, JAIPUR-302022 Raj.  
Ph.: 94602-22039, 94602-22049  
E-mail : teamtesthouse@gmail.com

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	7.66	IS 5182 (Part 2) - 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	80.56	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	4.6	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes -**

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
- This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Laboratory Top [24°36.23'N -73°48.855'E]

*Puran*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh*  
**Rajesh Maheshwari**  
Authorized Signatory



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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## TEST REPORT

Report No. / Test No.	TEST/2019/000001/01	Date	07-05-2019
Issued To	M. S. K. Industries, Limited (Dehlan Zone, Semeta) PO - Dehlan Zone - District Makapur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	26-04-2019
Point of Collection	Team Test House (Site) [84°35'22" E, 26°14'21" N]	Date of Receipt	01-05-2019
Period of Test/Analysis	01-05-2019 to 07-05-2019	Sampling Plan	IS 5182:2000 (Part 14): RA-2014
Quantity of Sample	N/A	Sample Collected by	kishan muran
Units / Identification	Ambient	Condition of Sample	Fit for testing

## RESULTS

S. No.	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.21	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	14.35	IS 5182 (Part 6) : 2000 Reaffirmed 2012	60.00
5	Ozone [microgram/m <sup>3</sup> ]	23.6	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	27.73	CPCB Guidelines	60.00

Note

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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	National Ambient Air Quality Standard, 2009
7	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	77.73	CPCB Guidelines IS 5182 (Part 2): 2001 Reaffirmed 2012	50.00
8	Sulphur Dioxide [microgram/m <sup>3</sup> ]	8.25	IS 5182 (Part 2): 2001 Reaffirmed 2012	50.00
9	Particulate Matter (PM <sub>10</sub> ) [microgram/m <sup>3</sup> ]	75.4	IS 5182 (Part 2): 2001 Reaffirmed 2012	100.00
10	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 2): 2001 Reaffirmed 2012	5.00
11	Benzo(a)-Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines IS 5182 (Part 2): 2001 Reaffirmed 2012	1.00
12	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 2): 2001 Reaffirmed 2012	5.00
13	Nickel [ng/m <sup>3</sup> ]	3.4	IS 5182 (Part 2): 2001 Reaffirmed 2012	20.00

**Notes**

- 1. Parameters No. 1, 2, 4, 5, 6, 7, 8, 9, 10 covered under OMI scope and Parameters No. 10, 11 covered under NABL scope.
- 2. Parameters No. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.
- 3. The results stated refer only to the bulk of sample(s) & parameters (s) for assessment of products is neither intended nor implied.
- 4. This report is valid for reference only and should not be used for legal or regulatory purposes without our explicit permission.
- 5. The samples will be destroyed after 15 days from the date of issue of this report unless otherwise specified.



Near Railway Gate [24°36'47"N-73°48'04"E]

*Puran Mal Yogi*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh Maheshwan*  
**Rajesh Maheshwan**  
Authorized Signatory  
(Report No. TC502519400001157P)

# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)



Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory  
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 Ph: 94602-22039, 94602-22049  
 E-mail : teamtesthouse@gmail.com  
 E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No	TC5025194000011589	Date	07-05-2019
Issued To	M/S Hindusthan Zinc Limited (Debra Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	26-04-2019
Point of Collection	Near ETP (24°36'18.003 N 73°48'35.058)	Date of Receipt	01-05-2019
Date of Test/Analysis	01-05-2019 to 07-05-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample	N/A	Sample Collected By	Keshav muran
Unit's representative	Anurag	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m <sup>3</sup> ]	11.0	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	340	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.19	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	15.7	IS 5182 (Part 6) : 2005 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	22	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	36.25	CPCB Guidelines	60.00

Continue to next page.

Note

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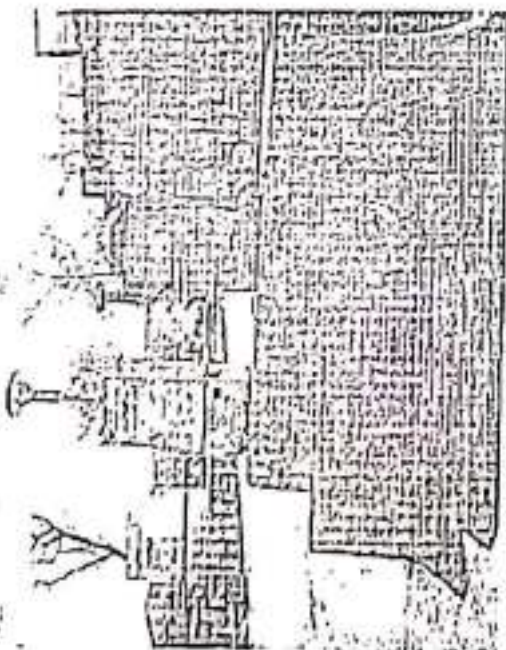
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limit Value per Station & Segment Air Quality Standard, 2005
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	6.58	IS 5182 (Part 2) 2001 Reaffirmed 2012	60.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	81.51	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) 2006	5.00
10	Benzo-a/α- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	3.7	IS 5182 (Part 22) 2004 Reaffirmed 2014	20.00

### Notes:-

- Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope.
- Parameter No. NDBL is considered for testing.
- The results listed refer only to the tested sample(s) & parameter(s). Underscored of products is neither inferred nor implied.
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- The samples will be destroyed after 31 days from the date of issue of this report unless otherwise stipulated.



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Near ETP [24°36.322'N-73°49.31'E]

*Puran Mal Yogi*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh Maheshwari*  
**Rajesh Maheshwari**  
Authorized Signature



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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No.:	TC502519400001254P	Date:	14/05/2019
Issued To:	M/S Hindusthan Zinc Limited [Deban Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	10/05/2019
Point of Collection:	Near DG Area [24°36'38"N- 73°48'70"E]	Date of Receipt:	16-05-2019
Date of Test/Analysis:	16-05-2019 to 01-06-2019	Sampling Plan:	IS 5182 2000(Part 14) RA 2014
Quantity of Sample:	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag -	Condition of Sample:	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.15	IS 5182 (Part 27) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	16.98	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977 Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	34.75	CPCB Guidelines	60.00

Note:

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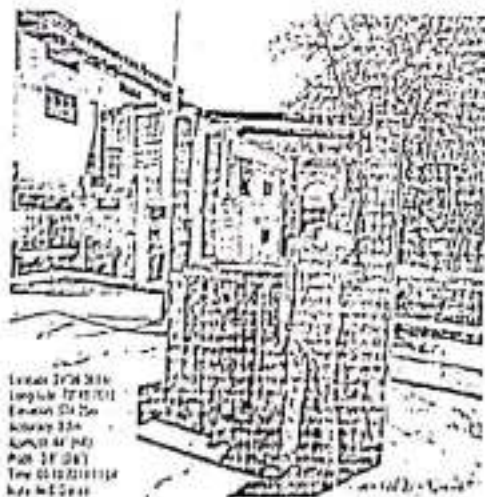
Lab.: G1-584, Sitapura Industrial Area  
Tonk Road, JAIPUR-302022 Raj  
Ph.: 94602-22036, 94602-22049

S.No	Parameters	RESULTS	
		Observed Value	Testing Protocol
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	7.89	IS 5182 (Part 2) : 2001 Reaffirmed 2012
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	83.62	IS 5182 (Part 2) : 2006 Reaffirmed 2012
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004
12	Nickel [ng/m <sup>3</sup> ]	2.1	IS 5182 (Part 22) : 2004 Reaffirmed 2014

E-mail: teamtesthouse@gmail.com  
E-mail: director@teamtesthouse.com  
AIR QUALITY  
Standard 2009

Notes :-

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameter (s) Endorsement of products is neither inferred nor implied
- This report is not to be reproduced wholly or in part and cannot be used evidence in the court of law or as evidence in any advertising media without our special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Latitude 24°36'38"N  
Longitude 73°48'70"E  
Elevation 224.2m  
Altitude 224m  
Longitude 73°48'70"E  
Elevation 224.2m  
Phone 0141-2369980  
Fax 0141-2771865  
www.teamtesthouse.com

Near DG Area [24°36.381'N- 73°48.701'E]

*[Signature]*  
Senior Analyst

*[Signature]*  
Authorized Signatory  
(Report No. TC5025194000J1254P)

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## TEST REPORT

Report No./ULS No.	TC502519400001253P	Date	04-05-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	10-05-2019
Point of Collection	Near ETP [24°36'32"N 73°49'30"E]	Date of Receipt:	16-05-2019
Date of Test/Analysis:	16-05-2019 to 01-06-2019	Sampling Plan:	IS 5182:2000(Part 14)RA 2014
Quantity of Sample:	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's representative	Anurag -	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.2	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	260	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.19	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	16.85	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	35.58	CPCB Guidelines	60.00

Note

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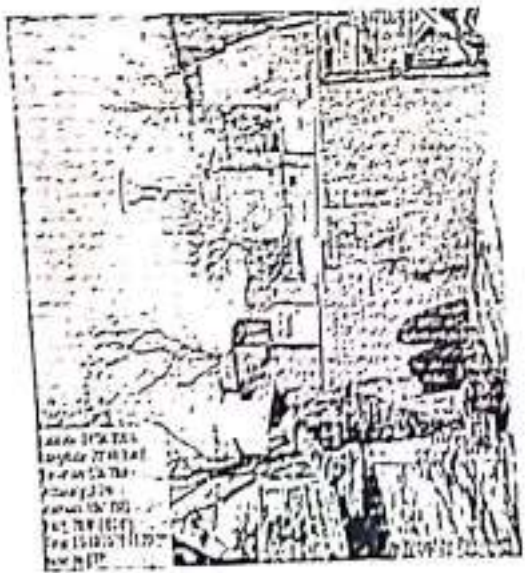
### RESULTS

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Sl. No.	Parameter	Observed Value	Testing Protocol	Standard
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	7.51	IS 5182 (Part 2), 2005 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	80.17	IS 5182 (Part 2), 2005 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 1), 2005	5.00
10	Benzo-a(a)- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 2), 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	3	IS 5182 (Part 2) : 2004 Reaffirmed 2014	20.00

**Notes -**

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Enrichment of products is neither inferred nor implied
- This report is not to be reproduced wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without our special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Near ETP [24°36.326'N 73°49.308'E]

**Puran Mal Yogi**  
Senior Analyst

**Rajesh Maneshwar**  
Authorized Signatory  
(Report No. TC502519400001253P)



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## 1ST REPORT

Report No./ULR No :	TC502519400001252P	Date:	04-05-2019
Issued To :	M/S Hindustan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	11-05-2019
Point of Collection	Near Railway Gate [24°36' 44"N; 73°45' 54"E]	Date of Receipt	11-05-2019
Date of Test/Analysis :	16-05-2019 to 01-06-2019	Sampling Plan	IS 5182 (Part 14) RA 2014
Quantity of Sample :	N/A	Sample Collected By :	Vinay Kumar Yadav
Unit's representative :	Anurag -	Condition of Sample	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BOL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.19	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	10.13	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BOL (<20.0)	APHA 1977 Part 015	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	40.22	CPCB Guidelines	60.00

Note:

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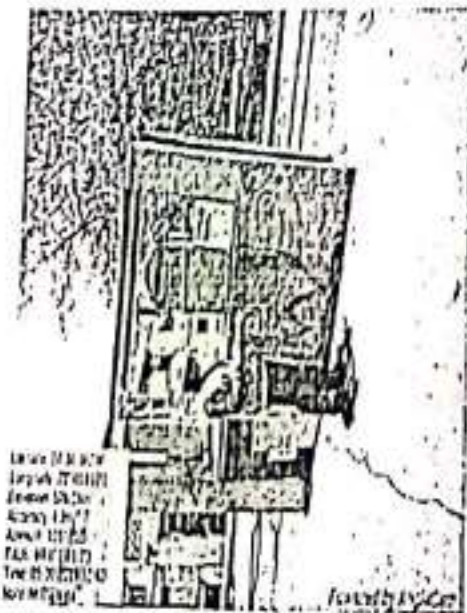
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Ph: 94602-22020, 94602-22019  
E-mail : teamtesthouse@gmail.com  
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### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	0.01	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	71.86	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	3.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes -**

- # Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- # Parameter No. NDNE outsourced for testing
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
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- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near DG Set [24°36.382'N-73°48.697'E]

P. M. Yogi  
**Puran Mal Yogi**

P. M. Yogi



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(Unit of Team Institute of Science & Technology Pvt. Ltd.)



(Unit Approved)  
 NABL  
 OHSAS

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## TEST REPORT

Report No./AIR No.	TC5025104000013331	Date:	07-06-2019
Issued To	M/S Hindustan Zinc Limited (Debari Zinc Smelter) PO - Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	21-05-2019
Point of Collection	Near DG Set [24°30.382'N-73°40.097'E]	Date of Receipt:	23-05-2019
Date of Test/Analysis	23-05-2019 to 07-06-2019	Sampling Plan:	IS 5182:2000(Part 14)/P-2014
Quantity of Sample	N/A	Sample Collected By:	Vimal Kumar Yadav
Inst's representative:	Anurag -	Condition of Sample:	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	370	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.19	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	16.82	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	37.72	CPCB Guidelines	60.00

Notes:

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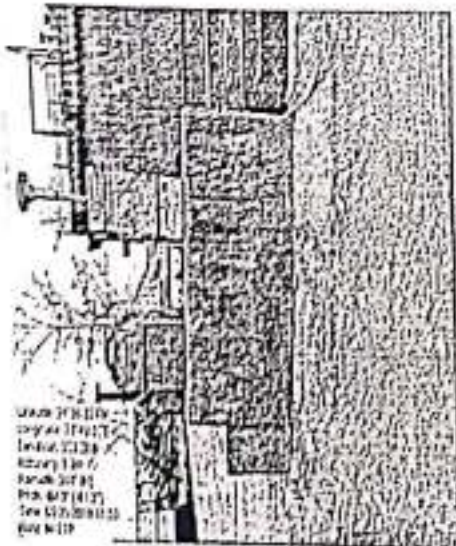
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.71	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	83.01	IS 5182 (Part 23)-2005 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	2.7	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes :-**

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing.
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near ETP [24°36.324'N-73°49.31'E]

*Puran Mal*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh*  
**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519400001332P)



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**RSPCB**

**ISO 9001:2015**

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## TEST REPORT

Report No./LR No	TC5025194000013319	Date	07-06-2019
Issued To	M/S Hindustan Zinc Limited (Debra Zinc Smelter) PO - Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	23-05-2019
Point of Collection	Near Railway Gate [24°39'445N,73°48'646E]	Date of Receipt	23-05-2019
Date of Test/Analysis	23-05-2019 to 07-06-2019	Sampling Plan	IS 5182:2000 (Part 14) 2014
Quantity of Sample	N/A	Sample Collected By	Vijal Kumar Yadav
Unit's representative	Anurag -	Condition of Sample	Ft for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limit as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m <sup>3</sup> ]	11.3	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	310	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.19	IS 5182 (Part 22) 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	17.51	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	22.6	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	30.76	CPCB Guidelines	60.00

Note:

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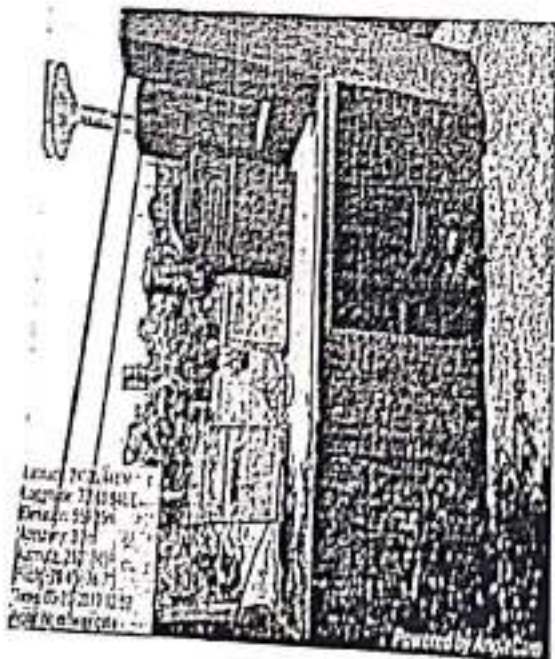
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
7	Sulphur Dioxide [microgram/m3]	5.67	IS 5182 (Part 2) 2001 Reaffirmed 2012	30.00
8	Particulate Matter (PM 10) [microgram/m3]	78.84	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m3]	BDL (<1.0)	IS 5182 (Part 11) 2005	5.00
10	Benzo-alfa- Pyrene [ng/m3]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m3]	BDL (<2.0)	IS 5182 (Part 22) 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m3]	2.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes :-

- # Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
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Near Railway Gate [24°36.446'N-73°48.846'E]

*Puran*  
Puran Mal Yogi  
Senior Analyst

*Pap*

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 E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No. :	TC502519400001332P	Date :	07-06-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	21-05-2019
Point of Collection	Near ETP [24°36.324'N-73°49.31'E]	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 07-06-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag -	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.6	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.22	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	16.68	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	42.59	CPCB Guidelines	60.00

Note:

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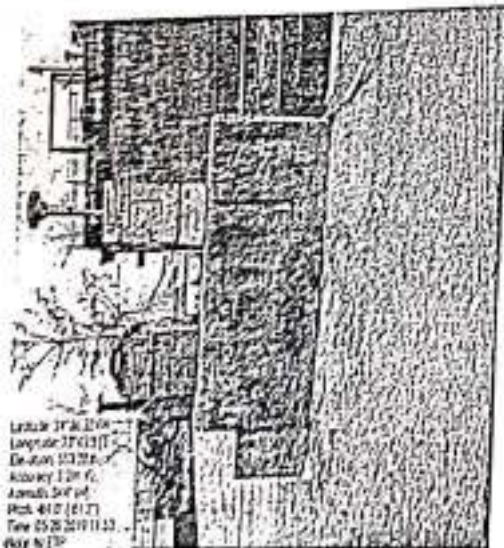
Lab.: G1-584, Sitapura Industrial Area  
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.71	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	83.01	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	2.7	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes :-

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near ETP [24°36.324'N-73°49.31'E]

*Puran Mal*  
**Puran Mal**  
 Senior Analyst

*Rajesh*  
**Rajesh Maheshwan**  
 Authorized Signatory  
 (Report No: TC502519400001332P)



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 E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No. :	TC502519400001496P	Date :	01-07-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	06-06-2019
Point of Collection :	Near DG Set [24°36'22.293 N 73°48'24.270 E]	Date of Receipt :	10-06-2019
Date of Test/Analysis :	10-05-2019 to 01-07-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.9	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.43	IS 5162 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	20.98	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	38.06	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	39.81	CPCB Guidelines	60.00
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	7.1	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM <sub>10</sub> ) [microgram/m <sup>3</sup> ]	73.7	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00

Note:

Continue to next page...

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### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limit
5	Benzene (mg/m <sup>3</sup> )	BDL (<1.0)	IS 5182 (Part 11) : 2005	5.00
10	Benzofuran, Fluorene (ng/m <sup>3</sup> )	BDL (<0.5)	CPCB Guidelines	1.00
11	Styrene (ng/m <sup>3</sup> )	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nitro (ng/m <sup>3</sup> )	7.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

*Note:*

1. All analyses are carried out in accordance with the relevant Indian Standards as mentioned in the above table.
2. All analyses are carried out in accordance with the relevant Indian Standards as mentioned in the above table.
3. All analyses are carried out in accordance with the relevant Indian Standards as mentioned in the above table.
4. All analyses are carried out in accordance with the relevant Indian Standards as mentioned in the above table.
5. All analyses are carried out in accordance with the relevant Indian Standards as mentioned in the above table.

*Handwritten signature/initials*

  
**Rajesh Maheshwari**  
 Authorized Signatory  
 (Report No: TC002519-00001456P)



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 Ph

## TEST REPORT

Report No./UR No.	TC50251040001425P	Date	31-07-2019
Issued To	M/S Hindustan Zinc Limited (Delux Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan)	Type of unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/ Monitor No.	06-06-2019
Point of Collection	Near ETP (24°36'18.000 N 73°46'35.065 E)	Date of Report	10-08-2019
Date of Test/Analysis	06-06-2019 to 01-07-2019	Sampling Plan	IS 5182-2006, Part 14-RA-2014
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Kedia
Unit's representative	Anurag Khandalwal	Condition of Sample	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	11.8	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	320	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.41	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	15.86	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	30.9	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	42.03	CPCB Guidelines	60.00
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.45	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM <sub>10</sub> ) [microgram/m <sup>3</sup> ]	78.14	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00

Note:

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### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limit in mg per cumec National Ambient Air Quality Standard 2009
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	3.4	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes :-**

- 1. Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope.
- 2. Parameter No. 10,11 outsourced for testing.
- 3. The results listed refer only to the tested sample (s) & parameter (s). End-uses of products is neither inferred nor implied.
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- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Balram*  
**Balram Anand**  
Senior Analyst

*Rajesh*  
**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519400001495P)



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## TEST REPORT

Report No./ULR No. :	TC502519403001494P	Date :	01-07-2019
Issued To :	M/S Hindusthan Zinc Limited [Dohari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	07-06-2019
Point of Collection :	Near Railway Gate [24°36'22.133 N 73°48'24.480 E]	Date of Receipt :	10-06-2019
Date of Test/Analysis :	10-06-2019 to 01-07-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.8	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	330	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	16.73	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	31.5	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	35.76	CPCB Guidelines	60.00
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	9.3	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM <sub>10</sub> ) [microgram/m <sup>3</sup> ]	77.46	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00

Note:

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### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limit
				National Ambient Air Quality Standard, 2009
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	6.8	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes :-**

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Balram*  
**Balram Anarwal**  
Senior Analyst

*Rajesh*  
**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC502518400001494P 1)



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## TEST REPORT

Report No./ULR No.:	TC502519400001493P	Date:	01-07-2019
Issued To:	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	07-06-2019
Point of Collection:	Laboratory Top [24°25'88.71" N 73.4528E]	Date of Receipt:	10-06-2019
Date of Test/Analysis:	10-06-2019 to 01-07-2019	Sampling Plan:	IS 5182:2000(Part 14)RA 2014
Quantity of Sample:	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurrag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.9	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	280	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.2	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	18.28	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	31.8	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	42.75	CPCB Guidelines	60.00
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	8.67	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM <sub>10</sub> ) [microgram/m <sup>3</sup> ]	73.7	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00

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### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits
				National Ambient Air Quality Standard, 2009
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	9.1	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes :-**

- # Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
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*Balram*  
**Balram Anarwal**  
Senior Analyst

*Raj*  
**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC502519400001493P )



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## TEST REPORT

Report No./LR No	TC502510400001756P	Date	02-07-2019
Issued To	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	19-06-2019
Point of Collection	Near DG Set [24°36'22.293 N 73°48'24.270 E]	Date of Receipt	25-06-2019
Date of Test/Analysis	25-06-2019 to 02-07-2019	Sampling Plan	IS 5182:2000(Part 14)RA 2014
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Units representative	Anurag Khandelwal	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.2	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	320	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.39	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	19.94	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	36.5	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	37.12	CPCB Guidelines	60.00

Note

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Rajesh Maheshwan



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### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	6.46	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	83.95	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	5.2	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes**

- Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope
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Near DG Area [24°36.381'N- 73°48.701'E]

*Puran*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh*  
**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519400001756)



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## TEST REPORT

Report No./S.R. No.	TC502519400001755P	Date	02-07-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	19-06-2019
Point of Collection	Near ETP [24°36'18.003 N 73°48'35.068]	Date of Receipt :	26-06-2019
Date of Test/Analysis	26-06-2019 to 02-07-2019	Sampling Plan	IS 5182:2000(Part 14)RA 2014
Quantity of Sample	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	11.8	CPCE Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.31	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	19.95	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	39.9	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	42.74	CPCB Guidelines	60.00

Note:

Continue to next page...

*Rajesh*  
 Rajesh Maheshwan



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E-mail: teamtesthouse@rediffmail.com  
E-mail: teamtesthouse@teamtesthouse.com

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
7	Sulphur Dioxide [microgram/m3]	9.26	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m3]	80.86	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m3]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m3]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m3]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m3]	5.6	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes -**

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
- This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Near ETP (24°36'326"N 73°49'308"E)

*Puran/Mal Vogi*

Senior Analyst

*Rajesh Maheshwan*  
Authorized Signatory

(Report No. TC502519400001755P)



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(Unit of Team Institute of Science & Technology Pvt Ltd)

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 E-mail : teamtesthouse@gmail.com  
 E-mail : director@teamtesthouse.com

JDA/UDW

## TEST REPORT

Report No./ULR No.	TC502510400001754P	Date :	02-07-2019
Issued To	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	19-06-2019
Point of Collection	Near Railway Gate [24°36'22.133 N 73°48'24.460 E]	Date of Receipt :	26-06-2019
Date of Test/Analysis :	26-06-2019 to 02-07-2019	Sampling Plan	IS 5182:2000(Part 14)RA 2014
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurrag Khandelwal	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.9	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	330	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1 00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	18.62	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	36.8	APHA 1977, Part 819	100 00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	43.89	CPCB Guidelines	60.00

Note:

Continue to next page...

*Rajesh*  
 Rajesh Maheshwari





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E-mail : teamtesthouse@gmail.com  
E-mail : teamtesthouse@teamtesthouse.com

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.88	IS 5182 (Part 2) 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	88.57	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) 2005	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	6	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes -**

- \* Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope.
- \* Parameter No. NONE outsourced for testing
- \* The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
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- \* The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near Railway Gate [24°36.444'N- 73°48.842'E]

*Puran*  
**Puran Mal Yogi**  
Senior Analyst

**Rajesh Maheshwan**  
Authorized Signatory  
(Report No. TC502519400001754P)



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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No.	TC502519400001753P	Date :	02-07-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	19-06-2019
Point of Collection	Laboratory Top [24°2588671 N 73.4528E]	Date of Receipt :	26-06-2019
Date of Test/Analysis :	26-06-2019 to 02-07-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	13.6	CPCb Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	320	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.27	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	14.31	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	32.8	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	38.92	CPCB Guidelines	60.00

Note:

Continue to next page...

*Rajesh Maheshwan*



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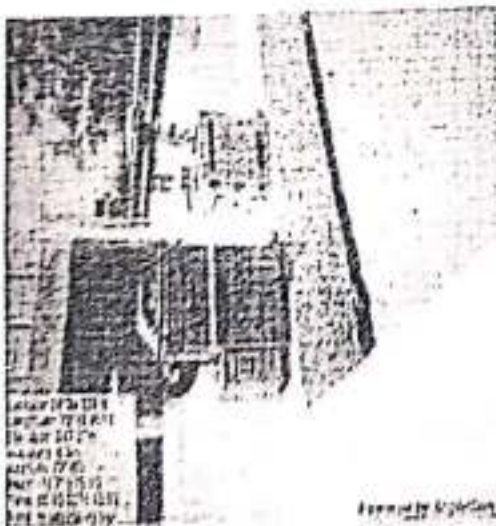
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### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	15.4	IS 5182 (Part 2) - 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	62.06	IS 5182 (Part 23)-2008 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	7.5	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes -**

- 1. Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope
- 2. Parameter No. NONE outsourced for testing
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
- 4. This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Laboratory Top [24°36'226"N- 73°48'851"E]

**Puran Marwadi**  
Senior Analyst

**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519400001753P)



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E-mail: director@teamtesthouse.com

## TEST REPORT

Report No./ILR No	TC50251940001961P	Date	03-08-2019
Issued To:	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO: Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	09-07-2019
Point of Collection	Near Railway Gate [24°36.443'N-73°48.844' E]	Date of Receipt	17-07-2019
Date of Test/Analysis	17-07-2019 to 01-08-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurrag Khandelwal	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL(< 10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	320	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.35	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	17.72	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	31.5	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	41.34	CPCB Guidelines	60.00

Note:

Continue to next page...

(Signature)



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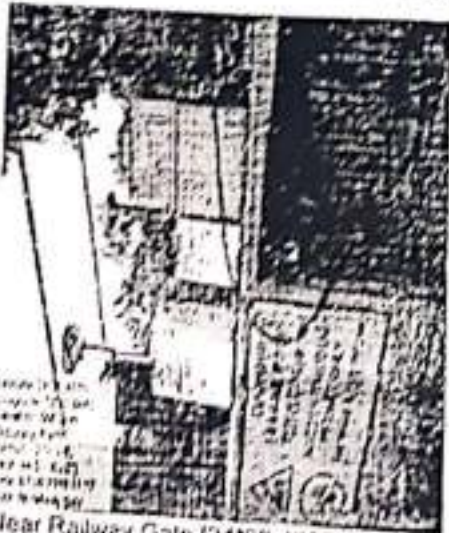
Lab. No. TH/1/2022/10001  
 Date Recd. 12/01/2022  
 Pn. 04002-2003-04002-2003  
 E-mail: teamtesthouse@gmail.com  
 Contact: 0141-2351780

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
7	Sulphur Dioxide (microgram/m <sup>3</sup> )	5.5	IS 5182 (Part 2): 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) (microgram/m <sup>3</sup> )	77.85	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene (microgram/m <sup>3</sup> )	BDL (<1.0)	IS 5182 (Part 11): 2005	5.00
10	Benzo-a(a)- Pyrene (ng/m <sup>3</sup> )	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic (ng/m <sup>3</sup> )	BDL (<2.0)	IS 5182 (Part 22): 2004 Reaffirmed 2014	5.00
12	Nickel (ng/m <sup>3</sup> )	5.5	IS 5182 (Part 22): 2004 Reaffirmed 2014	20.00

### Notes -

- Parameter No. 7, 8, 9, 10, 11, 12 covered under NABL scope and Parameter No. 9 & 10 does not cover under NABL scope
- Parameter No. 9, 10 are not covered for testing
- The results listed refer only to the tested sample(s) & parameter(s). Endorsement of product's neither inferred nor implied.
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near Railway Gate [24°35'44.3"N-73°48'04.4"E]

*Puraj*  
**Puraj**  
 Senior Analyst

*Rajesh*  
**Rajesh Maheshwan**  
 Authorized Signatory  
 (Report No. TC50251940001901P)



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## TEST REPORT

Report No./JLR No.:	TC502519400001980P	Date:	03-08-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	09-07-2019
Point of Collection:	Laboratory Top [24°36'232"N-73°48.855E]	Date of Receipt:	17-07-2019
Date of Test/Analysis:	17-07-2019 to 01-08-2019	Sampling Plan:	IS 5182 2000(Part 14)RA 2014
Quantity of Sample:	N/A	Sample Collected By:	Vinay Kumar Yadav
Unit's representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	12.3	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	300	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.23	IS 5182 (Part 22) : 2004 Reaffirmed 2014.	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	20.64	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	30.2	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	30.16	CPCB Guidelines	80.00

Note:

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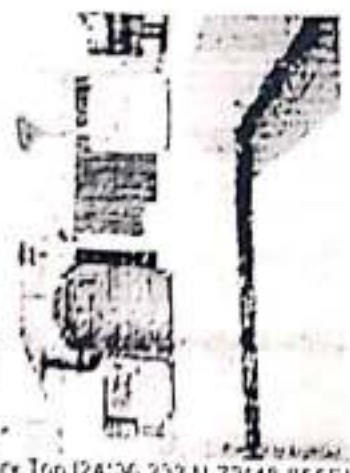
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Jaipur - 302003  
Phone : 0141-2509501, 2771980  
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	10.94	IS 5182 (Part 2) 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	58.42	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) 2006	5.00
10	Benzo-a(a)- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	3.1	IS 5182 (Part 22) 2004 Reaffirmed 2014	20.00

### Notes

- 1. Parameters No. 7, 8, 9, 10, 11, 12 covered under NABL scope and Parameter No. 5, 10 does not cover under NABL scope.
- 2. Parameter No. 10 NE evaluated for NABL.
- 3. The results are related only to the tested sample as per parameters (s). Endorsement of products is neither inferred nor implied.
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Laboratory Top [24°36' 232 N-73°48' 855E]

*Puraj*  
Puraj Mal Yogi  
Senior Analyst

*Rajesh*  
Rajesh Maheshwan  
Authorized Signatory  
(Report No. TC502519400C01980P)



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(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No. :	TC502519400001982P	Date :	03-08-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	09-07-2019
Point of Collection :	Near ETP [24°35.324'N-73°49.309'E]	Date of Receipt :	17-07-2019
Date of Test/Analysis :	17-07-2019 to 01-08-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	N/A	Sample Collected By :	Vinay Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.6	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	270	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.29	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	20.25	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	32.3	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	42.8	CPCB Guidelines	60.00

Note:

Continue to next page...

Raj





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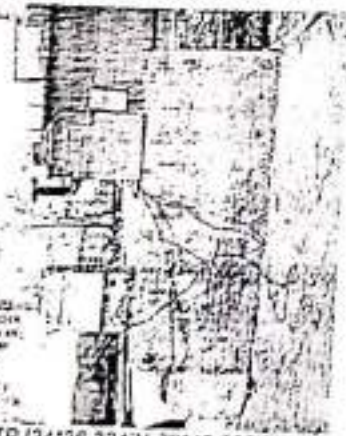
Approved by Ministry of Environment  
Office: E-65, Chitrangan Marg,  
C-Scheme, Jaipur-302001  
Phone: 0141-2369980  
Website: www.teamtesthouse.com

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide (microgram/m <sup>3</sup> )	7.98	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) (microgram/m <sup>3</sup> )	89.07	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene (microgram/m <sup>3</sup> )	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene (ng/m <sup>3</sup> )	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic (ng/m <sup>3</sup> )	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel (ng/m <sup>3</sup> )	4.9	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes -

- Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 covered under NABL scope and Parameter No. 9-10 does not cover under NABL scope
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Near ETP (24°36.324'N 73°49.300'E)

*Purán Mal Yogi*  
Senior Analyst

*Rajeshwari*  
Authorized Signatory  
(Report No: TC502519400001902P)

Laboratory  
JDA/UDII  
Industrial Area



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Ph. 94602-21039, 94602-22049  
E-mail : teamtesthouse@gmail.com  
E-mail : director@teamtesthouse.com

### TEST REPORT

Report No./ULR No	TC502519400001983P	Date :	03-08-2019
Issued To	M/S Hindusthan Zinc Limited [Deban Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	10-07-2019
Point of Collection	Near DG Set [24°36.395N-73°48.69'E]	Date of Receipt	17-07-2019
Date of Test/Analysis :	17-07-2019 to 01-08-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample :	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative	Anurrag Khandelwal	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	11.5	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	300	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.23	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	20.78	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	31.2	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	37.05	CPCB Guidelines	60.00

Note:

Continue to next page...

*Prof*



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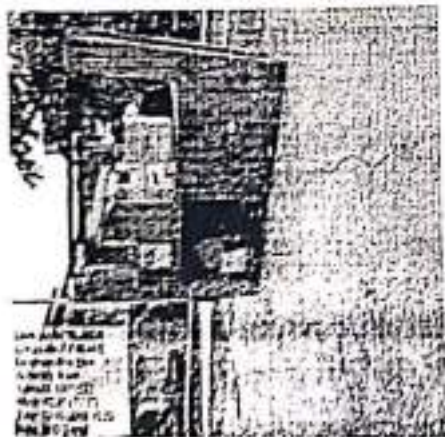
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide (microgram/m <sup>3</sup> )	5.75	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) (microgram/m <sup>3</sup> )	88.88	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene (microgram/m <sup>3</sup> )	BDL (<1.0)	IS 5182 (Part 11) : 2005	5.00
10	Benzo-alfa- Pyrene (ng/m <sup>3</sup> )	BDL (<0.5)	CFCB Guidelines	1.00
11	Arsenic (ng/m <sup>3</sup> )	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel (ng/m <sup>3</sup> )	4.6	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes -

- 1. Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope.
- 2. Parameter No. HDNE outsourced for testing.
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near DG Set [24°36.385N-73°48.69'E]

*Puran Mal Yogi*  
Puran Mal Yogi  
Senior Analyst

*Rajesh Maheshwan*  
Rajesh Maheshwan  
Authorized Signatory  
(Report No: TC502519400001983P)



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**TEST REPORT**

Report No./JLR No.:	TC502519400002103P	Date:	03-08-2019
Issued To:	M/S Hindasthan Zinc Limited (Debari Zinc Smelter) PO - Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	22-07-2019
Point of Collection:	Nr. Railway Gate [24°36.442' N, 73°48.851' E]	Date of Receipt:	27-07-2019
Date of Test/Analysis:	27-07-2019 to 01-08-2019	Sampling Plan:	IS 5182:2000(Part 14)RA 2014
Quantity of Sample:	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's Representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	12.3	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	310	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.21	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	18.73	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	31.1	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	45.83	CPCB Guidelines	60.00

Note:

Continue to next page...

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E-mail: director@teamtesthouse.com

		RESULTS		
S No	Parameters	Observed Value	Testing Protocol	Limits as per National Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	9.25	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	62.34	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006 CPCB Guidelines	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	6.4	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

- Notes:-
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  - Parameter No. NONE outsourced for testing
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Nr. Railway Gate [24°36'44.2" N-73°48.851" E]

*Puran*  
**Puran Mal Yogi**  
Senior Analyst

*Raj*  
**Raj Maheshwari**  
Authorized Signatory  
(Report No: TC502519400002103P)



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### TEST REPORT

Report No./ULR No.:	TC502519400002104P	Date:	03-08-2019
Issued To:	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	22-07-2019
Point of Collection:	Near ETP [24°36.321'N- 73°49.312'E]	Date of Receipt:	27-07-2019
Date of Test/Analysis:	27-07-2019 to 01-08-2019	Sampling Plan:	IS 5182:2000(Part 14)RA 2014
Quantity of Sample:	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag Khandetwal	Condition of Sample:	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	11.4	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	320	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.16	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	14.56	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	29.6	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	30.41	CPCB Guidelines	60.00

Note

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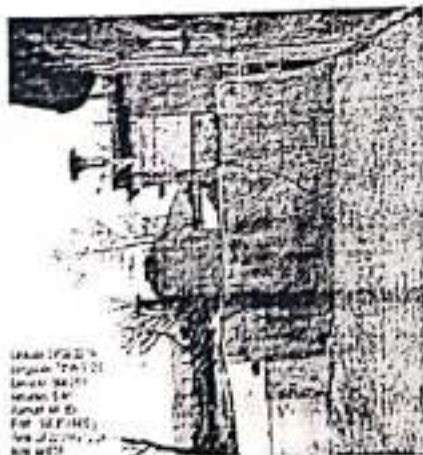
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Tonk Road, JAIPUR-302001  
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E-mail: teamtesthouse@gmail.com  
E-mail: director@teamtesthouse.com

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	7.23	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	56.21	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	6.4	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes :-

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Near ETP [24°36.321'N- 73°49.312'E]

*Puran Mal Yogi*  
Puran Mal Yogi  
Senior Analyst

*Rajesh Maheshwar*  
Rajesh Maheshwar  
Authorized Signatory  
(Report No: TC502519400002100)



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 E-mail : teamtesthouse@gmail.com  
 E-mail : director@teamtesthouse.com

### TEST REPORT

Report No./ULR No. :	TC502519400002105P	Date :	03-08-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	22-07-2019
Point of Collection :	Near DG Set [24°36.379'N-73°48.699' E]	Date of Receipt :	27-07-2019
Date of Test/Analysis :	27-07-2019 to 01-08-2019	Sampling Plan :	IS 5182:2000(Part 14)/RA-2014
Quantity of Sample :	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	11.4	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	300	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.22	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	15.47	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	30.8	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	21.3	CPCB Guidelines	60.00

Note:

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## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	6.3	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	71.68	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-a(a)- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	5.2	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes -

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Hubt DG Set [24°30' 37.11-73°45' 09" E]

*Purushottam*  
 Senior Analyst

*Rajesh Maheshwan*  
 Authorized Signatory  
 (Report No: TC502519400002105P)



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### TEST REPORT

Report No./ULR No.:	TC502519400002102P	Date :	03-08-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	23-07-2019
Point of Collection	Laboratory Top [24°36.225'N-73°48.853'E]	Date of Receipt :	27-07-2019
Date of Test/Analysis :	27-07-2019 to 01-08-2019	Sampling Plan	IS 5182 2000(Part 14)RA 2014
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters *	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	10.2	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	310	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.29	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	18.57	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	30.8	APHA 1977, Part 619	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	46.61	CPCB Guidelines	60.00

Note:

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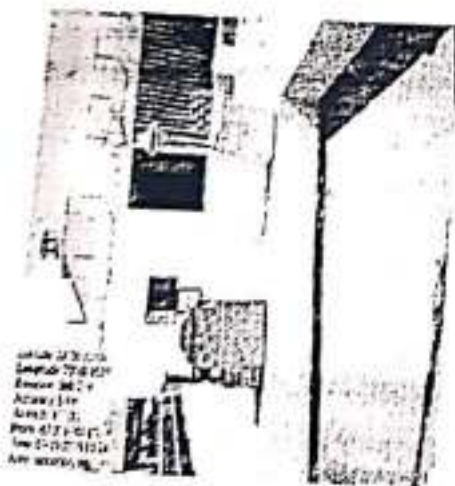
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limit Value per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	8.77	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	76.94	IS 5182 (Part 23)-2005 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL (<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL (<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL (<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	5.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes -

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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Laboratory Top [24°36.225'N-73°48.853'E]

*Puran Mal Yogi*  
 Senior Analyst

*Rajesh Maheshwari*  
 Authorized Signatory  
 (Report No. TC50251940/002102P)



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(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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E-mail: teamtesthouse@gmail.com  
E-mail: director@teamtesthouse.com

**TEST REPORT**

Report No./ULR No.:	TC50251940002280P	Date:	27-08-2019
Issued To:	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	13-08-2019
Point of Collection:	Near DG Area [24°36'23"N-73°48'42"E]	Date of Receipt:	14-08-2019
Date of Test/Analysis:	14-08-2019 to 26-08-2019	Sampling Plan:	IS 5182:2000(Part 14)RA 2014
Quantity of Sample:	1 Ltr.	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
	Ammonia [microgram/m <sup>3</sup> ]	10.6	CPCB Guidelines	400.00
	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
	Lead [microgram/m <sup>3</sup> ]	0.23	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	11.51	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	26.23	CPCB Guidelines	60.00

Note:

Continue to next page...

*Prof*



**TEAM TEST HOUSE**  
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E-mail: teamtesthouse@gmail.com  
E-mail: director@teamtesthouse.com

**TEST REPORT**

Report No./ULR No.:	TC502519400002280P	Date:	27-08-2019
Issued To:	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	13-08-2019
Point of Collection:	Near DG Area [24°36'23"N-73°48'42"E]	Date of Receipt:	14-08-2019
Date of Test/Analysis:	14-08-2019 to 26-08-2019	Sampling Plan:	IS 5182:2000(Part 14)RA 2014
Quantity of Sample:	1 Ltr.	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.6	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.23	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	11.51	IS 5182 (Part 5) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	26.23	CPCB Guidelines	60.00

Note:

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*Ref*



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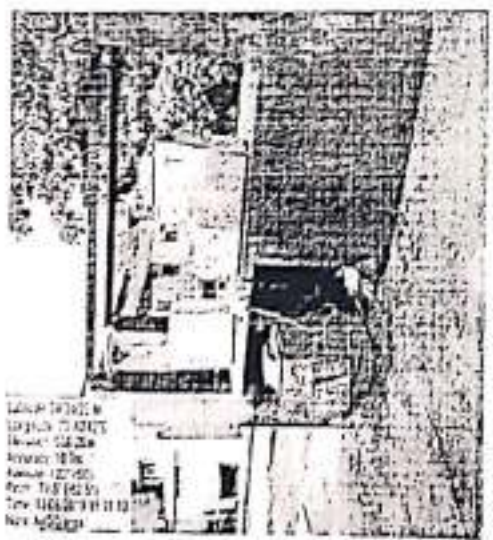
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 NABL RSPCB ISO 9001:2015 OHSAS 18001:2007  
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 Phone: 0141-2360980, 2771865  
 Website: www.teamtesthouse.com

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.23	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	52	IS 5182 (Part 23)-2005 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	2.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

- Notes -
- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
  - Parameter No. NONE outsourced for testing
  - The results listed refer only to the tested sample (s) & parameter (s). Endorsement of products is neither inferred nor implied
  - This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
  - The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Near DG Area [24°36'23"N-73°48'42"E]

Puran Mal Yogi  
 Senior Analyst

Rajesh Maheshwan  
 Authorized Signatory  
 (Report No: TC502519400002280P)

# TEAM 1101 HOUSE

## (Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest Department of India as Environmental Laboratory

Reg. No. 1101/1101

1101/1101/1101

1101/1101/1101

1101/1101

E. An. 1101/1101/1101  
 Topic: Air Quality  
 Date: 11/11/2023  
 Page: 1/1

1. To monitor the air quality  
 2. To identify the sources of air pollution  
 3. To suggest the measures to reduce air pollution  
 4. To create awareness among the people

### TEST REPORT

Report No. IITB/1101/1101	11/11/2023	Date	11/11/2023
Issued To	M/S. Environmental Test Limited (Address: Test Location) P.O. Test Location, District: Test Location	Type of Test	General
Type of Sample	Airborne Particulate Matter	Type of Sample	11/11/2023
Date of Collection	11/11/2023	Date of Testing	11/11/2023
Name of Laboratory	11/11/2023	Sampling Time	11/11/2023
Quantity of Sample	1 Litre	Sample Storage	11/11/2023
Test Representative	Accuracy: 100%	Location of Sample	11/11/2023

### RESULTS

Parameters	Observed Value	Sampling Method	Limit as per National Ambient Air Quality Standards (NAAQS)
Arsenic [microgram/m <sup>3</sup> ]	11.2	11/11/2023	100 µg/m <sup>3</sup>
Carbon Monoxide [microgram/m <sup>3</sup> ]	11.2	11/11/2023	100 µg/m <sup>3</sup>
Lead [microgram/m <sup>3</sup> ]	11.2	11/11/2023	100 µg/m <sup>3</sup>
Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	11.75	11/11/2023	100 µg/m <sup>3</sup>
Ozone [microgram/m <sup>3</sup> ]	11.3	11/11/2023	100 µg/m <sup>3</sup>
Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	11.3	11/11/2023	100 µg/m <sup>3</sup>

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Note:



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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	6.66	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	74.64	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-a-pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	2.4	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

Note:

- Parameters No. 7, 8, 9, 10, 11 & 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope
- Parameter No. 12(Ni) is submitted for testing
- The results are valid only for the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
- The report should be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing.
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near Lab Top [24°36'26"N - 73°48'50"E]

Senior Analyst

**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519400002277P)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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 E-mail: director@teamtesthouse.com

## TEST REPORT

Report No./ULR No	TC502519400002279P	Date :	27-08-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	12-08-2019
Point of Collection	Near ETP [24°36'19"N-73°49'19"E]	Date of Receipt :	14-08-2019
Date of Test/Analysis :	14-08-2019 to 26-08-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample	1 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	340	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.22	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	13.64	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (< 20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	33.08	CPCB Guidelines	60.00

Note:

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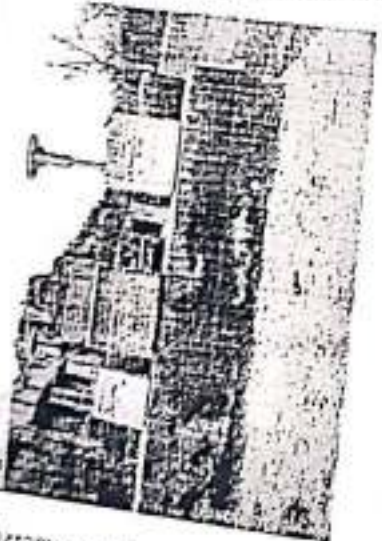
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 E-mail: teamtesthouse@gmail.com  
 E-mail: director@teamtesthouse.com

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	4.45	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	87.55	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	2.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

- Notes -
- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
  - Parameter No. 9,10 outsourced for testing
  - The results listed refer only to the stored sample (s) & parameters (s)
  - Endorsement of products is neither inferred nor implied
  - The report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
  - The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



UTM Zone 49 Q  
 UTM Easting 724732  
 UTM Northing 1923120  
 Zone 49 Q  
 UTM Easting 724732  
 UTM Northing 1923120  
 Zone 49 Q

Near ETP [24°36'18"N-73°49'19"E]

*[Signature]*  
 Senior Analyst

*[Signature]*  
**Rajesh Maheshwan**  
 Authorized Signatory  
 (Report No: TC502518400002278P)

(Unit)  
 Approved  
 NABL  
 Office  
 C-Sc  
 Ph



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No :	TC502519400002278P	Date :	27-08-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	13-08-2019
Point of Collection :	Near Railway Gate[24°36'27"N-73°48'52"E]	Date of Receipt :	14-08-2019
Date of Test/Analysis :	14-08-2019 to 26-08-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	1 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	310	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.36	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	15.61	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	20.2	CPCB Guidelines	60.00

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Note:

*Ray*



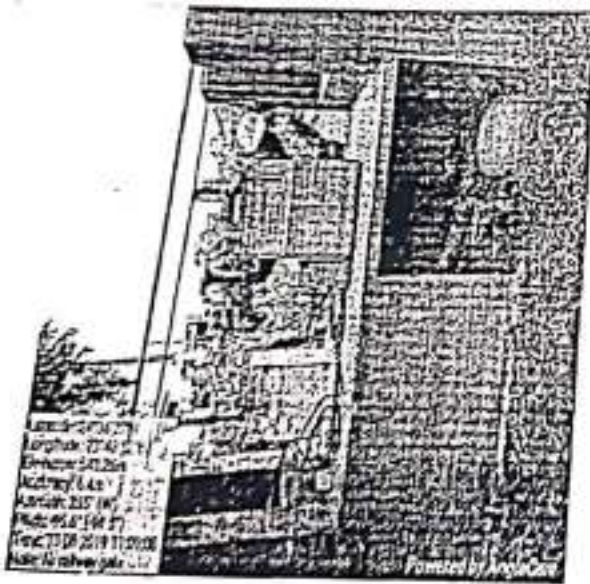
Office: E-85, Chhotejau Marg,  
C-Scheme, Anpur-307001  
Phone: 0141-2369900, 2771065  
Website: www.teamtesthouse.com

RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	7.89	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	56.42	IS 5182 (Part 23)-2008 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-a(a)- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	4.6	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

Notes:-

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Near Railway Gate[24°36'27"N-73°48'52"E]

*Purushottam Singh*  
Senior Analyst

*Raf*  
Rajesh Maheshwan  
Authorized Signatory  
(Report No: TC502519400002278P)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No. :	TC502519400002362P	Date :	03-09-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	22-08-2019
Point of Collection :	Near Railway Gate [24°36'27" N-73°48'51"E]	Date of Receipt :	25-08-2019
Date of Test/Analysis :	26-08-2019 to 02-09-2019	Sampling Plan :	IS 5182 2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	11.8	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	280	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.2	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	11.32	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	32.4	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	16.98	CPCB Guidelines	60.00

Note:

Continue to next page...

*(Handwritten Signature)*



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Ph. : 94602-22039, 24602-22039  
E-mail : teamtesthouse@gmail.com

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limit as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.76	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	65.07	IS 5182 (Part 23)-2005 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	GPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	1.8	IS 5182 (Part 23) : 2004 Reaffirmed 2014	20.00

### Notes

- Parameter No. 1, 2, 3, 4, 5, 6, 7, 6, 11, 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the test sample (s) & parameter (s). Endorsement of products is neither inferred nor implied
- This report is not to be reproduced wholly or in part and can not be used as evidence in the court of law and should not be used in any advertising media without our special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Near Railway Gate [24°36'27" N-73°43'51" E]

*Puran Mal Yogi*  
**Puran Mal Yogi**  
Senior Analyst

*K.N. Muthuchadray*  
**K.N. Muthuchadray**  
Authorized Signatory  
(Report No. TC5025194000023620)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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## TEST REPORT

Report No./ULR No. :	TC502519400002364P	Date :	03-09-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	23-08-2019
Point of Collection :	Near DG Set [24°36'23" N- 73°48'42" E]	Date of Receipt :	26-08-2019
Date of Test/Analysis :	26-08-2019 to 02-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Units representative :	Anurag Khandeival	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.6	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	320	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.14	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	11.03	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	32.4	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	22.94	CPCB Guidelines	60.00

Note:

Continue to next page...

*(Signature)*



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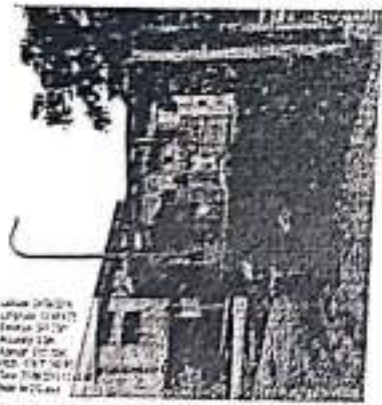
Office: E-65, Chhawan Marg, C-Scheme, Jaipur-302001  
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.84	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	61.31	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	1.8	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

- Notes -
- Parameter No. 1,2,3 & 5,6,7,8, 11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
  - Parameter No. NCME outsourced for testing
  - The results listed refer only to the tested sample (s) & parameter (s). Endorsement of products is neither inferred nor implied
  - This result is not to be reproduced wholly or in part and can not be used as detail in the court of law and should not be used in any advertising media without our special permission in writing
  - The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Near DG Set [24°35'23" N- 73°48'42" E]

*Puran Mal Yogi*  
 Puran Mal Yogi  
 Senior Analyst

*K.N. Mulhraj*  
 K.N. Mulhraj  
 Authorized Signatory  
 (Report No: TC502519400002364P)





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Tonk Road, JAIPUR-302022 Raj.  
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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No. :	TC502519400002361P	Date :	03-09-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	23-08-2019
Point of Collection :	Near Laboratory Area [24°36'14"N-73°48'51"E]	Date of Receipt :	26-08-2019
Date of Test/Analysis :	26-08-2019 to 02-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag Khandeival	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	10.6	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	350	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.25	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	11.64	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL(< 20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	14.43	CPCB Guidelines	60.00

Note:

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*D. K. Jaiswal*



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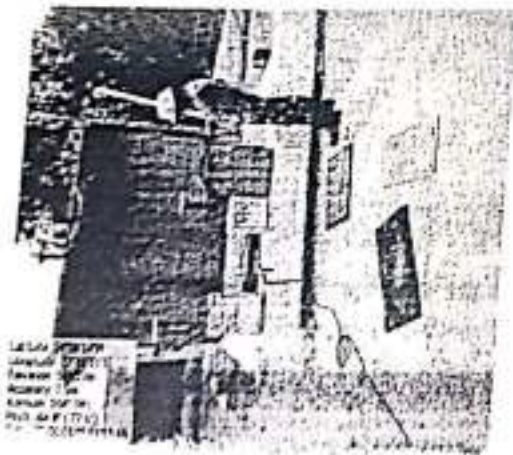
Office: E-55, Chitrangan Marg,  
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 Phone: 0141-2368850, 2771865  
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## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	6.15	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	38.47	IS 5182 (Part 23)-2005 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alpha- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guideline :	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2011	3.00
12	Nickel [ng/m <sup>3</sup> ]	1.1	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes -

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
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## TEST REPORT

Report No./ULR No. :	TC502519400002303P	Date :	03-09-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring	22-08-2019
Point of Collection	Near ETP [24°36'19" N -73°49'18"E]	Date of Receipt :	26-08-2019
Date of Test/Analysis :	26-08-2019 to 02-09-2019	Sampling Plan :	IS 5182 2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard 2009
1	Ammonia [microgram/m3]	11.3	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	320	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.15	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	11.7	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	32.3	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	38.58	CPCB Guidelines	60.00

Note:

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*Anurag Khandelwal*



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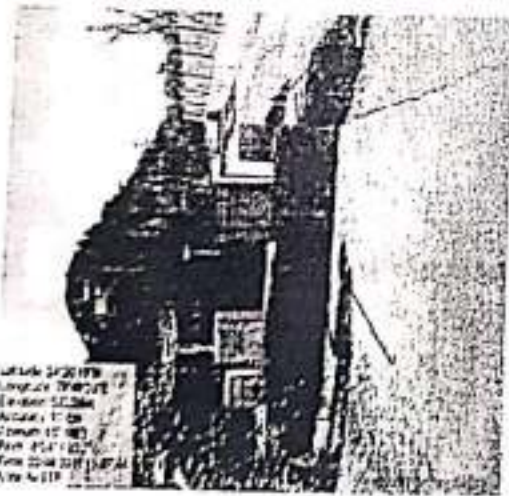
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 Tank Road, JAIPUR-302001  
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 E-mail : director@teamtesthouse.com

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	2.7	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	70.88	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-a-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	1.8	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes -

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
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Near ETP [24°36'19" N -73°49'18"E]

Purandhar Yogi  
 Senior Analyst

*K.N. Mukhopadhyay*  
 K.N. Mukhopadhyay

Authorized Signatory  
 (Report No: TC502519400002363P)



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## TEST REPORT

Report No./ULR No. :	TC502519400002511P	Date :	28-09-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	09-09-2019
Point of Collection	Near ETP [24°36'21" N- 73°48'39"E]	Date of Receipt :	12-09-2019
Date of Test/Analysis :	12-09-2019 to 25-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	kishan murari
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	12.4	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	280	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.14	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	17.42	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	BDL (< 20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	23.91	CPCB Guidelines	60.00

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Phone: 0141-2369980, 2771865  
Website: www.teamtesthouse.com

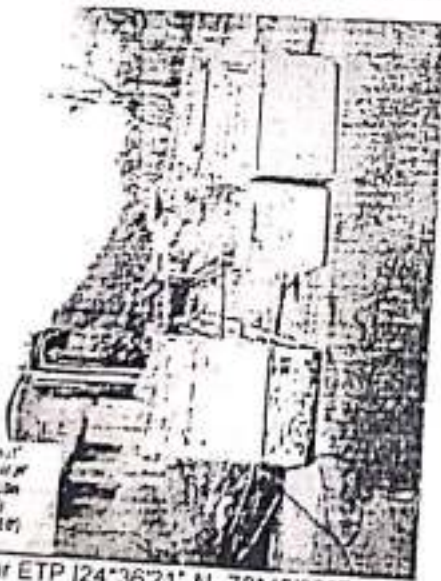
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NABL  
Office: E-65,  
C-Scheme,  
Jaipur-302001

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m3]	7.28	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m3]	57.65	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m3]	BDL(<1.0)	IS 5182 (Part 11) : 2005	5.00
10	Benzo-alfa- Pyrene [ng/m3]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m3]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m3]	1.7	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

Notes -

- Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope
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Near ETP [24°36'21" N- 73°48'39"E]

*P. V. Yogi*  
Senior Analyst

*Rajesh P. Maheshwari*  
Authorized Signatory  
(Report No. TC502519400002511P)

**TEAM TEST HOUSE**  
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**TEST REPORT**

Report No./ULR No. :	TC502519400002512P	Date :	28-09-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	09-09-2019
Point of Collection :	Near DG Set [24°36'28" N- 73°48'44"E]	Date of Receipt :	12-09-2019
Date of Test/Analysis :	12-09-2019 to 25-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	kishan murari
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (< 10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	290	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.17	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	18.4	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	BDL (<20.0)	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	31.07	CPCB Guidelines	60.00

Note:

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 Ph. 94602-22039, 94602-22040  
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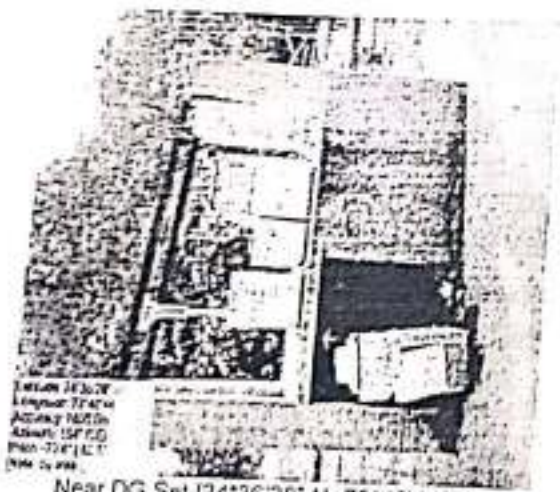
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 Website : www.teamtesthouse.com

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.88	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	62.39	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	1.5	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes

- 1. Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 covered under NABL scope and Parameter No. 9, 10 does not cover under NABL scope
- 2. Parameter No. NONE outsourced for testing
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Near DG Set [24°36'26" N- 73°48'44"E]

*Pooja*  
 Pooja Nataraj  
 Senior Analyst

*Rajesh*  
 Rajesh Maheshwari  
 Authorized Signatory  
 (Report No: TC502519400002512P)



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## TEST REPORT

Report No./LR No	TCS02519400002509P	Date:	28-09-2019
Issued To	M/S Hindustan Zinc Limited (Debari Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring:	10-09-2019
Point of Collection	Laboratory Top [24°36'14"N, 73°48'51"E]	Date of Receipt:	12-09-2019
Date of Test Analysis	12-09-2019 to 25-09-2019	Sampling Plan:	IS 5182:2000(Part 14)RA 2014
Quantity of Sample	.	Sample Collected By:	kishan muran
Units representative	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	11	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	380	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.16	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	13.31	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	30.8	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	26.2	CPCB Guidelines	60.00

Note

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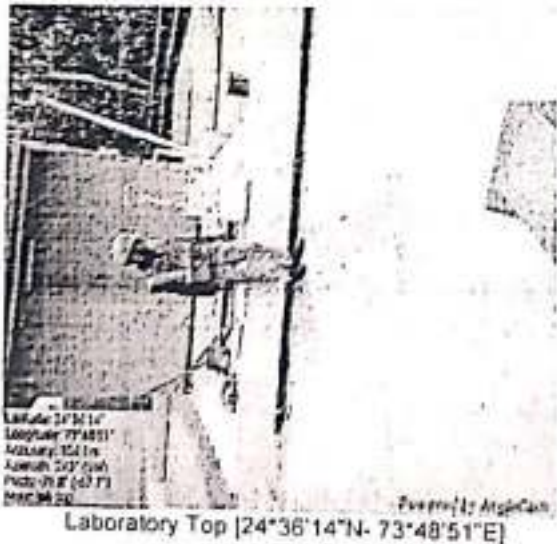
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 Approved by...  
 NABL  
 Office : E-65, C-Scheme, Jaipur-302001

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	4.05	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	47.29	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	1.1	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes -

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
- This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



*Purush*  
 Purush Mal Yogi  
 Senior Analyst

*Rajesh*  
 Rajesh Maheshwari  
 Authorized Signatory  
 (Report No: TC502519400002509P)

Laboratory  
 JD No.  
 Serial No.



## TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

NABL	RSPCB	ISO 9001:2015	OHSAS 18001:2007	JDA/UDH
------	-------	---------------	------------------	---------

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Lab. : G1-584, Sitapura Industrial Area  
 Tonk Road, JAIPUR-302022 Raj.  
 Ph. : 94602-22039, 94602-22049  
 E-mail : teamtesthouse@gmail.com  
 E-mail : director@teamtesthouse.com

### TEST REPORT

Report No./ILR No.	TC502519400002510P	Date :	28-09-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	09-09-2019
Point of Collection	Near Railway Gate [24°36'27" N 73°48'51" E]	Date of Receipt :	12-09-2019
Date of Test/Analysis :	12-09-2019 to 25-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	kishan murari
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	BDL (<10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	340	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.21	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	16.63	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	32.6	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	30.29	CPCB Guidelines	60.00

Note: Continue to next page...

Baf



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 Ph.: 94602-22030, 94602-22031  
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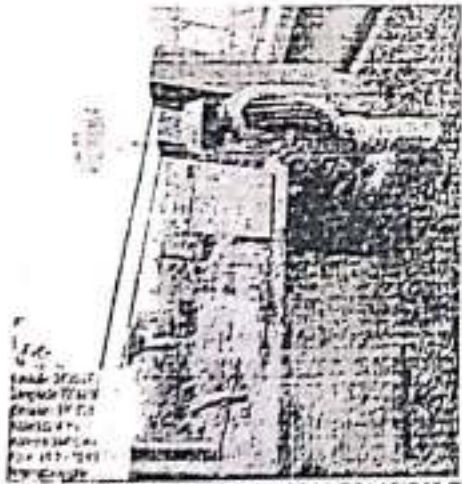
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 Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory  
 NABL RSPCB  
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 C-Scheme, Jaipur-302001  
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 Website: www.teamtesthouse.com

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Permissible Limits as per National Ambient Air Quality Standard, 2009
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	6.22	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	61.17	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	1.3	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

### Notes:-

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- Parameter No. NONE outsourced for testing
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



(Near Railway Gate [24°36'27" N-73°46'51" E])

*Purushotam*  
 Purushotam Yogi  
 Senior Analyst

*Rajesh*  
 Rajesh Maheshwari  
 Authorized Signatory  
 (Report No: TC502519400002510P)



# TEAM TEST HOUSE

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NABL

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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No.:	TC502519400002714P	Date :	01-10-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	23-09-2019
Point of Collection	Near Railway Gate [24°36'27" N-73°48'51" E]	Date of Receipt :	27-09-2019
Date of Test/Analysis :	27-09-2019 to 30-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	.	Sample Collected By :	Parsa Ram Kudi
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fil for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	BDL (< 10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	340	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.2	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	16.22	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	BDL (<20.0)	APHA 1977,Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	30.15	CPCB Guidelines	60.00

Note:

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Baf

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C-Scheme, Jaipur-302001  
Phone : 0141-2360000, 2721865

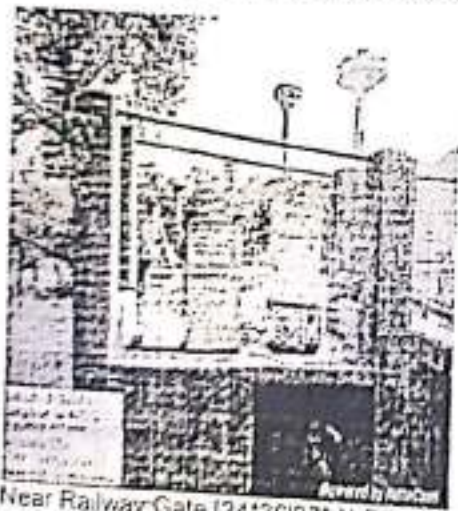
Lab.: G1-564, Sitapura Industrial Area  
Tonk Road, JAIPUR-302022  
Ph : 04602-22039, 94602-22039

RESULTS

S.No	Parameter	Observed Value	Testing Protocol	Limit
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	5.23	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	63.87	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-a[pyrene] [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	Nickel [ng/m <sup>3</sup> ]	1.7	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

Notes :-

- Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- Parameter No. NONE outsourced for testing.
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Near Railway Gate [24°36'27" N-73°48'51" E]

Senior Analyst

Authorized Signatory  
 (Report No: TC502519400002714P)



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(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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E-mail : teamtesthouse@gmail.com  
E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No :	TC502519400002715P	Date :	01-10-2019
Issued To :	M/S Hindustan Zinc Limited [Deban Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	23-09-2019
Point of Collection :	Near ETP [24°36'19" N -73°49'18"E]	Date of Receipt :	27-09-2019
Date of Test/Analysis :	27-09-2019 to 30-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	Parsa Ram Kudi
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	12.5	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	340	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.22	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	15.37	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	30.8	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	28.21	CPCB Guidelines	60.00

Note:

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*[Signature]*



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Phone : 0141-2268155, 2771865

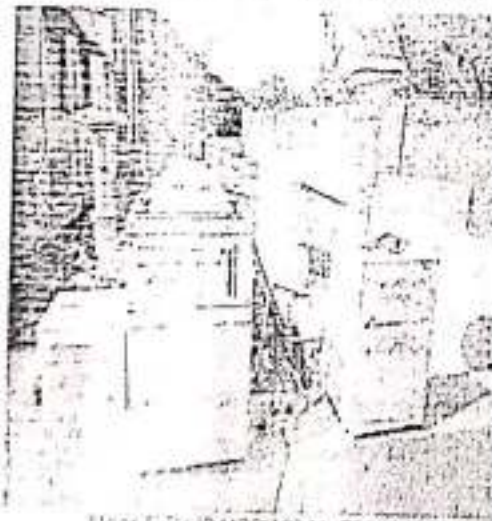
Lab.: G1-584, Sitapura Industrial Area  
Tonk Road, JAIPUR-302022  
Ph : 94602-22039, 94602-22040

## RESULTS

S/N	Parameters	Observed Value	Testing Protocol	Standard
7	Sulphur Dioxide [microgram/m <sup>3</sup> ]	6.77	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00
8	Particulate Matter (PM 10) [microgram/m <sup>3</sup> ]	74.39	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	Benzene [microgram/m <sup>3</sup> ]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	Benzo-alfa- Pyrene [ng/m <sup>3</sup> ]	BDL(<0.5)	CPCB Guidelines	1.00
11	Arsenic [ng/m <sup>3</sup> ]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00
12	Nickel [ng/m <sup>3</sup> ]	1.7	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

**Notes -**

- \* Parameter No. 1,2,3,4,5,6,7,8,11,12 covered under NABL scope and Parameter No. 9,10 does not cover under NABL scope
- \* Parameter No. NDHS excluded for testing
- \* The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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Near E.T. (24°36'19" N - 73°49'10" E)

P. Singh  
Senior Analyst

Rajesh Malhotra  
Authorized Signatory  
(Report No: TC502519400002715P)



# TEAM TEST HOUSE

(Team Institute of Science & Technology Pvt. Ltd.)

Approved by  
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C-Scheme, Jaipur  
Phone : 0141-2255  
Website : www.tth

Ministry of Environment and Forest, Government of India as Environmental Laboratory  
ISO 9001:2015      OHSAS 18001:2007      JDA/UDH

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Tonk Road, JAIPUR-302022 Raj.  
Ph.: 94602-22039, 94602-22049  
E-mail : teamtesthouse@gmail.com  
E-mail : director@teamtesthouse.com

## TEST REPORT

Report No. :	TC50251940002716P	Date :	01-10-2019
Issued To :	U.S. Industries Zinc Limited (Zinc Smelter)	Type of Unit :	Smelter
Type of Sample :	Zinc Smelter, District Udaipur (Rajasthan), Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	23-09-2019
Point of Collection :	Near TG Set [24°36'23" N 73°48'42" E]	Date of Receipt :	27-09-2019
Date of Test/Analysis :	27-09-2019 to 30-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :		Sample Collected By :	Parsa Ram Kudi
Unit's representation :	Shri Jagdish Khandewal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameter	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m <sup>3</sup> ]	BDL (< 10.0)	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m <sup>3</sup> ]	330	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m <sup>3</sup> ]	0.27	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO <sub>2</sub> [microgram/m <sup>3</sup> ]	18.53	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m <sup>3</sup> ]	34.2	APHA 1977, Part 819	100.00
6	Particulate Matter (PM <sub>2.5</sub> ) [microgram/m <sup>3</sup> ]	27.71	CPCB Guidelines	60.00

Note:

Continue to next page...

*Signature*

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## Institute of Science & Technology Pvt. Ltd.

Ministry of Environment and Forest, Government of India as Environmental Laboratory  
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(Unit of Test)  
 Approved by: Minster  
**NABL**  
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 C-Scheme, Jaipur  
 Phone : 0141-2611111  
 Website : www.teamtesthouse.com

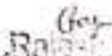
NABL  
 Office :  
 C-Sch

Lab : G1-504, Sitapura Industrial Area  
 Tonk Road, JAIPUR-302022  
 Ph : 93602-22039, 93602-22040  
 E-mail : teamtesthouse@gmail.com  
 E-mail : director@teamtesthouse.com

RESULTS			
S.No	Observed Value	Testing Protocol	Standard
7	5.5	IS 5182 (Part 2) : 2001 Reaffirmed 2012	50.00
8	55.01	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00
9	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00
10	BDL(<0.5)	CPCB Guidelines	1.00
11	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	6.00
12	1.8	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00

1. This report is issued under NABL scope and Parameter No. 9 is not covered under NABL scope.  
 2. The report is for information only and should not be used as evidence in the court of law and should not be used in any legal proceedings.  
 3. The report is valid for 12 months from the date of issue of the report unless otherwise specified.

Pu.  
 Ser

  
 Authorized Signatory  
 (Report No. TC502519400002716P)

Laboratory  
JDA/UDH



## TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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### TEST REPORT

Report No./JLR No. :	TC502510400002713P	Date :	01-10-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Ambient Air Quality Monitoring	Date of Sample Collection/Monitoring :	24-09-2019
Point of Collection	Laboratory Top [24°36'14"N-73°48'51"E]	Date of Receipt :	27-09-2019
Date of Test/Analysis :	27-09-2019 to 30-09-2019	Sampling Plan :	IS 5182:2000(Part 14)RA 2014
Quantity of Sample :	-	Sample Collected By :	Parsa Ram Kudi
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009
1	Ammonia [microgram/m3]	11.4	CPCB Guidelines	400.00
2	Carbon Monoxide [microgram/m3]	330	IS 5182 (Part 10) : 1999	4000
3	Lead [microgram/m3]	0.26	IS 5182 (Part 22) : 2004 Reaffirmed 2014	1.00
4	Nitrogen Dioxide as NO2 [microgram/m3]	18.65	IS 5182 (Part 6) : 2006 Reaffirmed 2012	80.00
5	Ozone [microgram/m3]	32.6	APHA 1977, Part 819	100.00
6	Particulate Matter (PM2.5) [microgram/m3]	21.13	CPCB Guidelines	60.00

Note:

Continue to next page...

*Praj*



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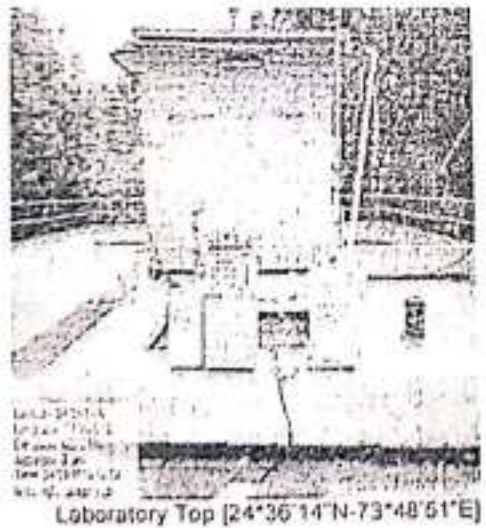
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NABL RSPCB		RESULTS		Lab.: G1-584, Sitapura Industrial Area, Tonk Road, JAIPUR-302022 Rajasthan Ph: 94602-22039, 02202-22049 E-mail: teamtesthouse@gmail.com E-mail: director@teamtesthouse.com	
S/No	Parameter	Observed Value	Testing Protocol	Limits as per National Ambient Air Quality Standard, 2009	
7	Sulphur Dioxide [microgram/m3]	7.47	IS 5182 (Part 2) : 2001 Reaffirmed 2012	80.00	
8	Particulate Matter (PM 10) [microgram/m3]	70	IS 5182 (Part 23)-2006 Reaffirmed 2012	100.00	
9	Benzene [microgram/m3]	BDL(<1.0)	IS 5182 (Part 11) : 2006	5.00	
10	Benzo-alfa- Pyrene [ng/m3]	BDL(<0.5)	CPCB Guidelines	1.00	
11	Arsenic [ng/m3]	BDL(<2.0)	IS 5182 (Part 22) : 2004 Reaffirmed 2014	5.00	
12	Nickel [ng/m3]	2.4	IS 5182 (Part 22) : 2004 Reaffirmed 2014	20.00	

- Notes -
- Parameter No. 1, 2, 3, 4, 5, 6, 7, 9, 11, 12 covered under NABL scope and Parameter No. 8, 10 does not cover under NABL scope
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  - The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



*Pooja*  
 Pooja  
 Senior Analyst

*Rajendra Kumar*  
 Rajendra Kumar  
 Authorized Signatory  
 (Report No: TC502519400002713P)

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(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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ISO 9001:2008

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JDA/UDH

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 Bank Road, Lucknow-202002 (U.P.)  
 Ph: 96119 22023, 96119 22065  
 E-mail: teamtesthouse@gmail.com  
 E-mail: direct@teamtesthouse.com

## TEST REPORT

Report No./AR No	TC502519500000556P	Date:	10/05/2015
Request To	M2: Electrodeless Zn. Direct Product Zn. Corporation DNY Zinc Corroder, United Telecom (Bhopal) Ltd.	Type of Test	Combar
Type of Sample	Stack Emission Emission	Date of Sample Collection/Analysis	26/04/2015
Point of Collection	Stack No.401-III	Date of Receipt	01-05-2015
Date of Test/Analysis	01-05-2015 to 07-05-2015	Sampling Plan	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By	Kishan Inuran
Job's Representative	Anurag -	Condition of Sample	Fil for testing

RESULTS			
S.No	Parameters	Observed Value	Testing Protocol
1	Sulphur Dioxide (mg/Nm <sup>3</sup> )	110	IS 11255(Part 2) :1985 Reaffirmed 2014
2	Acid Mist (mg/m <sup>3</sup> )	32.4	USEPA Method 8A

**Notes :-**

- # Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- # Parameter No. NONE outsourced for testing
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*Puran*  
**Puran Mal Yogi**  
 Senior Analyst

*Rajesh*  
**Rajesh Maheshwan**  
 Authorized Signatory  
 (Report No: TC502519500000556P)

# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)



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Phase - I  
Wazirpur

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NABL ISO 9001:2008 OHSAS 18001:2007

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E-mail: director@teamtesthouse.com

## TEST REPORT

Report No. (NABL No.)	TC502519500000555P	Date:	10-05-2019
Client's Name	M/S. Fincharation Zinc, Limited (Industrial Zone) (PCT Zone: Kamalpur, District: Dehlipur (Jharkhand))	Type of Unit:	Generator
Type of Sample	Stack Emission Level	Date of Sample Collection (Start/End)	29-04-2019
Point of Collection	Stack Roster-II	Date of Receipt:	01-05-2019
Date of Test/Analysis:	01-05-2019 to 07-05-2019	Sampling Plan:	IS 11255:2008(Part 3)RA-2018
Quantity of Sample	N/A	Sample Collected By:	kishan murari
Unit's representative:	Anurag -	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Sulphur Dioxide (mg/Nm <sup>3</sup> )	115	IS 11255(Part 2) : 1985 Reaffirmed 2014
2	Acid Mist (mg/m <sup>3</sup> )	35.23	USEPA Method 8A

Notes:

- Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
- This report is not to be reproduced wholly or in part and can not be used as evidence in the court of law and should not be used in any advertising media without our special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Puran*  
Puran (Signature)  
Senior Analyst

*Rajesh*  
Rajesh Maheshwari  
Authorized Signatory  
(Report No: TC502519500000555P)



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(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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ISO 9001:2015

OHSAS 18001:2007

JDA/UDH

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## TEST REPORT

Report No./ILR No.:	TC50251950000611P	Date :	10-05-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring :	20-05-2019
Point of Collection :	Stack Roaster III	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 07-06-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample :	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag -	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Sulphur Dioxide (mg/Nm <sup>3</sup> )	113	IS 11255(Part 2) :1985 Reaffirmed 2014
2	Acid Mist (mg/m <sup>3</sup> )	30.2	USEPA Method 8A

**Notes :-**

- 1. Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- 2. Parameter No. NONE outsourced for testing
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Purany Virendra Singh*  
Senior Analyst

*Rajesh Mishra*  
Authorized Signatory  
(Report No: TC50251950000611P)



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## TEST REPORT

Report No./LR No	TC502519500000610P	Date	07-06-2019
Issued To	M/S Hindustan Zinc Limited [Debari Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	21-05-2019
Point of Collection	Stack Roaster-II	Date of Receipt	23-05-2019
Date of Test/Analysis	23-05-2019 to 07-06-2019	Sampling Plan	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	Sulphur Dioxide [mg/Nm <sup>3</sup> ]	117	IS 11255(Part 2) 1985 Reaffirmed 2014
2	Acid Mist [mg/m <sup>3</sup> ]	31.2	USEPA Method 8A

**Notes -**

- # Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover Under NABL scope
- # Parameter No. NONE outsourced for testing
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
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- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified

*(Signature)*  
 Senior Analyst

*(Signature)*  
 Authorized Signatory  
 (Report No: TC502519500000610P)





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## TEST REPORT

Report No./UR No.	TC502519500000752P	Date	05-07-2019
Issued To	M/S Hindustan Zinc Limited [Debari Zinc Smelter] PO: Zinc Smelter, Distt. Udaipur (Rajasthan)	Type of Unit :	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	07-06-2019
Point of Collection	Stack Roaster III	Date of Receipt	11-06-2019
Date of Test Analysis	11-06-2019 to 02-07-2019	Sampling Plan	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Units representative	Anunag Khandelwal	Condition of Sample	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Sulphur Dioxide [mg/Nm <sup>3</sup> ]	105	IS 11255(Part 2) : 1985 Reaffirmed 2014
2	Acid Mist [mg/m <sup>3</sup> ]	28.9	USEPA Method 8A

### Notes

- 1. Parameters 1 & 2 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- 2. Parameter No. 2 not submitted for testing
- 3. The results are referable only to the tested sample(s) & parameter(s). Endorsement of product is neither inferred nor implied
- 4. This report is not to be reproduced without permission and can not be used as evidence in the court of law and should not be used in any other legal proceedings without the permission of writing
- 5. The compliance of test is valid from the date of issue of test report, unless otherwise specified

Analyst

**Rajesh Manoharan**  
Authorized Signatory  
(Report No. TC502519500000752P)



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 Website : www.teamtesthouse.com  
 Report No. :  
 Date :  
 Issued by :

## TEST REPORT

Report No. A/LR No.	TC502519500000751P	Date	05-07-2019
Issued To	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	07-06-2019
Point of Collection	Stack Roaster-II	Date of Receipt	11-05-2019
Date of Test/Analysis	11-05-2019 to 02-07-2019	Sampling Plan	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	Sulphur Dioxide (mg/Nm <sup>3</sup> )	110	IS 11255(Part 2):1985 Reaffirmed 2014
2	Acid Mist (mg/m <sup>3</sup> )	33.4	USEPA Method 8A

**Notes**

- \* Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- \* Parameter No. NDNE outsourced for testing
- \* The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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*[Signature]*  
 Senior Analyst

*[Signature]*  
 Rajesh Nishiwari  
 Authorized Signatory  
 (Report No: TC502519500000751P)

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### TEST REPORT

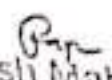
**Report No:** ABR  
**Date:** 09-05-2019  
**Issued To:** M/s Hindustan Zinc Limited [Zinc Smelter]  
**Type of Unit:** PG - Zinc Smelter  
**Type of Sample:** District Udaipur (Rajasthan)  
**Date of Sample Monitoring:** Smelter  
**Date of Sample Receipt:** Stack Emission Level  
**Date of Test:** 25-04-2019  
**Sample Collected By:** NA  
**Point of Collection:** NA  
 Venal Kumar Yadav  
 DG Set/CPP-2

### RESULTS

S No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

- Notes -**
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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**Puran Mal Yogi**  
 Senior Analyst

  
**Rajesh Maheshwari**  
 Authorized Signatory  
 (Report No: TC50251950000049)



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## TEST REPORT

Report No /JLR:	TC502519500000494
Date :	09-06-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter]
	PO : Zinc Smelter
	District Udaipur (Rajasthan)
Type of Unit :	Smelter
Type of Sample :	Stack Emission Level
Date of Sample Monitoring :	26-04-2019
Date of Sample Receipt :	NA
Date of Test :	NA
Sample Collected By :	Vimal Kumar Yadav
Point of Collection :	DG Set /CPP-1

### RESULTS

S.No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

**Notes :-**

- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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**Puranj Mal Yogi**

Senior Analyst

**Rajesh Maheshwari**  
Authorized Signatory

(Report No: TC502519500000494)



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## TEST REPORT

Report No/ULR : TC502519500000616F  
Date : 10-06-2019  
Issued To : M/S Hindusthan Zinc Limited [Debari Zinc Smelter]  
PO : Zinc Smelter  
District Udaipur (Rajasthan)  
Type of Unit : Smelter  
Type of Sample : Stack Emission Level  
Date of Sample Monitoring : 20-05-2019  
Date of Sample Receipt : NA  
Date of Test : NA  
Sample Collected By : Vimal Kumar Yadav  
Point of Collection : DG Set /CPP-2

### RESULTS

S.No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

**Notes :-**

- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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**Puran Mal Yogi**  
Senior Analyst

  
**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519500000616)



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## TEST REPORT

TC502519500000615F

10-06-2019

M/S Hindusthan Zinc Limited

PO : Zinc Smelter

District Udaipur (Rajasthan)

Smelter

Stack Emission Level

20-05-2019

NA

NA

Vimal Kumar Yadav

DG Set /CPP-1

## RESULTS

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Issued To :

Type of Unit :

Type of Sample :

Date of Sample Monitoring :

Date of Sample Receipt :

Date of Test :

Sample Collected By :

Point of Collection :

S.No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

### Notes -

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*Puran Maheshwari*  
Senior Analyst

*Rajesh Maheshwari*  
Authorized Signatory  
(Report No. TC502519500000615F)



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**TEST REPORT**

TC502519500000765F

Date :

03-07-2019

Issued To :

M/S Hindusthan Zinc Limited (Deban Zinc Smelter)

PO : Zinc Smelter

District Udaipur (Rajasthan)

Smelter

Type of Unit :

Type of Sample :

Stack Emission Level

Date of Sample Monitoring :

07-06-2019

Date of Sample Receipt :

NA

Date of Test :

NA

Sample Collected By :

Vimal Kumar Yadav

Point of Collection :

DG Set /CPP-2

**RESULTS**

S.No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

**Notes -**

- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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*Puran Mal Yogi*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh Mishra*  
**Rajesh Mishra**  
Authorized Signatory  
(Report No: TC502519500000765F)



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## TEST REPORT

TC50251950000764F

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E-mail : director@teamtesthouse.com

Date  
Issued To :

03-07-2019  
M/S Hindusthan Zinc Limited [Debari Zinc Smelter]

Type of Unit :  
Type of Sample :  
Date of Sample Monitoring :  
Date of Sample Receipt :  
Date of Test :  
Sample Collected By :  
Point of Collection :

PO : Zinc Smelter  
District Udaipur (Rajasthan)  
Smelter  
Stack Emission Level  
07-06-2019  
NA  
NA  
Vimal Kumar Yadav  
DG Set /CPP-1

## RESULTS

S.No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

**Notes :-**

- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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*Puran Mal Yogi*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh Maheshwan*  
**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC50251950000764F)





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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No. :	TC502519500000557F	Date :	10-05-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring :	26-04-2019
Point of Collection :	Slag Grinding Stack	Date of Receipt :	01-05-2019
Date of Test/Analysis :	01-05-2019 to 07-05-2019	Point of Collection :	Slag Grinding Stack
Quantity of Sample :	N/A	Sample Collected By :	kishan murali
Unit's representative :	Anurag -	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Particulate matter [mg/Nm <sup>3</sup> ]	39.48	IS 11255 (Part 1):1985 Reaffirmed 2014

- Notes :-
- # Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
  - # Parameter No. NONE outsourced for testing
  - # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
  - # This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
  - # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Puran Mal Yogi*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh Maheshwan*  
**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519500000557F)



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## TEST REPORT

Report No./ULR No :	TC50251950000491F	Date :	03-05-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring :	02-04-2019
Point of Collection :	Zinc Melting Stack	Date of Receipt :	09-04-2019
Date of Test/Analysis :	08-04-2019 to 03-05-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Particulate matter (mg/Nm <sup>3</sup> )	26.62	IS 11255 (Part 1):1986 Reaffirmed 2014

**Notes :**

- # Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE outsourced for testing
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
- # This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

**Puran Malviya**  
Senior Analyst

**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC50251950000491F)



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## TEST REPORT

Report No /ULR No :	TC50251950000493F	Date	03-05-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring :	03-04-2019
Point of Collection :	Azox Furnace	Date of Receipt :	08-04-2019
Date of Test/Analysis :	08-04-2019 to 03-05-2019	Sampling Plan	IS 11255 2008(Part 3)RA 2018
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Particulate matter (mg/Nm <sup>3</sup> )	24.36	IS 11255 (Part 1) 1985 Reaffirmed 2014

**Notes -**

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
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*Puran Mishra*  
Senior Analyst

*Rajesh Maheshwari*  
Authorized Signatory  
(Report No: TC50251950000493F)



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 Website : www.teamtesthouse.com

## TEST REPORT

Report No./ULR No. :	TC50251950000492F	Date :	09-05-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring :	03-04-2019
Point of Collection :	Induction Furnace Stack	Date of Receipt :	08-04-2019
Date of Test/Analysis :	08-04-2019 to 03-05-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2019
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag -	Condition of Sample :	Fit for testing


## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Particulate matter (mg/Nm <sup>3</sup> )	43.42	IS 11255 (Part 1):1985 Reaffirmed 2014

**Notes :**

- # Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE outsourced for testing.
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
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**Puran Mal Yogi**  
 Senior Analyst

  
**Rajesh Maheshwan**  
 Authorized Signatory  
 (Report No: TC50251950000492F )

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## TEST REPORT

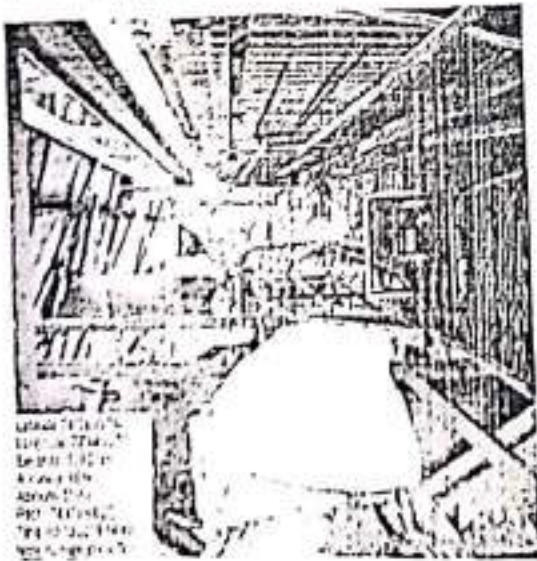
Report No./ULR No	TC502519500000594F	Date	04-05-2019
Issued To	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	10-05-2019
Point of Collection	Zinc Melting Stack	Date of Receipt	16-05-2019
Date of Test/Analysis	16-05-2019 to 01-06-2019	Sampling Plan	IS 11255:2009(Part 3) RA 2018
Quantity of Sample	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's representative	Anurag -	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	Particulate matter (mg/Nm <sup>3</sup> )	26.68	IS 11255 (Part 1) 1985 Reaffirmed 2014

**Notes -**

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Zinc Melting Stack [24°36'297 N-73°48'327 E]

**Puran Malhotra**  
Senior Analyst

*Raj*

Authorized Signatory

(Report No. TC502519500000594F)



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## TEST REPORT

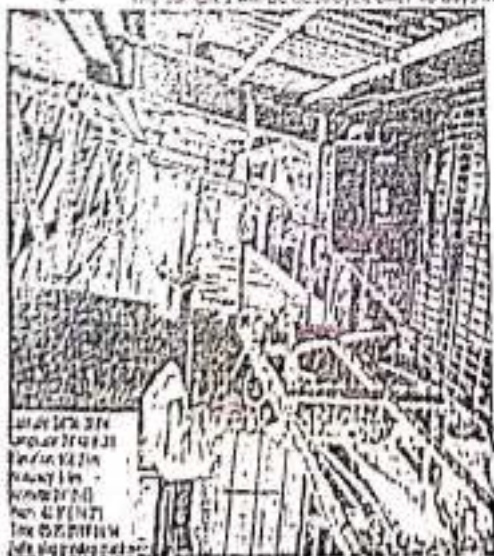
Report No./LIR No	TC502519500000612F	Date:	07-06-2019
Issued To:	M/S Hindusthan Zinc Limited (Deban Zinc Smelter) PO: Zinc Smelter, District Udalpur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring	20-05-2019
Point of Collection	Slag Grinding	Date of Receipt:	23-05-2019
Date of Test/Analysis:	23-05-2019 to 07-06-2019	Sampling Plan:	IS 11255-2008(Part 3)RA 2018
Quantity of Sample:	N/A	Sample Collected By:	Vimal Kumar Yadav
Units representative:	Anunag -	Condition of Sample:	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Particulate matter [mg/Nm <sup>3</sup> ]	42.83	IS 11255 (Part 1):1985 Reaffirmed 2014	100

### Notes:

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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Slag Grinding [24°36.280'N- 73°48.803'E]

*Pur*  
**Purush Mal Yogi**  
Senior Analyst

*Raj*  
**Rajesh Maheshwar**  
Authorized Signatory  
(Report No: TC502519500000612F)

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## TEST REPORT

Report No./ULR No.:	TC502519500000595F	Date:	04-06-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring:	10-05-2019
Point of Collection:	Induction Furnace Stack	Date of Receipt:	16-05-2019
Date of Test/Analysis:	10-05-2019 to 01-06-2019	Sampling Plan:	IS 11255:2003(Part 3) RA 2018
Quantity of Sample:	N/A	Sample Collected By:	Vinay Kumar Yadav
Unit's representative:	Anurag -	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Particulate matter [mg/Nm <sup>3</sup> ]	32.91	IS 11255 (Part 1): 1985 Reaffirmed 2014

**Notes:**

- 1. Parameter No. 1 covered under NABL scope and Parameter No. NDHC does not cover under NABL scope
- 2. Parameter No. NDHC outsourced for testing
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
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Induction Furnace Stack [24°36.306'N- 73°48.797'E]

*[Signature]*  
Senior Analyst

*[Signature]*  
Authorized Signatory

(Report No. TC502519500000595F)



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## TEST REPORT

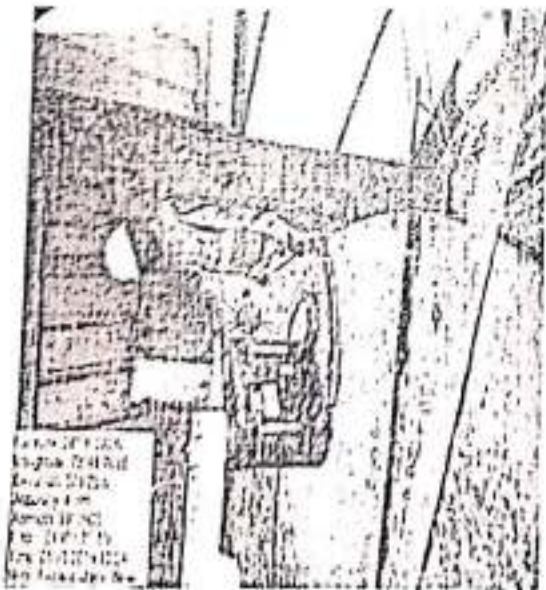
Report No./ULR No	TC502810500000506F	Date	04-06-2019
Issued To	M/S Hindustan Zinc Limited [Jodhpur Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	10-05-2019
Point of Collection	Ajex Furnace	Date of Receipt	16-05-2019
Date of Test/Analysis	16-05-2019 to 01-06-2019	Sampling Plan	IS 11255 2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Units representative	Anurag -	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	Particulate matter [mg/Nm <sup>3</sup> ]	18.2	IS 11255 (Part 1) 1985 Reaffirmed 2014

**Notes**

- 1. Parameter No. 1 covered under NABL scope and Parameter No. NDNE goes not cover under NABL scope
- 2. Parameter No. NDNE authorized for testing
- 3. The results stated refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied
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- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Ajex Furnace Stack-New [24°36'292"N, 73°48'783"E]

*[Signature]*

Senior Analyst

*[Signature]*

Authorized Signatory





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## TEST REPORT

Report No./ULR No.	TC50251050000750F	Date:	02-07-2019
Issued To	M/S Hoshangh Zing Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring:	07-05-2019
Point of Collection	Slag Grinding	Date of Receipt:	11-05-2019
Date of Test/Analysis	11-06-2019 to 02-07-2019	Sampling Plan:	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	Particulate matter (mg/Nm <sup>3</sup> )	47.24	IS 11255 (Part 1): 1985 Reaffirmed 2014

**Notes**

- # Parameter No. 1 covered under NABL scope and Parameter No. 4 does not cover under NABL scope
- # Parameter No. 4/5/6 outsourced for testing
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
- # This report is not to be reproduced wholly or in part and can not be used as evidence in the court of law and should not be used in any advertising media without our special permission in writing.
- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Slag Grinding (24°30'45.7" N 73°46'13.0" E)

*[Signature]*  
Senior Analyst

*[Signature]*  
Authorized Signatory  
(Report No. TC50251050000750F)



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## TEST REPORT

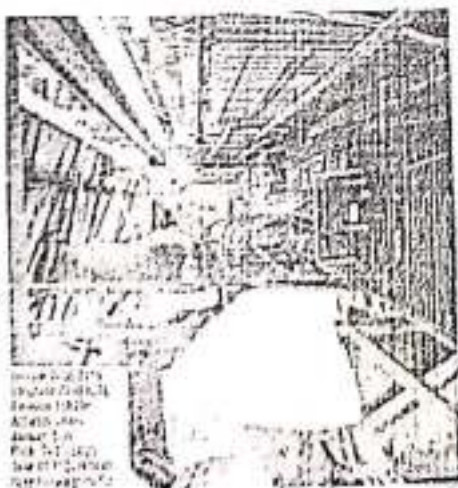
Report No./ULN No.	TC502518500000748F	Date	02-07-2019
Issued To	M/S Hindustan Zinc Limited (Dabai Zinc Smelter) PO - Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	07-06-2019
Point of Collection	Zinc Melting Stack	Date of Receipt	11-08-2019
Date of Test/Analysis	11-08-2019 to 02-07-2019	Sampling Plan	IS 11255 2006 (Part 3)/IA 2018
Quantity of Sample	N/A	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurag Khandalwal	Condition of Sample	Fil for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Particulate matter (mg/Nm <sup>3</sup> )	30.07	IS 11255 (Part 1):1985 Reaffirmed 2014

Notes:

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample(s) & parameters (s). Endorsement of products is neither intended nor implied
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Zinc Melting Stack [24°36'297"N-73°48'827"E]

Puran [Signature]  
 Senior Analyst

[Signature]  
 Authorized Signatory  
 (Report No: TC502518500000748F)

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## TEST REPORT

Report No./LR No.	TC502519500000749F	Date:	02-07-2019
Issued To:	M/S Hindustan Zinc Limited (Debon Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	07-06-2019
Point of Collection	Induction Furnace Stack	Date of Receipt	11-06-2019
Date of Test/Analysis	11-06-2019 to 02-07-2019	Sampling Plan	IS 11255 2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By	Vinay Kumar Yadav
Units representative	Anurag Khandelwal	Condition of Sample	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Particulate matter [mg/Nm <sup>3</sup> ]	38.6	IS 11255 (Part 1):1985 Reaffirmed 2014

**Notes:**

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NAEL scope.
- Parameter No. NONE outsourced for testing.
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Induction Furnace Stack (24°30 306'N - 73°48.797'E)

*Rajesh*  
Rajesh Mishra  
Senior Analyst

*Rajesh*  
Rajesh Mishra  
Authorized Signatory  
(Report No: TC502519500000749F)



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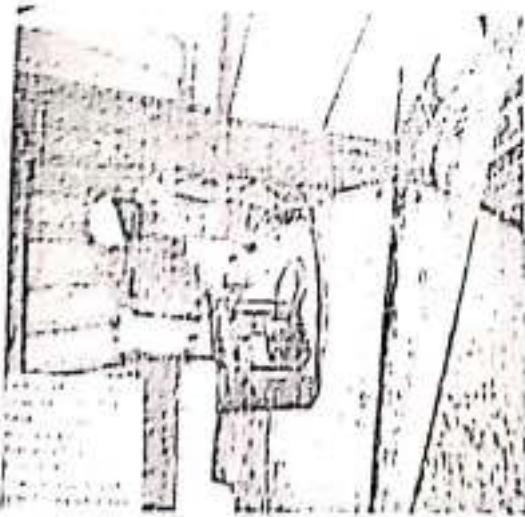
## TEST REPORT

Recd No. (IR No.)	TC50251950000842F	Date	02-07-2019
Issued To	M/S Debasmita Zinc Limited (Debas Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	10-06-2019
Point of Collection	Azox Furnace	Date of Receipt	26-06-2019
Test Standard	Annexure 2 to IS 11255-2018	Sampling Plan	IS 11255 2008 (Part 3) RA 2018
Quantity of Sample	20g	Sample Collected By	Vimal Kumar Yadav
Unit representative	Anurag Khandewal	Condition of Sample	Fit for testing

### RESULTS

Sl. No.	Parameters	Observed Value	Testing Protocol
1	Total suspended matter (mg Nm <sup>3</sup> )	28.3	IS 11255 (Part 1) 1985 Reaffirmed 2014

- 1. This report is issued only for the scope and Parameter No. NONE does not cover under NABL scope.
- 2. This report is issued only for the testing.
- 3. This report is issued only for the method (sample size & parameters (s)) Endorsement of products is neither intended nor implied.
- 4. This report is issued only for the purpose of information and cannot be used as evidence in the court of law and should not be used in any legal proceedings without the explicit permission of the laboratory.
- 5. This report is valid from the date of issue of test report unless otherwise specified.



After Furnace Stack New (04/06/19, 11:43:49:30 AM)

*(Signature)*  
Senior Analyst

*(Signature)*  
Authorized Signatory  
(Report No. TC50251950000842F)



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E-mail: director@teamtesthouse.com

## TEST REPORT

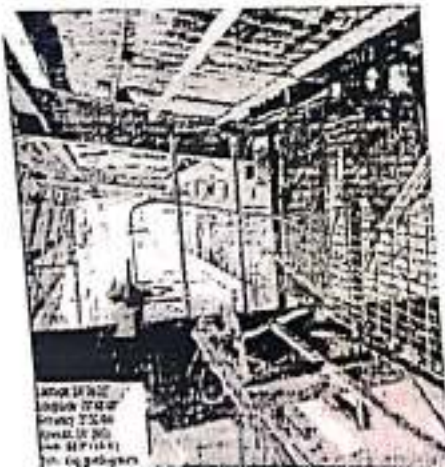
Report No./ULR No.	TC502519500001174F	Date:	01-10-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring	10-09-2019
Point of Collection	Slag Grinding	Date of Receipt	12-09-2019
Date of Test/Analysis	12-09-2019 to 28-09-2019	Sampling Plan:	IS 11255:2008(Part 3)RA 2018
Quantity of Sample:	-	Sample Collected By:	Kishan murari
Unit's representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Particulate matter (mg/Nm <sup>3</sup> )	17.97	IS 11255 (Part 1): 1985 Reaffirmed 2014	100

**Notes -**

- # Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE outsourced for testing
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Slag Grinding [24°36'32"N- 73°48'40"E]

*[Signature]*  
Senior Analyst

*[Signature]*  
Authorized Signatory  
(Report No: TC502519500001174F)



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## TEST REPORT

500000957-B

03.08.2019

M/S Hindusthan Zinc Limited [Debari Zinc Smelter]

PO : Zinc Smelter

District Udaipur (Rajasthan)

Smelter

Stack Emission Level

10.07.2019

NA

NA

Vimal Kumar Yadav

DG Set /CPP-2

## RESULTS

S.No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

### Notes -

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Purnan Mohapatra  
 Senior Analyst

Rajesh Maneshwari  
 Authorized Signatory  
 (Report No: 500000957-B)



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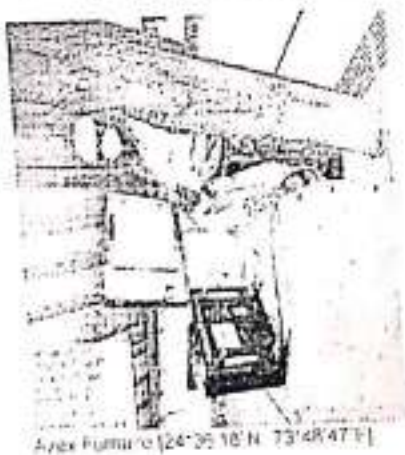
**TEST REPORT**

Report No./TIR No	TC/50731960/0011719	Date	12/06/2019
Issued To	M/S Hindustan Zinc Limited Plot No. 20, Sector 17 Fazlka, Distt. Ludhiana (Punjab)	Issued To	Shri. J. S. Chahal
Type of Sample	Stack Emission Level	Date of Sample Collection/Method	12/06/2019
Plant of Collection	Alex Furnace	Date of Report	12/06/2019
Date of Test/Analysis	12/06/2019 to 20/06/2019	Sampling Plan	IS 11266 Part 1-1985 (2011)
Quantity of Sample		Sample collected by	Harpreet Singh
Units represented by	g/m <sup>3</sup> at 10% excess air	Preparation of sample	100% at 10%

**RESULTS**

No	Parameters	Observed Value	Testing Procedure	Limit as per Environment protection Act 1986
	Particulate matter (mg/Nm <sup>3</sup> )	12	IS 11266 (Part 1-1985) Referred to IS 11266	100

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Puran Mal Yogi  
 Senior Analyst

Kajeshi Adheshwari  
 Administrator  
 Team Test House Pvt. Ltd.

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## TEST REPORT

Report No./ULR No.:	TC502519500001088P	Date :	04-09-2019
Issued To:	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring :	13-08-2019
Point of Collection:	DG Set /CPP-II	Date of Receipt :	14-08-2019
Date of Test/Analysis:	14-08-2019 to 02-09-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample:	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative:	Anurag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

- Notes -
- # Parameter No. 1,2,3 covered under NABL scope and Parameter No. 4 does not cover under NABL scope
  - # Parameter No. NONE outsourced for testing
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  - # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified

**Puran Mal Yogi**  
Senior Analyst

**Rakesh Maheshwari**  
Authorized Signatory  
(Report No: TC502519500001088P)





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Lab. No. 500000957  
 Date: 04-09-2019

**TEST REPORT**  
**TEST REPORT**

Report No./ULR No.:	TC502519500001084F	Date:	03.08-2019	Date:	04-09-2019
Issued To:	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur, (Rajasthan)	Type of Unit:	Zinc Smelter	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring:	Smelter	Date of Sample Collection/Monitoring:	12-08-2019
Point of Collection:	Azex Furnace [24°36'18"N-73°48'47"E]	Date of Receipt:	14-08-2019	Date of Receipt:	14-08-2019
Date of Sample Monitoring:	14-08-2019 to 02-09-2019	Sampling Plan:	NA	Sampling Plan:	IS 11255:2008 (Part 3) RA 2018
Date of Sample Receipt:	NA	Sample Collected By:	Vimal Kumar Yadav	Sample Collected By:	Vimal Kumar Yadav
Use of Collection representative:	Anurag Khandelwal	Condition of Sample:	DG Set (COP-1)	Condition of Sample:	Fit for testing

**RESULTS**

Sl. No	Parameters	RESULTS		Limits as per Environment protection rules, 1986
		Observed Value	Testing Protocol	
1	Particulate matter [mg/Nm <sup>3</sup> ]	17.66	IS 11255 (Part 1):1985 Reaffirmed 2014	100
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	Plant Shut Down		
3	Carbon Monoxide [mg/Nm <sup>3</sup> ]	Parameter No. NONE does not cover under NABL scope and Parameter No. NONE does not cover under NABL scope		
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	Parameter No. NONE is assigned for testing		

**Notes:**  
 The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.  
 The results listed refer only to the tested sample (s) & parameters (s). Encouragement of products is neither implied nor implied.  
 The results listed refer only to the tested sample (s) & parameters (s). Encouragement of products is neither implied nor implied.  
 The results listed refer only to the tested sample (s) & parameters (s). Encouragement of products is neither implied nor implied.



Azex Furnace [24°36'18"N-73°48'47"E]

*Rajesh Maheshwan*  
**Rajesh Maheshwan**  
 (Report No: 50000957)

*Rajesh Maheshwan*  
**Rajesh Maheshwan**  
 Authorized Signatory

*M. Mal Yogi*  
**M. Mal Yogi**  
 Senior Analyst



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JDA/L/111

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## TEST REPORT

Report No./LLR No	TC502519500001169B	Date :	01-10-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring :	11-09-2019
Point of Collection	DG Set /CPP-2	Date of Receipt :	12-09-2019
Date of Test/Analysis	12-09-2019 to 01-10-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	-	Sample Collected By :	kishan murari
Units representative	Anurrag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value
1	Particulate matter [mg/Nm <sup>3</sup> ]	Plant Shut Down
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]	
3	Carbon monoxide [mg/Nm <sup>3</sup> ]	
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]	

### Notes :-

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Puran*  
Puran  
Senior Analyst

*Rajesh*  
Rajesh Khandelwal  
Authorized Signatory  
(Report No: TC502519500001169B)



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Team Institute of Science & Technology Pvt. Ltd.  
 E-mail: info@teamtesthouse.com  
 E-mail: accounts@teamtesthouse.com

Report No./CLR No		TEST REPORT		Date
TC502519500001085F		TEST REPORT		04-09-2019
Issued To	M/S Hindustan Zinc Limited [Debari Zinc Smelter]	Type of Unit	Smelter	
Report No./CLR No	05D0001169A	Date	01-10-2019	
Type of Sample	Slag Grinding [24*36*17"N-73*48'48"E]	Date of Sample	10-08-2019	
Point of Collection	Debari Zinc Smelter, District Udaipur (Rajasthan)	Condition of Monitoring	Smelter	
Test/Analysis	Slag Grinding [24*36*17"N-73*48'48"E]	Date of Receipt	14-08-2019	
Quantity of Sample	100g	Sampling Plan	IS 11255:2008(Part 3)RA	
Sample Collection	By: Anurag Khandelwal	Date of Sample	10-08-2019	
By	Anurag Khandelwal	Sample Collected By	Vimal Kumar Yadav	
Date	01-10-2019	Condition of Receipt	Fit for testing	
Quantity of Sample	100g	Sampling Plan	IS 11255:2008(Part 3)RA	

S.No	Parameters	Observed Value	Sample Collected By	Limits as per Environment protection rules, 1986
1	Particulate matter (mg/Nm <sup>3</sup> )	13.55	Kishan Murari	100

Notes -

- Parameter No: NONE does not cover under NABL scope
- Observed value of sample (s) & parameters (s) Endorsement of products is neither inferred nor implied by this report and can not be used evidence in the court of law and should not be used in any court of law without special permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified



Slag Grinding [24\*36\*17"N-73\*48'48"E]

Puran Mal Yogi  
Senior Analyst

Rajesh Maheshwar  
Authorized Signatory  
(Report No: TC502519500001169A)

Rajesh Maheshwar  
Authorized Signatory  
(Report No: TC502519500001085F)



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 E-mail: teamtesthouse@rediffmail.com  
 E-mail: direct@teamtesthouse.com

## TEST REPORT

Report No.:	TCS029/TS030000964P	Date:	03-08-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring:	11-07-2019
Point of Collection:	Stack Roaster III [24°36.222'N-73°48.060'E]	Date of Receipt:	17-07-2019
Date of Test/Analysis:	17-07-2019 to 03-08-2019	Sampling Plan:	IS 11255:2008(Part 3)RA 2018
Quantity of Sample:	N/A	Sample Collected By:	Vimal Kumar Yadav
Unit's Representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules 1985
1	Sulphur Dioxide [mg/Nm <sup>3</sup> ]	110.93	IS 11255(Part 2) : 1985 Reaffirmed 2014	-
2	Acid Mist [mg/m <sup>3</sup> ]	26.94	None	-

**Notes -**

- # Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- # Parameter No. NONE outsourced for testing
- # The results listed refer only to the tested sample(s) & parameter(s). Encapsulation of products is not performed nor applied
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Stack Roaster III [24°36.222'N-73°48.060'E]

Puran Mal Yogi  
 Senior Analyst

Anurag Khandelwal  
 (Brand No. TCS029/TS030000964P)

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**TEST REPORT**

Report No. NIL/18/TC0028195000039639	Date: 17-07-2019
Issued To: M/S Hindhan Zinc Smelter (D.D. Zinc Smelter) POP Zinc Smelter, D. D. Road, Jalandhar (Punjab)	Type of Unit: Smelter
Type of Sample: Stack Emission Level	Date of Receipt: 17-07-2019
Point of Collection: Asex Furnace Stack [24°36'228'N-73°48'772'E]	Shipping Part: IS 11255 (Part 3) 1985
Date of Test/Analysis: 17-07-2019 to 17-07-2019	Sample Collected: Vimal Kumar Yadav
Quantity of Sample: N/A	Condition of Sample: Fit for testing
Unit Representative: Anurag Khandelwal	Condition of Sample: Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment Protection Act, 1986
1	Sulphur Dioxide [mg/Nm <sup>3</sup> ]	107.42	IS 11255 (Part 2) 1985	100
1	Particulate matter [mg/Nm <sup>3</sup> ]	18.54	IS 11255 (Part 2) 1985	100
2	Acid Mist [mg/m <sup>3</sup> ]	35.0	Revised 2014	-

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- 2. The report is prepared as per the instructions of the client.
- 3. The report is prepared as per the instructions of the client.
- 4. The report is prepared as per the instructions of the client.
- 5. The report is prepared as per the instructions of the client.



Asex Furnace [24°36'288'N-73°48'772' E]  
 Senior Analyst: *Murali Yogi*

*Puram*  
 Senior Analyst

*Rajesh*  
**Rajesh Maheshwan**  
 Authorized Signatory  
 (Report No. TC0028195000039639)

*Rajesh*  
**Rajesh Maheshwan**  
 Authorized Signatory



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## TEST REPORT

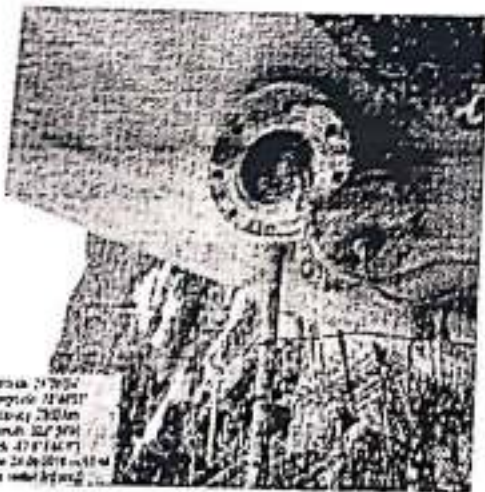
Report No./ULR No.	TC502519500001100P	Date:	04-09-2019
Issued To:	M/S Hindusthan Zinc Limited (Debian Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring	24-08-2019
Point of Collection	Stack Roaster III [24°36'24"N-73°48'51"E]	Date of Receipt:	26-08-2019
Date of Test/Analysis:	26-08-2019 to 02-09-2019	Sampling Plan	IS 11255-2008(Part 3)RA 2018
Quantity of Sample:	-	Sample Collected By	Vimal Kumar Yadav
Unit's Representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	Sulphur Dioxide (mg/Nm <sup>3</sup> )	104.53	IS 11255(Part 2):1985 Reaffirmed 2014
2	Acid Mist (mg/m <sup>3</sup> )	32.6	USEPA Method 8A

**Notes:-**

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Stack Roaster III [24°36'24"N-73°48'51"E]

*Rajan Mal*  
**Rajan Mal** Yog  
 Senior Analyst

*Rajesh Maheshwan*  
**Rajesh Maheshwan**  
 Authorized Signatory  
 (Report No: TC502519500001100P)

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No. 102, 22001, 22002, 22003, 22004, 22005, 22006, 22007, 22008, 22009, 22010, 22011, 22012, 22013, 22014, 22015, 22016, 22017, 22018, 22019, 22020, 22021, 22022, 22023, 22024, 22025, 22026, 22027, 22028, 22029, 22030, 22031, 22032, 22033, 22034, 22035, 22036, 22037, 22038, 22039, 22040, 22041, 22042, 22043, 22044, 22045, 22046, 22047, 22048, 22049, 22050, 22051, 22052, 22053, 22054, 22055, 22056, 22057, 22058, 22059, 22060, 22061, 22062, 22063, 22064, 22065, 22066, 22067, 22068, 22069, 22070, 22071, 22072, 22073, 22074, 22075, 22076, 22077, 22078, 22079, 22080, 22081, 22082, 22083, 22084, 22085, 22086, 22087, 22088, 22089, 22090, 22091, 22092, 22093, 22094, 22095, 22096, 22097, 22098, 22099, 22100, 22101, 22102, 22103, 22104, 22105, 22106, 22107, 22108, 22109, 22110, 22111, 22112, 22113, 22114, 22115, 22116, 22117, 22118, 22119, 22120, 22121, 22122, 22123, 22124, 22125, 22126, 22127, 22128, 22129, 22130, 22131, 22132, 22133, 22134, 22135, 22136, 22137, 22138, 22139, 22140, 22141, 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# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory  
 ISO 9001:2015 OHSAS 18001:2007 JDA/UDH

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## TEST REPORT

Report No./ULR No.	TC502519500001297B	Date:	01-10-2019
Issued To	M/S Hindustan Zinc Limited [Debar Zinc Smelter] PO: Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit:	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring	23-09-2019
Point of Collection	Stack Roaster -3 rd	Date of Receipt:	27-09-2019
Date of Test/Analysis	27-09-2019 to 01-10-2019	Sampling Plan:	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	-	Sample Collected By:	Parsa Ram Kudi
Unit's representative	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Sulphur Dioxide (mg/Nm <sup>3</sup> )	105.6	IS 11255(Part 2):1985 Reaffirmed 2014	-
2	Acid Mist (mg/m <sup>3</sup> )	32.65	None	-

### Notes:

- Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results indicated only to the tested sample(s) & parameter(s). Endorsement of products is neither inferred nor implied
- This report is not to be reproduced wholly or in part and can not be used by clients in the court of law and should not be used in any advertising media without our special permission in writing.
- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

Senior Analyst

Rajesh Maheshwari  
 Authorized Signatory  
 (Report No. TC502519500001297B)



# THE ANVI TEST HOUSE

(Unit of) Team Institute of Science & Technology (Aut. Inst.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory  
 18SPC091      18A/1000/12015      (GHSAS/1000/2007)      JD/W/UDR

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## TEST REPORT

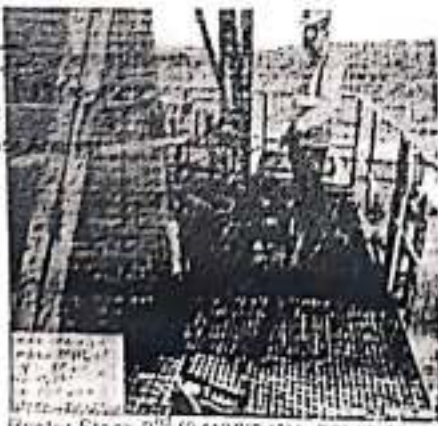
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 E-mail: teamtesthouse@gmail.com

Report No./ULR	TC502519500001297B	Date:	01-10-2019
Report No./ULR Issued To:	TC502519500001297P M/S Hindustan Zinc Limited (Debari Zinc Smelter) M/S Zinc Smelter, Debari (Debari Zinc Smelter) Zinc Smelter, District Udaipur (Rajasthan), Zinc Smelter, District Udaipur (Rajasthan).	Date of Unit:	01-10-2019 Smelter
Type of Sample:	Stack Emission Level	Type of Unit:	Smelter
Type of Sample:	Stack Roaster - 3 rd	Date of Sample:	23-09-2019
Point of Collection:	Stack Roaster - 3 rd	Method of Monitoring:	23-09-2019
Period of Collection:	27-09-2019 to 01-10-2019	Method of Monitoring:	27-09-2019
Release Date:	27-09-2019 to 01-10-2019	Date of Report:	27-09-2019
Test Analysts:		Sampling Plan:	IS 11255:2008(Part 3)RA IS 11255:2008(Part 3)RA
Quantity of Sample:		Sample Collected:	Parsa Ram Kudi Parsa Ram Kudi
Unit's Representative:	ANVI Pg. Khandeshwar	Sample Collected By:	
		Condition of Sample:	Fit for testing

### RESULTS

Sl. No.	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Sulphur Dioxide (mg/Nm <sup>3</sup> )	102.5	IS 11255 (Part 2) - 1985 Reaffirmed 2014	-
2	Total Mist (mg/m <sup>3</sup> )	208.65	None	-

- Report No. /ULR and Report No./ULR Issued To: Hindustan Zinc Limited, Debari, District Udaipur (Rajasthan)
- Report No. /ULR and Report No./ULR Issued To: Zinc Smelter, District Udaipur (Rajasthan)
- The test is valid only for the sample (M/S Hindustan Zinc Limited) and not for other samples.
- This report is not to be reproduced, wholly or in part and can not be used as evidence in any court of law and should not be used in any proceedings where, without special permission, it is used.
- The samples will be destroyed after 15 days from the date of issue of this report unless otherwise specified.



Roaster Stack 2<sup>nd</sup> (24°35'24"N - 73°48'53"E)

Rajesh Maheshwar  
 Authorized Signatory  
 (Report No. TC502519500001297B)

Rajesh Maheshwar  
 Authorized Signatory  
 (Report No. TC502519500001297P)

Senior Analyst  
 Date: 27-09-2019



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory  
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## TEST REPORT

Report No./ULR No	TC502519500000902F	Date :	03-08-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring :	09-07-2019
Point of Collection	Slag Grinding [24°36.211'N-73°48.761'E]	Date of Receipt :	17-07-2019
Date of Test/Analysis	17-07-2019 to 03-08-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameter	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Particulate matter (mg/Nm <sup>3</sup> )	22.09	IS 11255 (Part 1):1985 Reaffirmed 2014	100

### Notes -

- # Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE outsourced for testing
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
- # This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified





# TEAQA TESTING HOUSE

(Unit of Institute of Institute of Science & Technology, P.O. Ltd.)

Approved by Ministry of Environment and Forests, Government of India for Environmental Laboratory  
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## TEST REPORT

Report No. JLR	TC50251950000960F	TEST REPORT	Date:	04-09-2019
Report No.	JLR TC502519500001106P	Date:	04-09-2019	
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter)	Type of Unit:	Smelter	
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) : Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit:	Smelter	
Type of Sample:	Zinc Smelter Exhaust Udaipur (Rajasthan)	Date of Sample:	09-07-2019	
Type of Sample:	Stack Emission Level	Date of Sample:	24-08-2019	
Point of Collection:	Stack, Roaster III (24°36'24"N-73°48'51"E)	Collection/ Monitoring:	17-07-2019	
Date of Test/Analysis:	26-08-2019 to 02-09-2019	Date of Receipt:	25-08-2019	
Quantity of Sample:	N/A	Sampling Plan:	IS 11255:2008 Part 2A 2018	
Unit's representative:	Amrinder Kaur	Sample Collected By:	Vinod Kumar Yadav	
Unit's representative:	Amrinder Kaur	Collection of Sample:	For testing	

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Sulphur Dioxide (mg/m <sup>3</sup> )	104.532	IS 11255:2008 Part 2A 2018	1985
2	Acid Mist (mg/m <sup>3</sup> )	32.6	USEPA Method 8A	

- Notes:
- Parameter No. NONE outsourced for testing
  - Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
  - Parameter No. 1 covered under NABL scope and Parameter No. 2, test not covered by NABL scope (no infer or implied)
  - Parameter No. NONE outsourced for testing only in part and can not be used evidence in the court of law and should not be used in any
  - The results are valid only for the test date (15 days) (5) Endorsement of products is neither inferred nor implied
  - This report is not to be used as evidence in any court of law or for any legal purpose and should not be used in any advertising media without our special permission in writing
  - This report is valid for 15 days from the date of issue of test report unless otherwise specified



Stack Roaster III (24°36'24"N-73°48'51"E)

Stack Roaster III (24°36'24"N-73°48'51"E)

*Rajan Mal*  
 Rajan Mal Yogi  
 Senior Analyst

*Rajesh Maheshwan*  
 Rajesh Maheshwan  
 Authorized Signatory  
 (Report No. TC50251950000960F)

*Rajesh Maheshwan*  
 Rajesh Maheshwan  
 Authorized Signatory  
 (Report No. TC502519500001106P)



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E-mail : 037662019@teamtesthouse.com

## TEST REPORT

Report No./ILR No	TC502510500000061F	Date :	03-08-2019
Issued To :	M/S Hindusthan Zinc Limited (Debon Zinc Smelter) PO - Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Monitoring :	10-07-2019
Point of Collection	Azex Furnace Stack	Date of Receipt :	17-07-2019
Date of Test/Analysis	17-07-2019 to 03-08-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample	N/A	Sample Collected By :	Vimal Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Particulate matter [mg/Nm <sup>3</sup> ]	18.54	IS 11255 (Part 1):1985 Reaffirmed 2014	100

Notes -

- 1. Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope.
- 2. Parameter No. NONE outsourced for testing.
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
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- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Azex Furnace [24°36'288"N-73°48'772' E]

*Puran Mal*  
Senior Analyst

*Rajesh Maheshwan*  
Authorized Signatory

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 E-mail: teamtesthouse@gmail.com  
 E-mail: 03-09-2019@teamtesthouse.com

## TEST REPORT

Report No./Lab No.	TC502519500000959F	Date:	03-09-2019
Issued To:	M/S. Pradipsham Zinc Limited (Debari Zinc Smelter)	Type of Unit:	Smelter
Issued To:	M/S. Pradipsham Zinc Limited (Debari Zinc Smelter), District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample:	11-07-2019
Type of Sample:	Stack Emission Level	Date of Sample:	09-07-2019
Point of Collection:	Stack Roaster III (24°36.222'N, 73°48.060'E)	Date of Receipt:	17-07-2019
Point of Collection:	Zinc Melting	Date of Receipt:	17-07-2019
Date of Test/Analysis:	17-07-2019 to 03-08-2019 17-07-2019 to 03-09-2019	Sampling Plan:	IS 11255:2009 (Part 3) RA IS 11255:2009 (Part 3) RA
Quantity of Sample:	N/A	Sample Collected By:	Vijay Kumar Yadav
Units:	mg/m <sup>3</sup>	Condition of Sample:	As Collected

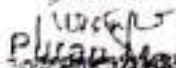






## RESULTS

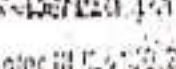
S. No.	Parameters	Observed Value	Testing Procedure	Limiting Value Environmental Protection (MPCs)
1	Particulate matter (mg/m <sup>3</sup> ) Sulphur Dioxide (mg/Nm <sup>3</sup> )	21.58 110.93	IS 11255:2009 (Part 1) 1995 IS 11255:2009 (Part 2) 1995 Reaffirmed 2014	100
2	Acid Mists (mg/m <sup>3</sup> )	26.94	None	-

Notes: Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope

- Parameter No. 1 covered under NABL scope and Parameter No. 2 does not cover under NABL scope
- This report is not to be reissued or wholly or in part and can only be used as reference for the purpose of information and should not be used in any advertising media without our special permission in writing
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified

*Purush*  
 Senior Analyst



*Rajesh*  
 Authorized Signatory  
 (Report No: TC502519500000959F)

Stack Roaster III (24°36.222'N, 73°48.060'E)

*Purush*  
 Senior Analyst

*Rajesh*  
 Authorized Signatory  
 (Report No: TC502519500000959F)  
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### TEST REPORT

Report No./LIR No	TC50251950001085F	Date :	04-09-2019
Issued To :	M/S Hindustan Zinc Limited (Delhri Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring	10-08-2019
Point of Collection	Slag Grinding [24°36'17"N-73°48'48"E]	Date of Receipt	14-09-2019
Date of Test/Analysis :	14-08-2019 to 02-09-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample :	-	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Particulate matter [mg/Nm <sup>3</sup> ]	13.55	IS 11255 (Part 1) 1965 Reaffirmed 2014	100

**Notes :-**

- 1. Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- 2. Parameter No. NONE outsourced for testing
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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Slag Grinding [24°36'17"N-73°48'48"E]

14/09/19  
Puran Mal Yogi  
Senior Analyst

Rajesh Maheshwar  
Authorized Signatory  
(Report No: TC50251950001085F)



# TEAM TEST HOUSE

(Unit of Team ~~TEST HOUSE~~ Enology Pvt. Ltd.)

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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NABL RSPCB ISO 9001:2015 OHSAS 18001:2007 ID: A5011

Ministry of Environment and Forest, Government of India as Environmental Laboratory

NABL RSPCB ISO 9001:2015 OHSAS 18001:2007 ID: A5011

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E-mail: teamtesthouse@gmail.com  
Director: director@teamtesthouse.com

## TEST REPORT

## TEST REPORT

Report No./JLR No.	TC502519500001083F	Date:	01-10-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter)	Date of Sample Collection/Monitoring:	10-08-2019
Point of Collection:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter), District Udaipur (Rajasthan), PO: Indira Nagar, Dist: Udaipur (Rajasthan), 14-08-2019 to 02-09-2019	Date of Receipt:	14-08-2019
Type of Sample:	Stack Emission Level	Sampling Plan:	IS 11255:2008 (Part 3) RA
Quantity of Sample:	-	Date of Sample:	11-09-2019
Point of Collection:	DG Shahi Mandelwal	Sample Collected By:	Vimal Kumar Yadav
Date of representative Test/Analysis:	12-09-2019 to 01-10-2019	Date of receipt:	12-09-2019
		Sampling Plan:	IS 11255:2008 (Part 3) RA 2018

## RESULTS

S.No.	Quantity of Sample	Observed Value	Standard/Reference	Limits as per Environment protection act 1986
1	Particulate matter (mg/Nm <sup>3</sup> )	15.78	IS 11255 (Part 1), 1985 Reaffirmed 2014	100

S.No.	Parameters	Observed Value
1	Particulate matter (mg/Nm <sup>3</sup> ) for testing	15.78
2	Oxides of Nitrogen (mg/Nm <sup>3</sup> )	NONE
3	Carbon monoxide (mg/Nm <sup>3</sup> )	NONE
	Hydrocarbon as HC (mg/Nm <sup>3</sup> )	NONE



**Rajesh Maneshwar**  
Authorized Signatory

(Report No: TC502519500001169)

Induction Furnace Stack (R3) 10-7-2019 (R3)

*[Handwritten signature]*

*[Handwritten signature]*



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 E-mail: director@teamtesthouse.com

## TEST REPORT

Report No./ULR No	TC502510500001004F	Date :	04-09-2019
Issued To :	M/S Hindustan Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit :	Smelter
Type of Sample :	Stack Emission Level	Date of Sample Collection/Monitoring	12-08-2019
Point of Collection	Azex Furnace [24°36'18"N-73°48'47"E]	Date of Receipt	14-08-2019
Date of Test/Analysis	14-08-2019 to 02-09-2019	Sampling Plan :	IS 11255:2008(Part 3)RA 2018
Quantity of Sample :	-	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Particulate matter [mg/Nm <sup>3</sup> ]	17.66	IS 11255 (Part 1):1985 Reaffirmed 2014	100

**Notes -**

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Enforcement of products is neither intended nor implied
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.



Azex Furnace [24°36'18"N-73°48'47"E]

*Puran Mal Yogi*  
**Puran Mal Yogi**  
 Senior Analyst

*Rajesh Maheshwari*  
**Rajesh Maheshwari**  
 Authorized Signatory



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(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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E-mail: teamtesthouse@gmail.com  
E-mail: director@teamtesthouse.com

## TEST REPORT

Report No./ULR No.:	TC502519500001088P	Date:	04-09-2019
Issued To:	M/S Hindustan Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit:	Smelter
Type of Sample:	Stack Emission Level	Date of Sample Collection/Monitoring:	13-08-2019
Point of Collection:	DG Set / CPP-II Zinc Melting (24°36'32"N 73°48'40"E)	Height of Recptl:	10.0m
Date of Test/Analysis:	14-08-2019 to 02-09-2019	Date of Receipt:	14-08-2019 (Part 3) RA 2018
Quantity of Sample:		Sampling Protocol:	IS-11265:2008 (Part 3) RA 2018
Unit's representative:	Anurag Khandetwal	Sample Collected By:	Vinay Kumar Yadav
<b>RESULTS</b>		Condition of Sample Protocol:	F4 for testing
<b>RESULTS</b>		Observed Value:	Limits as per IS-11265

S.No	Parameters	Observed Value	IS-11265 (Part 1, 1985) Reaffirmed	Limit
	Particulate matter [mg/Nm <sup>3</sup> ]	12.81	IS-11265 (Part 1, 1985) Reaffirmed	100
1	Particulate matter [mg/Nm <sup>3</sup> ]			
2	Oxides of Nitrogen [mg/Nm <sup>3</sup> ]			
3	Carbon monoxide [mg/Nm <sup>3</sup> ]			
4	Non Methane Hydrocarbon as HC [mg/Nm <sup>3</sup> ]			

Plant Shut Down

**Notes:**  
 Parameter No. 1, 2, 3 covered under IS-11265 scope and Parameter No. 4 does not cover under NABL scope  
 Parameter No. NONE covered under IS-11265 scope  
 The above tested refer only to the above sample (s) & parameters (s). Endorsement of products is neither inferred nor implied  
 This report is neither a statement of fact nor an opinion and can not be used evidence in the court of law and should not be used in any  
 advertising media without the written permission in writing  
 The samples will be destroyed 15 days from the date of issue of test report unless otherwise specified.

**Putab Mar Yogi**  
Senior Analyst

**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC502519500001088P)

Authorized Signatory



# TEAM TEST HOUSE

Unit of Team Institute of Science & Technology (IST), P.O.

Approved  
 NABL  
 Office  
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### TEST REPORT

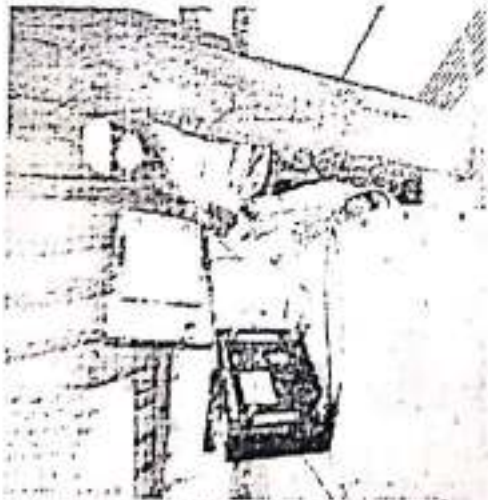
Report No./Lab No.	TG50/ST/50302/134	Date	12/07/2019
Issued To	M/S. Hindustan Zinc Limited, Jhadian Zinc Smelter, CO - Zinc Smelter, District Gurgaon (Haryana)	Type of Unit	Smelter
Type of Sample	Stack Emission Level	Date of Sample Collection/Method	10/06/2019
Point of Collection	Azox Furnace	Date of Report	12/07/2019
State of Test/Analysis	12:00 AM to 20:00 AM	Sampling Plan	SI/1205/2008/16/4/4/2019
Quantity of Sample		Sample Collected By	Kishan Kumar
Unit Representative	Mr. A.P. Singhania	Condition of Sample	100% sealed

### RESULTS

No.	Parameters	Observed Value	Testing Protocol	Limits as per Environment Protection Act 1986
	Particulate matter (mg/Nm <sup>3</sup> )	12	IS 1205 (Part 1) 1986 Reaffirmed 2019	100

**Note:**

1. Reference No. is given as per NABL while the Parameter No. NABL does not give. In our report we have given the Reference No. NABL as per NABL.
2. The results are based on the sample collected on 10/06/2019. If you need any further details, please contact us.
3. The results are based on the sample collected on 10/06/2019. If you need any further details, please contact us.
4. The results are based on the sample collected on 10/06/2019. If you need any further details, please contact us.



Azox Furnace [24°25'18" N, 73°48'47" E]

**Puran Mal Yog.**

**Kajesh Wadhawan**

Authorized Signatory

Report No. TG50/ST/50302/134

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## TEST REPORT

500000957-B

03-09-2019

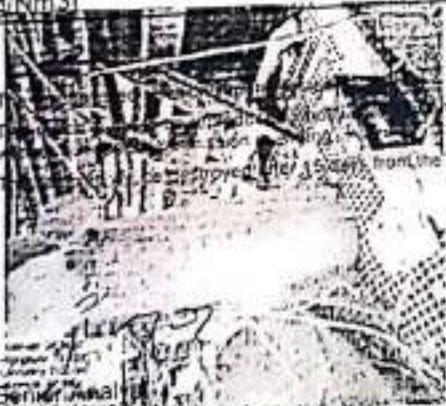
TEST REPORT

Report No./ULR No.	TC502519500001172F	M/S Hindusthan Zinc Limited (Debari Zinc Smelter)	Date	01-10-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter)	PO : Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit :	Smelter
Type of Sample :	Stack Emission Level	Smelter	Date of Sample Collection/Monitoring	10-09-2019
Date of Sample Monitoring	12-09-2019 to 28-09-2019	10-07-2019	Date of Receipt :	12-09-2019
Date of Sample Receipt	12-09-2019 to 28-09-2019	NA	Sampling Plan :	IS 11255:2008(Part 3)/RA 2018
Quantity of Sample :	-	NA	Sample Collected By :	kishan murari
Sample Collected By :	Anurag Khandehwal	Vimal Kumar Yadav	Condition of Sample :	Fit for testing
Point of Collection :	Induction Furnace Stack	DG Set /CPP-2		

## RESULTS

S.No	Parameters	Observed Value	Test Standard/Value	Limits as per Environment protection rules, 1986
1	Particulate matter (mg/Nm <sup>3</sup> )	11.22	IS 11255 (Part 1):1985 Reaffirmed 2014	100
2	Oxides of Nitrogen (mg/Nm <sup>3</sup> )	Plant Shut Down		
3	Carbon monoxide (mg/Nm <sup>3</sup> )			
4	Non Methane hydrocarbon as HC (mg/Nm <sup>3</sup> )			

Notes -



Induction Furnace Stack [24°36'32"N- 73°48'40"E]

Senior Analyst

parameters (s). Endorsement of products is neither inferred nor implied and can not be used evidence in the court of law and should not be used in any advertising media from the date of issue of test report unless otherwise specified

Rajesh Maheshwari  
 Authorized Signatory  
 (Report No: 500000957-B)

Rajesh Maheshwari  
 Authorized Signatory  
 (Report No: TC502519500001172F)

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## TEST REPORT

Reporting Unit No.	TC50251950001174F	Date:	01-10-2019
Issued to:	M/S Mandsthan Zinc Limited (Zinc Smelter)	Type of Unit:	Smelter
Type of Sample:	Zinc Smelter, District Udaipur (Rajasthan), Stack Emission Level	Date of Sample Collection/Monitoring	10-09-2019
Point of Collection:	Slag Grinding	Date of Receipt	12-09-2019
Date of Test Sample:	12-09-2019 to 20-09-2019	Sampling Plan:	IS 11255-2008(Part 3)RA 2018
Name of Sample Analyst:		Sample Collected By:	Kishan Murali
Name of Representative:	Anurag Khandekal	Condition of Sample:	Fit for testing

## RESULTS

S. No.	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Particulate matter (mg/Nm <sup>3</sup> )	17.97	IS 11255 (Part 1):1985 Reaffirmed 2014	100

- Parameter No. 1 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
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Slag Grinding [24°36'32"N, 73°48'40"E]

*[Signature]*  
Head Analyst

*[Signature]*  
Authorized Signatory  
(Report No: TC50251950001174F)

Sanitary  
ID: JUDH  
Area

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## TEST REPORT

Report No./ULR No. :	TC502519100000772F	Date :	04-05-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Borewell Water	Date of Sample Collection/Monitoring :	22-05-2019
Point of Collection :	Peizometer No.-1	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 04-06-2019	Sampling Plan :	Not Available
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag -	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.70	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.02	IS 3025 (Part 49) : 1994 RA 2014

**Notes :-**

- # Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE authorized for testing.
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
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*(Signature)*  
Senior Analyst

**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC502519100000772F)



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TC-5025

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NABL RSPCB ISO 9001:2015 OHSAS 18001:2007 JDA/JDH

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## TEST REPORT

Report No./LR No.:	TCS02519100000781F	Date:	04-06-2019
Issued To:	M/S Hindustan Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan),	Type of Unit:	Smelter
Type of Sample:	Borewell Water	Date of Sample Collection/Monitoring:	22-05-2019
Point of Collection:	Peizometer No.-2	Date of Receipt:	23-05-2019
Date of Test Analysis:	23-05-2019 to 04-06-2019	Sampling Plan:	Not Available
Quantity of Sample:	2 Ltr.	Sample Collected By:	Vimal Kumar Yadav
Units representative:	Anurrag -	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.12	IS 3025 (Part 11): 1984 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53): 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41): 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47): 1994 RA 2014
5	Zinc [mg/l]	0.06	IS 3025 (Part 49): 1994 RA 2014

Notes :-

- Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

Puran Maheshwari  
Senior Analyst

Rajesh Maheshwari  
Authorized Signatory  
(Report No: TC502519100000781F)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)



TC-5025

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## TEST REPORT

Report No./LR No. :	TC502519100000773F	Date :	01-06-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Borewell Water	Date of Sample Collection/Monitoring :	22-05-2019
Point of Collection :	Peizometer No.-3	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 04-06-2019	Sampling Plan :	Not Available
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurrag -	Condition of Sample :	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.44	IS 3025 (Part 11) : 1984 RA 2017
2	Iron (mg/l)	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium (mg/l)	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead (mg/l)	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc (mg/l)	0.04	IS 3025 (Part 49) : 1994 RA 2014

**Notes >**

- Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

**Puran Mal Yogi**  
Senior Analyst

**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC502519100000773F)



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## TEST REPORT

Report No. AAR No.	TC302519100300774F	Date:	04-05-2019
Issued To	M/S Rajasthan Zinc Limited (Debari Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample	Receiving Water	Date of Sample Collection/Monitoring:	22-05-2019
Point of Collection	Perimeter No. 4	Date of Receipt:	23-05-2019
Date of Test Analysis	23-05-2019 to 04-06-2019	Sampling Plan:	Not Available
Quantity of Sample	2 Lit.	Sample Collected By:	Vimal Kumar Yadav
Units representative	Analyte	Condition of Sample:	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	pH	8.33	IS 3025 (Part 11): 1984 RA 2017
2	Iron (mg/l)	BDL(<0.01)	IS 3025 (Part 53): 2003 RA 2014
3	Cadmium (mg/l)	BDL(<0.001)	IS 3025 (Part 41): 1992 RA 2014
4	Lead (mg/l)	BDL(<0.01)	IS 3025 (Part 47): 1994 RA 2014
5	Zinc (mg/l)	0.03	IS 3025 (Part 49): 1994 RA 2014

**Notes -**

- Parameters No. 1, 2, 3, 4 & 5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE, not covered for testing
- This is an initial order only to the listed sample (s) & parameters (s). Endorsement of products is neither intended nor kept.
- This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any other legal matter without the special permission in writing.
- This report is not to be disclosed after 15 days from the date of issue of test report unless otherwise specified.

**Vimal K. Kogi**  
Senior Analyst

**Rajesh Maheshwari**  
Authorized Signatory  
(Report No. TC302519100300774F)



Team Test House Pvt. Ltd.  
 Laboratory  
 JDA/UDH  
 Area



# TEAM TEST HOUSE

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## TEST REPORT

Report No./ULR No. :	TC502519100000775F	Date :	04-06-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Borewell Water	Date of Sample Collection/Monitoring :	22-05-2019
Point of Collection :	Peizometer No.-5	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 04-06-2019	Sampling Plan :	Not Available
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag -	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.24	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.06	IS 3025 (Part 49) : 1994 RA 2014

- Notes :-
- \* Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
  - \* Parameter No. NONE outsourced for testing
  - \* The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
  - \* This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing.
  - \* The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Purati*  
 Senior Analyst

*Rajesh Maheshwan*  
 Authorized Signatory  
 (Report No: TC502519100000775F)



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## TEST REPORT

Report No./JLR No.:	TC502519100000776F	Date :	04-06-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udalpur (Rajasthan).	Type of Unit :	Smaller
Type of Sample :	Borewell Water	Date of Sample Collection/Monitoring :	22-05-2019
Point of Collection :	Peizometer No.-6	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 04-06-2019	Sampling Plan :	Not Available
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag -	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	7.88	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.05	IS 3025 (Part 49) : 1994 RA 2014

**Notes >**

- # Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE outsourced for testing
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Puran Mal Yogi*  
Puran Mal Yogi  
Senior Analyst

*Rajesh Maheshwari*  
Rajesh Maheshwari  
Authorized Signatory  
(Report No: TC502519100000776F)



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## TEST REPORT

Report No./ILR No.:	TC502519100000777F	Date:	01-06-2019
Issued To:	M/S Hirschman Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Borewell Water	Date of Sample Collection/Monitoring:	23-05-2019
Point of Collection:	Peizometer No.-7	Date of Receipt:	23-05-2019
Date of Test/Analysis:	23-05-2019 to 04-06-2019	Sampling Plan:	Not Available
Quantity of Sample:	2 Ltr.	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag -	Condition of Sample:	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.35	IS 3025 (Part 11) : 1994 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.03	IS 3025 (Part 49) : 1994 RA 2014

- Notes :
- # Parameter No. 1,2,3,4,5 covered under HABL scope and Parameter No. NONE does not cover under HABL scope
  - # Parameter No. NONE outsourced for testing.
  - # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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**Puran Malviya**  
Senior Analyst

**Rajesh Maheshwan**  
Authorized Signatory  
(Report No: TC502519100000777F)



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## TEST REPORT

Report No./LR No. :	TC502519100000778F	Date :	04-06-2019
Issued To :	M/S Hindusthan Zinc Limited [Debari Zinc Smelter] PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Borewell Water	Date of Sample Collection/Monitoring :	22-05-2019
Point of Collection :	Peizometer No.-8	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 04-06-2019	Sampling Plan :	Not Available
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag -	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.27	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.02	IS 3025 (Part 49) : 1994 RA 2014

**Notes :-**

- 1. Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NCHE does not cover under NABL scope
- 2. Parameter No. NCHE outsourced for testing.
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither implied nor imposed.
- 4. This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing.
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*(Signature)*  
Senior Analyst

*(Signature)*  
**Rajesh Mahoshwan**  
Authorized Signatory  
(Report No: TC502519100000778F)

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## TEST REPORT

Report No./JLR No. :	TC502519100000779F	Date :	04-06-2019
Issued To :	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample :	Borewell Water	Date of Sample Collection/Monitoring :	22-05-2019
Point of Collection :	Peizometer No.-9	Date of Receipt :	23-05-2019
Date of Test/Analysis :	23-05-2019 to 04-06-2019	Sampling Plan :	Not Available
Quantity of Sample :	2 Ltr.	Sample Collected By :	Vimal Kumar Yadav
Unit's representative :	Anurag •	Condition of Sample :	Fit for testing

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.36	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.22	IS 3025 (Part 49) : 1994 RA 2014

**Notes ->**

- Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*(Signature)*

Senior Analyst

**Rajesh Maheshwar**  
Authorized Signatory  
(Report No: TC502519100000779F)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)



TC-5025

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## TEST REPORT

Report No./ILR No.:	TC502519100000780F	Date:	04-06-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO : Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Borewell Water	Date of Sample Collection/Monitoring:	22-05-2019
Point of Collection:	Peizometer No.-10	Date of Receipt:	23-05-2019
Date of Test/Analysis:	23-05-2019 to 04-06-2019	Sampling Plan:	Not Available
Quantity of Sample:	2 Ltr.	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag -	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	8.81	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	BDL(<0.01)	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL(<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL(<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.02	IS 3025 (Part 49) : 1994 RA 2014

### Notes -

- Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE outsourced for testing.
- The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
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- The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Rajesh*  
Rajesh Matshwari  
Senior Analyst

*Rajesh*  
Rajesh Matshwari  
Authorized Signatory  
(Report No: TC502519100000780F)

# HEAVY METALS

## (Unit of Environmental Science & Technology)

### TEST REPORT

Project No. / Ref. No.	100/2019/001/001	Date	27/09/2019
Issued to	M/s. Hindustan Petroleum Corporation Limited, Patna, Bihar 201, Zonal Office for District Patna, Patna, Bihar	Sample Name	Water
Type of Sample	Drinking Water	Sample No.	100/2019/001/001
Point of Collection	Patna, Bihar	Lab. No.	100/2019/001/001
Method of Analysis	14001/2019/001/001	Method	ICP-AES
Quantity of Sample	2 lit	Sample Size	100 ml
Client representative	Amitabh Khandekar	Sample	100/2019/001/001

### RESULTS

S. No	Parameters	Observed Value	Testing Procedure
1	pH	7.60	IS 3025 (Part 5) 1994 RA 2014
2	Iron [mg/l]	0.09	IS 3025 (Part 5) 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.01)	IS 3025 (Part 4) 1994 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47) 1994 RA 2014
5	Zinc [mg/l]	2.16	IS 3025 (Part 45) 1994 RA 2014

Note:  
 1. The results are given in accordance with the IS 3025 (Part 5) 2003 RA 2014.  
 2. The results are given in accordance with the IS 3025 (Part 4) 1994 RA 2014.  
 3. The results are given in accordance with the IS 3025 (Part 47) 1994 RA 2014.  
 4. The results are given in accordance with the IS 3025 (Part 45) 1994 RA 2014.  
 5. The results are given in accordance with the IS 3025 (Part 4) 1994 RA 2014.

**Purni Mahalaya**  
 Senior Analyst

**Rajesh K. Singh**  
 Author of the report  
 (Report No. 100/2019/001/001)



**PURAN MAI TEST HOUSE**  
*Unit of Team Institute of Science & Technology Pvt. Ltd.*

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**TEST REPORT**

Report No. LR	TC502519100001364F	Date	27-08-2019
Issued To	M/S Hindustan Zinc Limited (Hindustan Zinc Smelter) P.O. Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Process Water	Date of Sample Collection/Issuing	13-08-2019
Point of Collection	Process Water No. 2	Date of Receipt	14-08-2019
Period of Test/Analysis	14-08-2019 to 27-08-2019	Sampling Plan	IS 3025:1987 Part 100A 2014
Method of Sampling	200	Sample Collected by	Vinod Kumar Yadav
Client Representative	Anurag Kumarjwal	Description of Sample	Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol
1	pH	7.76	IS 3025 (Part 11): 1984 RA 2017
2	Iron [mg/l]	0.04	IS 3025 (Part 53): 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41): 1992 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47): 1994 RA 2014
5	Zinc [mg/l]	0.72	IS 3025 (Part 46): 1994 RA 2014

- 1. This report is valid only for the purpose mentioned in the report.
- 2. The results are based on the sample received and analyzed in the laboratory.
- 3. The results are based on the sample received and analyzed in the laboratory.
- 4. The results are based on the sample received and analyzed in the laboratory.
- 5. The results are based on the sample received and analyzed in the laboratory.

**Puran Mai Yog**  
*Science Analytical*

**Rajesh Manojkumar**

Authorized Analyst

Report No. TC502519100001364F



# TEAM TEST HOUSE

Unit of Team Institute of Science & Technology Pvt. Ltd.

Ministry of Environment and Forests, Government of India, Environmental Testing Laboratory (ISO 9001:2015) & (ISO 17025:2017)

## TEST REPORT

Report No. (IIR) N	TC5025191000013911	Date	27-08-2019
Issued to	M/S Hindustan Zinc Limited (Debari Zinc Smelter) FCI Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Borewell Water	Date of Sample Collection/Monitoring	13-08-2019
Point of Collection	Recometer No. 3	Date of Receipt	14-08-2019
Date of Test Analysis	14-08-2019 to 27-08-2019	Sampling Plan	IS 3025:1987 (Part 1) RA 2014
Quantity of Sample	2 litr.	Sample Collected By	Vimal Kumar Yadav
Units representative	Anarag Khandolwal	Condition of Sample	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	pH	7.75	IS 3025 (Part 1) 1984 RA 2017
2	Iron (mg/l)	0.08	IS 3025 (Part 53) 2003 RA 2014
3	Cadmium (mg/l)	BDL (<0.001)	IS 3025 (Part 41) 1992 RA 2014
4	Lead (mg/l)	BDL (<0.01)	IS 3025 (Part 47) 1994 RA 2014
5	Zinc (mg/l)	0.38	IS 3025 (Part 49) 1994 RA 2014

1. The results are based on the tested sample as per methods used. The amount of product is given in the report as per the sampling method used. The results are based on the tested sample as per methods used. The amount of product is given in the report as per the sampling method used.

2. The results are based on the tested sample as per methods used. The amount of product is given in the report as per the sampling method used.

3. The results are based on the tested sample as per methods used. The amount of product is given in the report as per the sampling method used.

4. The results are based on the tested sample as per methods used. The amount of product is given in the report as per the sampling method used.

5. The results are based on the tested sample as per methods used. The amount of product is given in the report as per the sampling method used.

  
Senior Analyst

**Rajesh Kumar Shwari**  
Authorized Signatory  
(Report No. TC5025191000013911)



# TYAT TEST HOUSE

Unit of Taty Institute of Science & Technology Pvt. Ltd.

W-2, Sector-17, Institutional Area, Gurgaon, Haryana, India. Pin-122002

Phone: 01299-220000

01299-220001

01299-220002

01299-220003


## TEST REPORT

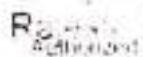
Report No. / LR No.	TC502519100001342F	Date	27-08-2019
Sample	M/S. Conductivity, Total Hardness (Calcium & Magnesium) & Zinc Hardness, Tashreef (Dakshin) (Bhagshahi)	Type of Unit	Smelter
Name of Supplier	Dr. Anand Kumar	Date of Sample Collection/Forwarding	13-08-2019
Plant / Location	Faridkot, India	Date of Receipt	14-08-2019
Lab. No. / Job No.	14-08-2019 (14-08-2019)	Sampling Plan	IS 3025 (Part 11): 1984 RA 2014
Quantity	1 kg	Sample Collected By	Vinod Kumar Yadav
Job No. / Sample No.	Amritsar, Punjab	Condition of Sample	Fit for testing

## RESULTS

S. No.	Parameters	Observed Value	Testing Protocol
1	pH	7.61	IS 3025 (Part 11): 1984 RA 2014
2	Iron [mg/l]	0.07	IS 3025 (Part 53): 2003 RA 2014
3	Calcium [mg/l]	BDL (<0.001)	IS 3025 (Part 41): 1992 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47): 1994 RA 2014
5	Zinc [mg/l]	0.30	IS 3025 (Part 49): 1994 RA 2014

- 1. This report is valid only for the parameters specified. Parameters for which data is not available are marked as BDL.
- 2. This report is valid only for the parameters specified.
- 3. This report is valid only for the parameters specified. Employment of products in other industries may not be suitable.
- 4. This report is valid only for the parameters specified. Employment of products in other industries may not be suitable.
- 5. This report is valid only for the parameters specified. Employment of products in other industries may not be suitable.

  
**Vinod Kumar Yadav**  
 Senior Analyst

  
 Authorized Signatory  
 Report No: TC502519100001342F

# TEAM TEST HOUSE

Unit of Team Institute of Science & Technology Pvt. Ltd.

15/1, Sector 14, Gurgaon, Haryana, India  
 122001 (Gurgaon) | 01262 211111 | www.teamtesthouse.com

## TEST REPORT

Report No./ULR No	TC502519100001303F	Date	27-08-2019
Issued To	M/S Hindustan Zinc Limited (Detroit Zinc Smelter) PO - Zinc Smelter District Una, Rajasthan	Type of Unit	Smelter
Type of Sample	Borewell Water	Date of Sample Collection/Manufacturing	13-08-2019
Point of Collection	Piezometer No. 5	Date of Receipt	14-08-2019
Date of Test/Analysis	14-08-2019 to 27-08-2019	Sampling Plan	IS 3025 (Part 1) 1987 (Part 1) 2014
Quantity of Sample	2 litr	Sample Collected by	Vinod Kumar Yadav
Units representative	Anurag Khandwal	Type of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	pH	7.66	IS 3025 (Part 11) 1984 RA 2017
2	Iron [mg/l]	0.04	IS 3025 (Part 53) 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41) 1997 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47) 1994 RA 2014
5	Zinc [mg/l]	0.12	IS 3025 (Part 40) 1994 RA 2014

1. This report is for the test of water quality as per NABL (NIST) and Ministry of Health (MOH) (IS 3025) standards.  
 2. This report is for the test of water quality as per NABL (NIST) and Ministry of Health (MOH) (IS 3025) standards.  
 3. This report is for the test of water quality as per NABL (NIST) and Ministry of Health (MOH) (IS 3025) standards.  
 4. This report is for the test of water quality as per NABL (NIST) and Ministry of Health (MOH) (IS 3025) standards.  
 5. This report is for the test of water quality as per NABL (NIST) and Ministry of Health (MOH) (IS 3025) standards.

**Purbi Malviya**  
 Senior Analyst

**Rajesh Kumar Jaiswal**  
 Authorized Signatory  
 (Report No. TC502519100001303F)

**THE TEST HOUSE**  
 Unit of Team Institute of Science & Technology, Patna

**TEST REPORT**

Report No./LR No	TC50251910001303F	Date	27-08-2019
Issued To	M/S Hindustan Zinc Limited (Debari Znc Smelter)	Type of Unit	Smelter
Type of Sample	Borewell Water	Date of Sample Collection/Installation	13-08-2019
Point of Collection	Parameter No. 5	Date of Receipt	14-08-2019
Date of Test/Analysis	14-08-2019 to 27-08-2019	Sampling Plan	IS 3025 (Part 11): 1984 RA 2014
Quantity of Sample	2 lit	Sample Collected by	Vimal Kumar Yadav
Units representative	Anurag Khar-Jewal	For use of Sample	Fit for testing

**RESULTS**

S No	Parameters	Observed Value	Testing Protocol
1	pH	7.66	IS 3025 (Part 11): 1984 RA 2014
2	Iron [mg/l]	0.04	IS 3025 (Part 53): 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41): 1992 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47): 1994 RA 2014
5	Zinc [mg/l]	0.12	IS 3025 (Part 49): 1994 RA 2014

- 1. Parameters No. 1, 2, 3, 4, 5 covered under NABL scope and parameter fee NONE other industrial and civil scope
- 2. Parameter No. 6, 7, 8, 9, 10 are not covered for testing
- 3. The results are subject to error in the laboratory ± 5% depending on the number of significant figures and the method used for the test
- 4. The report is not to be reproduced without the permission of the laboratory. The report is valid only for the purpose for which it is issued.
- 5. This report will be valid for 30 days from the date of issue. In tests conducted by other laboratories.

**Purani Manoj**  
Senior Analyst

**Rajesh Kumar Jiwari**  
Authorized Signatory  
(Report No. TC50251910001303F)



# TE AM TEST HOUSE

Unit of Team Institute of Science & Technology Pvt. Ltd.

15/5025/19/0001/0001  
15/5025/19/0001/0001  
15/5025/19/0001/0001

## TEST REPORT

Report No. / L.N. No.	15/5025/19/0001/0001	Date	27-08-2019
Issue No.	M/S Industries Zink Limited (Urban Zinc Smelter) PO, Zinc Smelter, District Odisha (Bapatnagar)	Type of Unit	Smelter
Type of Sample	Borewell Water	Date of Sample Collection/ Monitoring	13-08-2019
Point of Collection	Potometer No. 6	Date of Receipt	14-08-2019
Date of Test/Analysis	14-08-2019 to 17-08-2019	Sampling Plan	IS 3025-1987: Part 1: 2014
Quantity of Sample	2 litr.	Sample Collected By	Vijay Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample	Fat for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol
1	pH	7.68	IS 3025 (Part 11) 1984 RA 2017
2	Iron [mg/l]	0.05	IS 3025 (Part 53) 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41) 1992 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47) 1994 RA 2014
5	Zinc [mg/l]	0.12	IS 3025 (Part 49) 1994 RA 2014

- NOTE:
- 1. Accuracy: 1-2% for various parameters. Parameters for which NDE does not have an internal check.
- 2. Precision: NDE (subjected to 4 sig)
- 3. The test is done only on the basis of sample & parameters & Empirical data. It is not possible to give any guarantee.
- 4. For report which is prepared and which is part of the report, the user is responsible for the result. The user should not be held liable for any adverse effect of the sample with some delay.
- 5. The report will be destroyed after 15 days from the date of issue of test report. If any user wants to keep it, he should pay for it.

**Purni Mai Test House**  
Senior Analyst

Authorized Signatory  
Report No. 15/5025/19/0001/0001



**IIT BOMBAY HOUSE**  
Unit of Team Institute of Science & Technology Pvt. Ltd.

Approved by Ministry of Environment and Forest, Government of India as Permissible Limit

NABL

RSPCR

ISO 9001:2015

ISO 15189:2013

03

**TEST REPORT**

Report No. (ULR No)	IC502519100001396	Date	27-08-2019
Issued To	M/S Hindustan Zinc Limited (Debar Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Borewell Water	Date of Sample Collection/Storage	13-08-2019
Point of Collection	Perimeter No. 7	Date of Receipt	14-08-2019
Date of Test/Analysis	14-08-2019 to 27-08-2019	Sampling Plan	IS 3025 1987/Part 1/RA 2014
Quantity of Sample	2 lit	Sample Collected By	Vinay Kumar Yadav
Unit's representative	Anurag Khoskiwal	Condition of Sample	Fit for testing

**RESULTS**

S No	Parameters	Observed Value	Testing Protocol
1	pH	7.62	IS 3025 (Part 11) 1984 RA 2014
2	Iron [mg/l]	0.09	IS 3025 (Part 53) 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41) 1992 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47) 1994 RA 2014
5	Zinc [mg/l]	3.95	IS 3025 (Part 49) 1994 RA 2014

**Notes**

- 1. Parameter(s) not tested/issue NABL certificate and Parameter(s) NONE then the cover letter NABL is not applicable.
- 2. Parameter(s) NONE issue report is pending.
- 3. The results listed herein only for the tested samples(s) & parameter(s) for. Entitlement of products is neither intended nor implied.
- 4. The report is valid for up to 90 days of report and can not be used to determine the compliance of the product with the applicable standards.
- 5. The report is valid for up to 90 days of report and can not be used to determine the compliance of the product with the applicable standards.

*Puran*  
**Puran**  
Senior Analyst

*Rajesh*  
**Rajesh Maheshwari**  
Authorized Signatory

(Report No. IC502519100001396)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forests, Government of India, New Delhi, India  
 REGD. NO. 183/2001/2005  
 OFFICE NO. 100/1/1/2005

(Unit)  
 Approved by Ministry of  
 Science & Technology  
 Office No. 01/1/1/2005

## TEST REPORT

Report No./LR No.	TC5025101001010098	Date	07-05-2019
Issued To	M/S Hindustan Zinc Limited (Hindon Zinc Smelter) PO, Zinc Smelter, District Udaipur, (Rajasthan)	Type of Unit	Smelter
Type of Sample	Borewell Water	Date of Sample Collection/Method (%)	13-08-2018
Point of Collection	Pneumometer No. 08	Date of Report	14-05-2019
Date of Test/Analysis	14-08-2018 to 27-08-2018	Sampling Plan	IS 3025:1957(Part 1)RA 2014
Quantity of Sample	2 Lit	Sample Collected By	Venat Kumar Yadav
Unit's representative	Anirudh Khanchikar	Condition of Sample	Fd for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	7.85	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	0.14	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	0.20	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.13	IS 3025 (Part 49) : 1994 RA 2014

- a. For Parameters 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, NONE does not count in the NALLS code.
- b. Parameter 11: NALLS code is not available.
- c. The results listed refer only to the tested sample (Sample number only). End-user must refer to the product to check intended use, required retention time, and other relevant information.
- d. This report is not to be used as evidence in any legal proceedings. It is subject to the conditions of use and other terms and conditions of the contract.
- e. The sample must be destroyed within 30 days from the date of issue of the report unless otherwise specified.

Senior Analyst

Authorized Signatory  
 (Report No. TC5025101001010098)

# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)



TC-5025

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory  
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 OHSAS 18001:2007  
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## TEST REPORT

Report No./ULR No.:	TC502519100001397F	Date:	27-08-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO: Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Borewell Water	Date of Sample Collection/Monitoring:	13-08-2019
Point of Collection:	Peizometer No.-9	Date of Receipt:	14-08-2019
Date of Test/Analysis:	14-08-2019 to 27-08-2019	Sampling Plan:	IS 3025:1987(Part 1)/RA 2014
Quantity of Sample:	2 ltr.	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	7.59	IS 3025 (Part 11) : 1984 PA 2017
2	Iron [mg/l]	0.04	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.11	IS 3025 (Part 49) : 1994 RA 2014

**Notes >**

- # Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE outsourced for testing
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
- # This report is not to be reproduced wholly or in part and can not be used evidence in the court of law & should not be used in any advertising media without our special permission in writing.
- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*Furan Mal Yogi*  
**Furan Mal Yogi**  
 Senior Analyst

*Rajesh Maheshwari*  
**Rajesh Maheshwari**  
 Authorized Signatory  
 (Report No: TC502519100001397F)





# TEAM TEST HOUSE

Unit of Team Institute of Science & Technology Pvt. Ltd.)



Ministry of Environment and Forest, Government of India as Environmental Laboratory  
ISPCB  
ISO 9001:2015  
CHSAS 18001:2007  
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Ph: 94462-22000, 94462-22001  
E-mail: teamtesthouse@vsnl.com  
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## TEST REPORT

Report No./LHR No.:	TC502519100001398F	Date:	27-08-2019
Issued To:	M/S Hindusthan Zinc Limited (Dhulai Zinc Smelter) PO: Zinc Smelter, District Udalpur (Rajasthan).	Type of Unit:	Smelter
Type of Sample:	Borewell Water	Date of Sample Collection/Monitoring:	13-08-2019
Point of Collection:	Peizometer No.-10	Date of Receipt:	14-08-2019
Date of Test/Analysis:	14-08-2019 to 27-08-2019	Sampling Plan:	IS 3025:1987(Part 1)RA 2014
Quantity of Sample:	2 ltr.	Sample Collected By:	Vimal Kumar Yadav
Unit's representative:	Anurag Khandelwal	Condition of Sample:	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol
1	pH	7.58	IS 3025 (Part 11) : 1984 RA 2017
2	Iron [mg/l]	0.03	IS 3025 (Part 53) : 2003 RA 2014
3	Cadmium [mg/l]	BDL (<0.001)	IS 3025 (Part 41) : 1992 RA 2014
4	Lead [mg/l]	BDL (<0.01)	IS 3025 (Part 47) : 1994 RA 2014
5	Zinc [mg/l]	0.10	IS 3025 (Part 49) : 1994 RA 2014

### Notes :-

- # Parameter No. 1,2,3,4,5 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- # Parameter No. NONE outsourced for testing.
- # The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied.
- # This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing.
- # The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

Puren Mal Yogi  
Senior Analyst

Rajesh Maheshwan  
Authorized Signatory  
(Report No: TC502519100001398F)

LAB  
 Laboratory  
 ID: M-191  
 TC-5025



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

NABL RSPCB ISO 9001:2015 OHSAS 18001:2007 IDA 4381

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 Phone: 011-2369900, 2271809  
 Website: www.teamtesthouse.com

## TEST REPORT

Report No./JLR No	TC502519200000502F	Date	03-05-2019
Issued To:	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO Zinc Smelter, District Udapur (Rajasthan)	Type of Unit	Smelter
Type of Sample:	Wastewater Sample	Date of Sample Collection/Arrival	04-04-2019
Point of Collection	STP Outlet (Plant)	Date of Receipt	08-04-2019
Date of Test/Analysis	05-04-2019 to 03-05-2019	Sampling Plan:	APHA 2017 1050
Quantity of Sample	1 Ltr.	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurrag Khandelwal	Condition of Sample	Fit for testing

## RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules 1986
1	Total Suspended Solids [mg/l]	6	APHA 2017 2540-D	100
2	Ammonical Nitrogen [mg/l]	3.02	APHA 2017 : 4500-NH3 C	50
3	Biochemical Oxygen Demand (BOD) [mg/l]	9.57	APHA 2017 5210-B	30
4	Chemical Oxygen Demand (COD) [mg/l]	41.47	APHA 2017 : 5220-C	250
5	pH	7.36	APHA 2017 4500 H+B	5.5 - 9.0
6	Nitrate as NO3 [mg/l]	32.58	APHA 2017 : 4500-NO3B	50
7	Oil & Grease [mg/l]	3	APHA 2017 : 5520 B	10

**Notes -**

- \* Parameter No. 1, 2, 3, 4, 5, 6 & 7 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- \* Parameter No. NONE outsourced for testing
- \* The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither intended nor implied.
- \* This report is not to be reproduced wholly or in part and can not be used as evidence in the court of law and should not be used in any advertising media without our special permission in writing.
- \* The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*[Signature]*  
 Senior Analyst

*[Signature]*  
 Authorized Signatory  
 (Report No: TC502519200000502F)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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ISPCB

ISO 9001:2015

ISO 15189:2013

ISO 14001

## TEST REPORT

Report No. ULR	TC5025192000007007	Date	01-06-2019
Issued To:	M/S. HANUATHAN ZINC LIMITED (Debari Zinc Smelter) PO. Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Generator
Type of Sample	Wastewater Sample	Date of Sample Collection/Location	13-05-2019 HQ
Point of Collection	SEW Outlet (Plant)	Date of Report	16-05-2019
Date of Test Analysis	16-05-2019 to 01-06-2019	Sampling Plan	APHA 2017 1000
Quantity of Sample	2 Ltr	Sample Collected By	Vimal Kumar Yadav
Unit's Representative	Anurag Khandalwal	Condition of Sample	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Total Suspended Solids (mg/l)	36	APHA 2017 2540-D	100
2	Ammonical Nitrogen (mg/l)	12.13	APHA 2017 4500-NH3 C	50
3	Biochemical Oxygen Demand (BOD) (mg/l)	8	APHA 2017 5210-B	30
4	Chemical Oxygen Demand (COD) (mg/l)	32.64	APHA 2017 5220-C	250
5	pH	7.43	APHA 2017 4500 H+B	5.5 - 9.0
6	Nitrate as NO3 (mg/l)	40.07	APHA 2017 4500-Norg B	50
7	Oil & Grease (mg/l)	5	APHA 2017 5520 B	10

**Notes:**

- 1. Parameter No. 1, 2, 3 & 51. (excepting Lead, Hg) units are Parameter No. NONE does not cover under ISIRI, scope
- 2. Parameter No. NONE is reported for testing
- 3. The results are reported on the basis of mass & volume for the Enforcement of product & material related parameters.
- 4. The results are to be used only for the purpose of compliance and should not be used for advertising media without approval from ISIRI.
- 5. The results are to be used only for the purpose of testing and should not be used for any other purpose.

*(Signature)*  
Senior Analyst

*(Signature)*  
Authorized Signatory  
(Report No. TC5025192000007007)

# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

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## TEST REPORT

Report No./ULR No.	TC502519200000836F	Date	05-07-2019
Issued To	M/S Hindusthan Zinc Limited (Debari Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan)	Type of Unit	Smelter
Type of Sample	Wastewater Sample	Date of Sample Collection/Location	08-05-2019
Point of Collection	STP Outlet (Plant)	Date of Receipt	11-05-2019
Date of Test/Analysis	11-05-2019 to 01-07-2019	Sampling Plan	APHA 2017 1050
Quantity of Sample	2.5	Sample Collected By	Vimal Kumar Yadav
Unit's Representative	Anurag Khandelwal	Condition of Sample	Fit for testing

### RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules 1986
1	Total Suspended Solids (mg/l)	15	APHA 2017:2540-D	100
2	Ammonical Nitrogen (mg/l)	22.4	APHA 2017 : 4500-NH3 C	50
3	Biochemical Oxygen Demand (BOD) (mg/l)	24	APHA 2017 5210-B	30
4	Chemical Oxygen Demand (COD) (mg/l)	77.62	APHA 2017 : 5220-C	250
5	Oil & Grease (mg/l)	7	APHA 2017 : 5520 B	10
6	Total Residual Chlorine (mg/l)	BDL (<0.1)	APHA:2017 : 4500-Cl B	1.0
7	Nitrate (mg/l)	25.72	APHA 2017 : 4500-NO3- B	50

- Parameter No. 1, 2, 3, 4, 5, 6, 7 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
- Parameter No. NONE is/are used for testing
- The results are valid only to the tested samples & parameters. Endorsement of products is neither intended nor implied
- This report is not to be reproduced wholly or in part and can not be used as evidence in the court of law and should not be used in any advertising media without our specific permission in writing
- The samples will be destroyed after 15 days from the date of issue of test report to keep other samples for 15 d

Senior Analyst

Authorized Signatory  
(Report No. TC502519200000836F)



# TEAM TEST HOUSE

Unit of Team Institute of Science & Technology Pvt. Ltd.

## TEST REPORT

Report No (ULR No)	TC502519200001016F	Date	05.08.2019
Issued To	M/S. Dhanushan Zinc Limited (Distt. & Zinc Smelter) PO. Zinc Smelter, District Unnao (Uttar Pradesh)	Type of Unit	Smelter
Type of Sample	Wastewater Sample	Date of Sample Collection/Location	11-07-2019
Point of Collection	STP Outlet (Plant)	Date of Receipt	17-07-2019
Date of Test/Analysis	17.07.2019 to 05.08.2019	Sampling Plan	APHA 2017 1300
Quantity of Sample	N/A	Sample Collected by	Vinod Kumar Yadav
Unit's representative	Anand Khandelwal	Condition of Sample	For testing

## RESULTS

No.	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules 1986
	Total Suspended Solids (mg/l)	7	APHA 2017 2540-D	100
	Ammonical Nitrogen as N (mg/l)	6.72	APHA 2017 4500-NH3 C	50
	Biochemical Oxygen Demand (BOD) (mg/l)	6	APHA 2017 5210-B	30
	Chemical Oxygen Demand (COD) (mg/l)	38.86	APHA 2017 5220-C	250
	pH	7.35	APHA 2017 4500 H-B	5.5-9.0
	Oil & Grease (mg/l)	8	APHA 2017 5520 B	10
	Nitrate as NO3 (mg/l)	40.53	APHA 2017 4500-NO3- B	50

- Note:
- 1. Parameter No. 1, 2 & 3 are given under H&B category and Parameter No. 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 are given under C&B category.
  - 2. Parameter No. 1-50 are used for testing.
  - 3. The results listed refer only to the listed parameters & parameters are. Enforcement of provisions of the Act, 1986, shall be subject to the conditions specified in the Act, 1986.
  - 4. The report may be reported and wholly or partly and cannot be used evidence in the court of law and should not be used for any other purpose.
  - 5. The validity of the report is valid upto 30 days from the date of issue of test report, unless otherwise specified.

*[Signature]*  
Senior Analyst

*[Signature]*  
Authorized Signatory  
Report No. TC502519200001016F



# TEAM TEST HOUSE

Unit of Team Institute of Science & Technology Pvt. Ltd.

ISO 9001:2015  
OHSAS 18001:2007

## TEST REPORT

Report No. / LR No.	TC50251920G0011351	Date	02-09-2019
Issued to	M/S. Anandharam, Limited (Urban Zone Smelter)	Type of Unit	Smelter
Type of Sample	Wastewater Sample	Date of Sample Collection/Location	13-08-2019
Point of Collection	STP Canal, Plant	Date of Report	14-08-2019
Date of Test/Parameters	14-08-2019/14-08-2019	Sampling Plan	APHA 2017 1060
Quantity of Sample	2L	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurag Khandekwal	Condition of Sample	Fa for testing

## RESULTS

Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules 1986
Total Suspended Solids (TSS)	6	APHA 2017 2540-D	100
Ammonical Nitrogen as N (mg/l)	2.52	APHA 2017 4500-NH3-C	50
Biochemical Oxygen Demand (BOD) (mg/l)	5	APHA 2017 5210-B	30
Chemical Oxygen Demand (COD) (mg/l)	67.58	APHA 2017 5220-C	250
Oil & Grease (mg/l)	4	APHA 2017 4500-H+B	5 (5-9.9)
Nitrate as NO3 (mg/l)	21.08	APHA 2017 5520-B	10
		APHA 2017 4500-NO3-B	50

**Puran Mal Yogi**  
Senior Analyst

**Rajesh Maneshwan**  
Authorized Signatory  
(Report No. TC50251920G0011351)



**TEST REPORT**

Report No. / Date	Client Name / Project	Lab No.	Station No.
Sample No.	Location / Source	Method	Remarks
Sample Date	Sample Time	Operator	Remarks
Sample Depth	Sample Volume	Instrument	Remarks
Sample Type	Sample Description	Analysis Date	Analysis Time
Sample ID	Sample Location	Report Date	Report Time
Sample Status	Sample Condition	Lab Address	Lab Contact
Sample Remarks	Sample Handling	Lab Phone	Lab Email
Sample Storage	Sample Preservation	Lab Website	Lab Fax
Sample Transport	Sample Receipt	Lab License	Lab Accreditation
Sample Delivery	Sample Disposal	Lab Manager	Lab Director
Sample Return	Sample Archiving	Lab Analyst	Lab Technician
Sample Retention	Sample Destruction	Lab Quality	Lab Safety
Sample Archiving	Sample Destruction	Lab Calibration	Lab Maintenance
Sample Destruction	Sample Destruction	Lab Training	Lab Safety
Sample Destruction	Sample Destruction	Lab Safety	Lab Safety

**RESULTS**

Sl. No.	Parameters	Observed Value	Testing Procedure	Limit / Standard / Reference Value
1	Total Suspended Solids (mg/l)	7	APHA 2017 2540 B	100
2	Ammonical Nitrogen as N (mg/l)	3.08	APHA 2017 4500-NH3 C	50
3	Biochemical Oxygen Demand (BOD) (mg/l)	6	APHA 2017 5110 B	30
4	Chemical Oxygen Demand (COD) (mg/l)	36.86	APHA 2017 5220-C	250
5	pH	7.28	APHA 2017 4500 H+B	6.5-8.5
6	Oil & Grease (mg/l)	3	APHA 2017 5520 B	10
7	Nitrate as NO3 (mg/l)	33.51	APHA 2017 4500-NO3 B	50

1. The results are based on the samples received at the laboratory for analysis. The results are subject to change if the samples are re-analyzed.

2. The results are based on the samples received at the laboratory for analysis. The results are subject to change if the samples are re-analyzed.

3. The results are based on the samples received at the laboratory for analysis. The results are subject to change if the samples are re-analyzed.

4. The results are based on the samples received at the laboratory for analysis. The results are subject to change if the samples are re-analyzed.

5. The results are based on the samples received at the laboratory for analysis. The results are subject to change if the samples are re-analyzed.

6. The results are based on the samples received at the laboratory for analysis. The results are subject to change if the samples are re-analyzed.

7. The results are based on the samples received at the laboratory for analysis. The results are subject to change if the samples are re-analyzed.

Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

**Rajesh Mangarwar**  
Lab Manager  
Report No. / Date / Station No.



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

NABL RSPCB ISO 9001:2015 OHSAS 18001:2007 JDA/CDH

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## TEST REPORT

Report No./LR No	TC502510200000503F	Date	03-05-2019
Issued To	M/S Hindusthan Zinc Limited (Debra Zinc Smelter) PO Zinc Smelter, District Udapur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Wastewater Sample	Date of Sample Collection/Monitoring	04-04-2019
Point of Collection	ETP Outlet	Date of Receipt	08-04-2019
Date of Test Analysis	05-04-2019 to 03-05-2019	Sampling Plan	APHA 2017 - 1050
Quantity of Sample	2 Ltr	Sample Collected By	Vimal Kumar Yadav
Unit's Representative	Anurag Khandelwal	Condition of Sample	Fit for testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Total Suspended Solids [mg/l]	17	APHA 2017:2540-D	100
2	Biochemical Oxygen Demand (BOD) [mg/l]	7.36	APHA 2017:5210-B	30
3	Chloride [mg/l]	870	APHA 2017 4500- Cl- B	-
4	Chemical Oxygen Demand (COD) [mg/l]	35.5	APHA 2017 5220-C	250
5	Cyanide [mg/l]	Less than 0.05	APHA 2017 4500- CN D	0.2
6	Fluoride [mg/l]	1.59	APHA:2017 : 4500-F-C	2.0
7	pH	7.78	APHA 2017 : 4500 H+B	5.5 - 9.0
8	Sulphide [mg/l]	BDL (<0.1)	APHA, 2017 : 4500-S2-F	2
9	Cadmium [mg/l]	0.03	APHA 2017 3111- B	2.0
10	Copper [mg/l]	0.05	APHA 2017 3111- B	3.0

Note

Continue to next page.





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E-mail: director@teamtest.com

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
11	Lead [mg/l]	0.09	APHA 2017 3111- B	0.1
12	Iron [mg/l]	BDL(<0.01)	APHA 2017 : 3111 B	3.0
13	Nickel [mg/l]	0.01	APHA :2017 :3111- B	3.0
14	Zinc [mg/l]	0.14	APHA :2017 :3111- B	5.0
15	Oil & Grease [mg/l]	4	APHA 2017 5520 B	10

**Notes**

- 1. Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 entered under NABL scope and Parameter No. NONE does not cover under NABL scope.
- 2. Parameter No. NONE out of scope for testing.
- 3. The test is listed only for the testing of (S) & parameters (S). Endorsement of products is neither inferred nor implied.
- 4. This report is not to be reproduced wholly or in part and cannot be used evidence in the court of law and should not be used in any advertising media without our specific permission in writing.
- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

**Puran Mal Yogi**  
Senior Analyst

**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC502519200000503F)



**TEAM TEST HOUSE**  
(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forests, Government of India as Environmental Laboratory

NABL RSPCB ISO 9001:2015 CILCAS 18004:2007 IDA 1341

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**TEST REPORT**

Report No./JLR No.	TC502519200000709F	Date	01-05-2019
Issued To:	M/S Hindustan Zinc Limited (Debari Zinc Smelter) PO - Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample:	Wastewater Sample	Date of Sample Collection/Monitoring	13-05-2019
Point of Collection	ETP Outlet	Date of Receipt	16-05-2019
Date of Test/Analysis:	16-05-2019 to 01-06-2019	Sampling Plan	APHA 2017 : 1060
Quantity of Sample	2 Lit.	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample	Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Total Suspended Solids [mg/l]	12	APHA 2017:2540-D	100
2	Biochemical Oxygen Demand (BOD) [mg/l]	4	APHA 2017:5210-B	30
3	Chloride [mg/l]	842.29	APHA 2017 : 4500- Cl- B	-
4	Chemical Oxygen Demand (COD) [mg/l]	21.76	APHA:2017 : 5220-C	250
5	Cyanide [mg/l]	Less than 0.05	APHA 2017 : 4500- CN D	0.2
6	Fluoride [mg/l]	1.74	APHA:2017 : 4500-F-C	2.0
7	pH	7.71	APHA:2017 : 4500 H+B	5.5 - 9.0
8	Sulphide [mg/l]	BDL(<0.1)	APHA. 2017 : 4500-S2-F	2
9	Cadmium [mg/l]	BDL(<0.001)	APHA :2017 :3111- B	2.0
10	Copper [mg/l]	0.03	APHA :2017 :3111- B	3.0

Note:

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 NABL ISO 9001:2015 OHSAS 18001:2007 JDA/CDH

RESULTS			
S No	Parameters	Observed Value	Testing Protocol, Limits as per Environment protection rules 1986
11	Lead [mg/l]	BDL(<0.01)	APHA 2017 3111-B 0.1
12	Iron [mg/l]	BDL(<0.01)	APHA 2017 3111-B 3.0
13	Nickel [mg/l]	0.01	APHA 2017 3111-B 3.0
14	Zinc [mg/l]	0.16	APHA 2017 3111-B 5.0
15	Oil & Grease [mg/l]	3	APHA 2017 5520-B 10

- Notes:**
1. Parameter No. 11, 12, 13, 14, 15 are covered under NABL scope and Parameter No. 15 (NOM) does not cover under NABL scope.
  2. Parameter No. 15 (NOM) is covered for testing.
  3. The results are refer to the received sample & parameters as mentioned in the protocol. In case of any discrepancy, the client should be notified.
  4. The results are valid only for the purpose of reference and cannot be used as evidence in the court of law. And should not be used in any other way without the consent of the client.
  5. The samples should be preserved within 7 days from the date of issue of the report unless otherwise specified.

*[Signature]*  
 Senior Analyst

*[Signature]*  
 Authorized Signatory  
 (Report No. TC502519200000709F)



**TEAM TEST HOUSE**  
(Unit of Team Institute of Science & Technology Pvt. Ltd.)

Approved by Ministry of Environment and Forests, Government of India as Environmental Laboratory

SABL RSPCB ISO 9001:2015 OHSAS 18001:2007 ISO 14001

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**TEST REPORT**

Report No./ALR No.	TC502519200000937F	Date	05-07-2019
Issued To	M/S Hindustan Zinc Limited [Dobari Zinc Smelter] PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit	Smelter
Type of Sample	Wastewater Sample	Date of Sample Collection/Monitoring	08-05-2019
Point of Collection	ETP Outlet	Date of Receipt	11-05-2019
Date of Test/Analysis	11-05-2019 to 01-07-2019	Sampling Plan	APHA 2017 1050
Quantity of Sample	2 Lt	Sample Collected By	Vimal Kumar Yadav
Unit's representative	Anurag Khandelwal	Condition of Sample	Fit for testing

**RESULTS**

S.No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Total Suspended Solids [mg/l]	40	APHA 2017 2540-D	100
2	Biochemical Oxygen Demand (BOD) [mg/l]	16.67	APHA 2017:5210-B	30
3	Chloride [mg/l]	617.11	APHA 2017 4500- Cl- B	-
4	Chemical Oxygen Demand (COD) [mg/l]	139.39	APHA:2017 : 5220-C	250
5	Cyanide [mg/l]	0.15	APHA 2017 4500- CN D	0.2
6	Fluoride [mg/l]	1.43	APHA:2017 : 4500-F-C	2.0
7	pH	7.87	APHA 2017 4500 H+B	5.5 - 9.0
8	Sulphide [mg/l]	BDL(<0.1)	APHA 2017 : 4500-S2-F	2
9	Cadmium [mg/l]	BDL(<0.01)	APHA 2017 :3111- B	2.0
10	Copper [mg/l]	BDL(<0.01)	APHA :2017 :3111- B	3.0

Note

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# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)

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NABL

RSPCB

ISO 9001:2015

OHSAAS 15001:2007

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Lab: G1-504, Shriprakash Industrial Area,  
Bank Road, JAIPUR-302018

### RESULTS

S.No	Parameters	Observed Value	Testing Protocol	Units as per Environment protection rules 1986
11	Lead (mg/l)	BDL(<0.01)	APHA 2017 3111-B	0.1
12	Iron (mg/l)	BDL(<0.01)	APHA 2017 3111 B	3.0
13	Nicke (mg/l)	BDL(<0.01)	APHA 2017 3111-B	3.0
14	Zinc (mg/l)	BDL(<0.01)	APHA 2017 3111-B	5.0
15	Oil & Grease (mg/l)	6	APHA 2017 5520 B	10

**Notes -**

- 1. Parameter No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 covered under NABL scope and Parameter No. 16, 17 does not cover under NABL scope
- 2. Estabment No. NDRE authorized for testing
- 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
- 4. This report is not to be reproduced wholly or in part and can not be used as evidence in the court of law and should not be used in any advertising media without our special permission in writing
- 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified.

*P.175/16*  
**Puran Mal Yogi**  
Senior Analyst

*R.175/16*  
**Rajesh Maheshwari**  
Authorized Signatory  
(Report No. TC502519200000837E 1)



# TEAM TEST HOUSE

(Unit of Team Institute of Science & Technology Pvt. Ltd.)



Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

NABL RSPCB ISO 9001:2015 OHSAS 18001:2007 JDA/UDH

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E-mail : director@teamtesthouse.com

## TEST REPORT

Report No./ULR No.	TC502519200001017F	Date :	05-08-2019
Issued To :	M/S Hindustan Zinc Limited (Dobri Zinc Smelter) PO Zinc Smelter, District Udaipur (Rajasthan).	Type of Unit :	Smelter
Type of Sample	Wastewater Sample	Date of Sample Collection/Monitoring	11-07-2019
Point of Collection	ETP Outlet	Date of Receipt :	17-07-2019
Date of Test/Analysis :	17-07-2019 to 05-08-2019	Sampling Plan :	APHA 2017 : 1060
Quantity of Sample	2 Ltr.	Sample Collected By	Vimal Kumar Yadav
Unit's representative :	Anurag Khandelwal	Condition of Sample :	Fa Inr testing

## RESULTS

S No	Parameters	Observed Value	Testing Protocol	Limits as per Environment protection rules, 1986
1	Total Suspended Solids [mg/l]	Less than 5	APHA 2017:2540-D	100
2	Biochemical Oxygen Demand (BOD) [mg/l]	10	APHA 2017:5210-B	30
3	Chloride [mg/l]	450.07	APHA 2017 : 4500- CI- B	-
4	Chemical Oxygen Demand (COD) [mg/l]	52.22	APHA:2017 : 5220-C	250
5	Cyanide [mg/l]	Less than 0.05	APHA 2017 : 4500- CN D	0.2
6	Fluoride [mg/l]	1.92	APHA:2017 : 4500-F-C	2.0
7	pH	7.50	APHA:2017 : 4500 H+B	5.5 - 9.0
8	Sulphide [mg/l]	BDL(<0.1)	APHA, 2017 : 4500-S2-F	2

Note

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Approved by Ministry of Environment and Forest, Government of India as Environmental Laboratory

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		RESULTS		
S.No	Parameter	Observed Value	Testing Protocol	Limits per Environment protection rule 1986
9	Cadmium [mg/l]	BDL(<0.01)	APHA :2017 :3111- B	2.0
10	Copper [mg/l]	0.04	APHA :2017 :3111- B	3.0
11	Lead [mg/l]	0.04	APHA :2017 :3111- B	0.1
12	Iron [mg/l]	BDL(<0.01)	APHA 2017 : 3111 B	3.0
13	Nickel [mg/l]	BDL(<0.01)	APHA :2017 :3111- B	3.0
14	Zinc [mg/l]	0.05	APHA :2017 :3111- B	5.0
15	Oil & Grease [mg/l]	4	APHA 2017 : 5520 B	10

- Notes:
- 1. Parameter No. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15 covered under NABL scope and Parameter No. NONE does not cover under NABL scope
  - 2. Parameter No. NONE outsourced for testing
  - 3. The results listed refer only to the tested sample (s) & parameters (s). Endorsement of products is neither inferred nor implied
  - 4. This report is not to be reproduced wholly or in part and can not be used evidence in the court of law and should not be used in any advertising media without our special permission in writing
  - 5. The samples will be destroyed after 15 days from the date of issue of test report unless otherwise specified

*Puran Mal Yogi*  
**Puran Mal Yogi**  
Senior Analyst

*Rajesh Maheshwari*  
**Rajesh Maheshwari**  
Authorized Signatory  
(Report No: TC502519200001017F)



**TEAM TEST HOUSE**  
 Unit of Team Institute of Science & Technology Per Tuha

Approved by Director of Environment and Forestry, Kalimantan Tengah  
 No. 100/2019/Dirjen EBF/Kalteng  
 Date: 14/08/2019

**TEST REPORT**

Report No./ULR No.	TC502519200601138F	Date	07/09/2019
Issued To	M/S Hobashon Zinc Limited (District of Zing Smelter) PT. Zinc Smelter District Uluacan (District of Zing)	Type of Unit	Smelter
Type of Sample	Wastewater Sample	Date of Sample Collected (Indonesia)	10/08/2019
Point of Collection	E 11111005	Date of Report	14/08/2019
Date of Test/Analysis	14-08-2019 to 02-09-2019	Sampling Plan	APHA 2017 1060
Quantity of Sample	2 kg	Sample Collected By	Vimal Kumar Yadav
Unit's Representative	Anung Khandayal	Condition of Sample	Foto Testing

**RESULTS**

S No	Parameters	Observed Value	Testing Protocol	Limits as per RPLB Consent to Operate
1	Total Suspended Solids (mg/l)	29	APHA 2017 2540-D	100
2	Biochemical Oxygen Demand (BOD) (mg/l)	12	APHA 2017 5210-B	30
3	Chloride as Cl (mg/l)	439.64	APHA 2017 4500-Cl-B	1000
4	Chemical Oxygen Demand (COD) (mg/l)	88.13	APHA 2017 5220-C	250
5	Cyanide (mg/l)	Less than 0.05	APHA 2017 4500-CN-D	0.2
6	Fluoride (mg/l)	1.37	APHA 2017 4500-F-C	2.0
7	pH	7.15	APHA 2017 4500-H+B	5.5 - 9.0
8	Sulphide as S (mg/l)	BDL (<0.1)	APHA 2017 4500-S2-F	2

Continue to next page

Note:





**ಕರ್ನಾಟಕ ಸರ್ಕಾರ**  
**ಕರ್ನಾಟಕ ರಾಜ್ಯ ಸರ್ಕಾರ**

ಕ್ರ. ಸಂ.	ವಿವರ	ಮೊತ್ತ	ಒಟ್ಟು
1	ಕಬ್ಬಿ	1000	1000
2	ಕಬ್ಬಿ	1000	1000
3	ಕಬ್ಬಿ	1000	1000
4	ಕಬ್ಬಿ	1000	1000
5	ಕಬ್ಬಿ	1000	1000
6	ಕಬ್ಬಿ	1000	1000
7	ಕಬ್ಬಿ	1000	1000
8	ಕಬ್ಬಿ	1000	1000
9	ಕಬ್ಬಿ	1000	1000
10	ಕಬ್ಬಿ	1000	1000

ಇದರಲ್ಲಿ ಒಟ್ಟು ಮೊತ್ತ ರೂ. 10000/- ಆಗಿದೆ.

ಇದರಲ್ಲಿ ಒಟ್ಟು ಮೊತ್ತ ರೂ. 10000/- ಆಗಿದೆ.

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ಇದರಲ್ಲಿ ಒಟ್ಟು ಮೊತ್ತ ರೂ. 10000/- ಆಗಿದೆ.

**ಪುಷ್ಪ ಮಾರ್ಯು**

**ಪುಷ್ಪ ಮಾರ್ಯು**

The Journal

Date	Particulars	Debit	Credit	Balance
1/1	Balance b/d			1000
1/2	By Cash	500		500
1/3	To Cash		200	300
1/4	By Cash	100		200
1/5	To Cash		100	100
1/6	By Cash	50		50
1/7	To Cash		50	0
1/8	By Cash	25		25
1/9	To Cash		25	0
1/10	By Cash	12.5		12.5
1/11	To Cash		12.5	0
1/12	By Cash	6.25		6.25
1/13	To Cash		6.25	0
1/14	By Cash	3.125		3.125
1/15	To Cash		3.125	0
1/16	By Cash	1.5625		1.5625
1/17	To Cash		1.5625	0
1/18	By Cash	0.78125		0.78125
1/19	To Cash		0.78125	0
1/20	By Cash	0.390625		0.390625
1/21	To Cash		0.390625	0
1/22	By Cash	0.1953125		0.1953125
1/23	To Cash		0.1953125	0
1/24	By Cash	0.09765625		0.09765625
1/25	To Cash		0.09765625	0
1/26	By Cash	0.048828125		0.048828125
1/27	To Cash		0.048828125	0
1/28	By Cash	0.0244140625		0.0244140625
1/29	To Cash		0.0244140625	0
1/30	By Cash	0.01220703125		0.01220703125
1/31	To Cash		0.01220703125	0
	<b>Total</b>	<b>1000</b>	<b>1000</b>	<b>0</b>



# UNIVERSITY

Department of Science & Technology, P.O. Lakshmi Narayan

October 2017

MS-1001/17

## RESULTS

S.N.	Parameters	Observed Value	Testing Protocol	Limit as per APCB Consent to Operate
1	pH	7.87	APHA 2017 4500 H+ B	5.5 - 9.0
2	Sulphide as S (mg/l)	BDL (< 0.1)	APHA 2017 4500-S2-F	2
3	Calcium (mg/l)	BDL (< 0.01)	APHA 2017 3111-B	20
4	Copper (mg/l)	BDL (< 0.01)	APHA 2017 3111-B	30
5	Lead (mg/l)	BDL (< 0.01)	APHA 2017 3111-B	0.1
6	Iron (mg/l)	BDL (< 0.01)	APHA 2017 3111B	1.0
7	Chloride (mg/l)	BDL (< 0.01)	APHA 2017 3111-B	20
8	Zinc (mg/l)	BDL (< 0.01)	APHA 2017 3111-B	5.0
9	Ammonia Nitrogen (mg/l)	BDL (< 0.01)	APHA 2017 5520 B	10

Puran Maf Roy

Report No: 10012/1023333/17/17