

Registered AD

Ref: HZL/ Maton /MoEF/2019-20/ 48

Date: 27.11.2019

To,

The Director,  
Ministry of Environment, Forests & Climate Change  
Government of India,  
Regional Office (Central Region),  
Kendriya Bhawan, 5<sup>th</sup> Floor, Sector-H, Ali Ganj,  
LUCKNOW (UP)- 226024.

**Sub: Six Monthly Compliance Report of EC for April'19 to September'19.**

Ref: Environment Clearance vide No. J-11015/169/2009-IA.II (M) dated 17.03.2010.

Sir,

Please find enclosed Compliance Status Report of the conditions of Environmental Clearance for the period of April'19 to September'19.

Also submitting above report in MS Word format on m\_env@rediffmail.com for kind perusal.

Thanking you.

Yours Sincerely,

For Maton Rock Phosphate Mine



( Ravi Kumar Dave )  
Mine Manager

Encl.: EC compliance report

- CC to :
1. In-Charge (Zonal Office), Central Pollution Control Board, Zonal Office (Central), 3<sup>rd</sup> Floor, Sahkar Bhawan, North T.T. Nagar, BHOPAL-(MP)-462 003
  2. Member Secretary, Rajasthan Pollution Control Board, 4 - Institutional Area, Jhalana Dungri, JAIPUR (RAJ.)-305001.
  3. The Regional Office, Rajasthan State Pollution Control Board, F-470, Near UCCI Building, Mewar Industrial Area, Udaipur (Raj.)-313001.
  4. Office Copy (Env. Cell)

**Hindustan Zinc Limited**

Maton Rock Phosphate Mines,  
P.O. - Maton, Th. - Girwa, Udaipur (Rajasthan) - 313003  
Tel. : (+91-294) 2342093, Fax : + (91-294) - 2342092

Registered Office - Yashad Bhawan, Udaipur (Rajasthan) - 313004  
[www.hzlindia.com](http://www.hzlindia.com)  
CIN : L27204RJ1966P\_0001208

**Six Monthly Compliance Report  
of  
Environmental Clearance**  
**(Vide Letter No.: J-11015/169/2009-IA.II(M) Dt. 17/03/2010)**



**Maton Rock Phosphate Mine  
(of M/s Hindustan Zinc Ltd.)  
Village- Maton, Tehsil - Girwa, District - Udaipur (Raj.)**

**For the period from  
(April' 2019 to September' 2019)**

**November 2019**

### Table of Contents

S.No.	Description	Page No.
	Compliance report	
<b>List of Annexures</b>		
1	DMG letter - Aravalli hills not applicable	
2A	Land award As per Sch 4 of Raj acquisition act-1953	
2B	Letter regarding no land conversion reqd-GoR-15-02-1997	
3	Consent to Establish dt 17.03.2011	
4	Consent to Operate dt 08.09.2015	
4A	Application for renewal of CTO dtd 29.11.2017	
5	Application for CGWA approval for Water Table Intersection	
6	Copy of letter submitted to WRD for permission of Anicuts	
7	Copy of letter submitted to RSPCB with updated details of efforts for prevention of pollution in Ahar river	
8	Application for CGWA approval for Ground Water Abstraction	
9	Dust suppression measures	
10	Certified by DCF Udaipur (North)	
11	AAQ Monitoring data	
12	Noise Monitoring Report	
13	Water Analysis Report	
14	Cover letter of EC previous compliance report	
15	Cover letter of latest Environment Statement	
16	Copy of EC newspaper advertisement	

## Six Monthly Compliance Report of Environmental Clearance

**Name of the Project :** Maton Rock Phosphate Mining Project of M/s Hindustan Zinc Ltd.

**Project Code :**

**Clearance Letter No.:** J-11015/169/2009-IA.II(M) Dt. 17/03/2010

**Period of Compliance Report: April'19 to September'19**

### Specific Conditions:

S.No.	Conditions	Compliance Status
i	Environmental clearance is granted subject to final outcome of Hon'ble supreme court of India in competent petition (c) No 412/2004 in IA No 833 in writ petition (c) no 202 in 1995, as may be applicable to this project.	The mine lease is not a part of the 261 mine leases covered in contempt petition No. 412/2004 in IA No. 833 in WP No. 202 in 1995 (Annexure 1).
ii	The environmental clearance is subject to approval of the State Land use Department, Government of Rajasthan for diversion of agricultural land for non-agricultural use.	The land was acquired under the LA Act, 1894 for mining purpose. As per the circular from GoR Dt. 1997, any land acquired under the said act for the stated purpose is deemed approved for the said purpose and need not again have to seek approval for diversion of land so acquired (Annexure 2A & 2B).
iii	The project proponent shall obtain Consent to Establish and Consent to Operate from Rajasthan State Pollution Control Board and effectively implement all the conditions stipulated therein.	The consent to establish was granted by the RSPCB vide Letter No. F(Mines)/Udaipur(Girwa)/13(1)/2009-2010/8003-8007 Dt. 17.03.2011(Annexure 3). The latest Consent to Operate, granted by RSPCB vide No. F(Mines)/Udaipur(Girwa)/1828(1)/2015-16/2263-2267, Dt.08.09.2015 is valid till 31.03.2018 (Annexure 4). Renewal for CTO was applied vide application ID 199161 dtd 29.11.2017 (Annexure 4A).
iv	The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken for protection of the 1 <sup>st</sup> order and 2 <sup>nd</sup> order streams, if any emanating, passing through the mine lease during the course of mining operation.	No natural watercourse or water resources are obstructed due to mining operation as on date. During the future course of operation, if any natural water course is likely to be affected, suitable measures will be taken to ensure minimum obstruction to flow. Further, there are few 1 <sup>st</sup> order streams emanating from the mine lease area that have been protected.
v	The mine working will be restricted to above water table. For working below water table, a detailed hydro – geological study shall be carried out taking into account the mine water discharge, management of discharged water and prior approval of CGWA shall be obtained. The hydro-geological study report along with approval of CGWA will be submitted to the Ministry of Environment and Forests for reviewing	The mining operation is presently limited to above ground water level and as per IBM approved Scheme of Mining (2015-16 to 2019-20), it will not intersect the Ground Water Table up to 31 March 2020. Detailed hydro-geological study has been conducted to assess the hydro-geology of the area. Present depth of mining is 573 mRL the ultimate depth of mine pit is envisaged upto 520mRL where as depth of ground water table

S.No.	Conditions	Compliance Status
	the conditions of environment clearance and stipulation of additional conditions, if any, as may be required.	is 523 mRL & 527 mRL during pre and post monsoon respectively. It is expected that on intersection of ground water table, the inflow to mine pit is estimated at 1.31 cum/day. Applications in advance have been filed before the CGWA for grant of NOC for groundwater intersection on 26.03.2010 (revised application submitted on 16.07.2014) and approval awaited (Annexure 5). On grant of NoC by CGWA, copy of the same will be submitted.
vi	The top soil, if any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.	As typical of a Rock Phosphate reserves and the hilly terrain of the deposit, no top soil found in the project area. However, any top soil encountered during land disturbance for OB storage shall be conserved and used for reclamation and plantation.
vii	The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period and their phase-wise stabilization shall be carried out. There shall be three external dump(s). The OB dump(s) should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. Dump stability study shall be carried out in next six months before attaining the ultimate dump height of 50 m. The study should be carried out one of the reputed organizations like CMFRI and report submitted to the Ministry of Environment and forest. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Lucknow on six monthly basis	Overburden is being stacked at earmarked dump sites as shown in IBM approved Mining plan/ Scheme of Mining. Out of total activities approved in Scheme of Mining, some of mining activities have been temporarily suspended since 01.11.2015. For progressive reclamation plantation has been started on mature part of waste dump since FY 2015-16.  Waste dump stabilization study has been conducted by CIMFR and the recommendations have been implemented.
viii	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from mine working, soil, OB and mineral dumps to prevent run off of water and flow of sediments directly into the Ahar River, The Udaisagar pond, the Bagdara Talav and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained	W.r.t to collection & utilization of rain water falling on the project area, the active mine area is situated on the top of a hill and is progressing by bench formation through top slicing. The area of mine pit, which is below general ground level, is situated at toe of the hill towards south-west. Rainwater falling on active mining area is directly collected in the mine pit. Garland drain is constructed at strategic location to channelize runoff generated around pit area into mine pit/sump which is having adequate capacity to allow

S.No.	Conditions	Compliance Status
	properly.	settling of silt. The surface runoff generated from the undisturbed slopes (hangwall) is also diverted to mine pit through peripheral garland drains which prevents water to move out of ML area. The de-siltation of mine pit takes place along with mining schedule of deepening of mine.
	Garland drain, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dumps to prevent runoff water and flow of sediments directly into the Ahar River, the Udaisagar pond, the Bagdara Talav and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.	The rainwater runoff is also generated on overburden dump (OB) site. The OB dump is situated in a natural valley and so far it's lower edges/ levels is situated below the top of valley level. Hence, it has not reached to it's maximum extent towards edges. Thus the runoff is diverted through natural slopes within valley into a siltation pond cum recharging pit measuring 150m x 60m x 1.5m, situated at the lowest point of dump. The accumulated silt of this pit is removed and stacked on OB dumps before commencement of every monsoon. In addition to above, a new approved dumping and its garland drain is under progress. In order to comply with the condition, HZL applied for obtaining NoC for construction of Anicuts on dt. 10.01.2011, but during discussion, officials referring WRD order dt. 26.07.2010, suggested HZL to opt for other means of recharge (copy of letter for NoC is enclosed as Annexure -6).
ix	Dimension of the retaining wall at the toe of over burden dump and OB benches within the mine to check run-off and siltation shall be based on the rain fall data.	Since, the OB dump is situated in a natural valley and so far it's lower edges/ levels is situated below the top of valley level. Hence, it has not reached to it's maximum extent towards edges. Retainer wall is constructed at strategic location along with suitable garland drain to ensure all rain water collection into recharge pit. In addition to above, a new approved dumping and its retaining wall is under progress.
x	Plantation shall be raised in an area of 122.3 ha including a 7.5 m wide green belt in safety zone around the mining lease by planting the native species around over burden dumps, along the roads etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha. Green belt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.	Out of mine lease area of 143.13 ha, only 114.44 ha. has been acquired along & an additional land of 80.25 ha acquired outside the mine lease. Plantation has been taken up in progressive manner to cover 33% area of the total land into green belt, including at least 7.5m wide greenbelt in the safety zone. About 8000 plants, including plantation on matured part of waste dump, have been planted during running FY 2019-20. Till date about 52,000 saplings have been planted with survival rates of above 90%. Further, the progressive green belt development plan has been prepared

S.No.	Conditions	Compliance Status
		considering further plantation over OB dumps on maturity and shall be implemented over the life of mine.
xi	Effective safe guard measures, such as regular water sprinkling should be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading, unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	Wet drilling is practiced to control dust at source. Regular sprinkling of water on all haulage roads with mobile tankers is ensured to suppress fugitive dust. The crusher has inbuilt water mist sprinkler to suppress dust during operation. The material storage and handling area is periodically water sprinkled to suppress dust.
xii	The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	A proposal for augmentation of Ground water resource has been submitted to CGWB/CGWA for compliance to CGWA guidelines and proposal is under approval. Additionally, so far site has neither intersected Ground Water Table nor abstracting ground water, hence no direct impact is envisaged on ground water.
xiii	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Lucknow, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.	The mining operation is presently limited to above ground level and as per IBM approved Mine Plan/ Scheme of Mining (2015-16 to 2019-20) it will not intersect ground water table up to 31 March, 2020. Hence, there is no impact envisaged to ground water prior to that. A network of ground water locations are sampled around the mine lease area in the buffer zone and monitored every season and the report submitted to MoEF. A network of Piezometer well locations to monitor the impact on the ground water regime has been suggested by a reputed Hydrogeologist and the report submitted to CGWB/CGWA. As recommended, piezometers have been installed to monitor the impact on ground water level due to groundwater intersection and intersection will not take place up to 31 March, 2020.
xiv	Appropriate mitigation measures shall be taken to prevent pollution of the Ahar river in consultation with the State Pollution Control Board.	The surface drainage of the lease area does not connect to the Ahar River and hence no effluents or rainwater runoff from the operations shall impact the Ahar river. Copy of updated details submitted to RSPCB on action taken for prevention of pollution in Ahar river vide letter no. HZL/Maton/RSPCB/2015-16/65

<b>S.No.</b>	<b>Conditions</b>	<b>Compliance Status</b>
		dt. 18.09.2015 is also attached for reference as Annexure – 7.
xv	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water required for the project.	Presently water required for mining operation is sourced from the Mine pit/sump and domestic water is sourced through tankers from water suppliers. An application for withdrawal of ground water through tube well is filed before CGWA 01.01.2010 (revised application submitted on 16.07.2014) and approval awaited (Annexure - 8). Copy of the same will be submitted on receiving of the same.
xvi	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board	A proposal for augmentation of Ground water resource has been submitted to CGWB/CGWA. In the mean time of processing our application, CGWA has revised it's guidelines. On advice of CGWB, Jaipur, HZL has submitted fresh application on 16.07.2014 to CGWA/CGWB in accordance with revised guidelines & designs for augmentation of ground water resources. Recharge measures will be implemented immediately on getting nod from CGWB/CGWA.
xvii	Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	All vehicles entering the mine premises are checked for PUC certificate. All vehicles used for mining operations undergo periodic maintenance and ensure controlled emissions. All mineral transportation are carried out by covered trucks only and not overloaded.
xviii	Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented	Controlled blasting is practiced and ground vibration is measured as per guidelines of DGMS & the Director Explosive. The recommendations of CIMFR for blasting is implemented and the vibrations measured are within the stipulated limits.
xix	The project proponent shall take all mitigative measures during mining operations to ensure that the buildings / structures in the nearby areas shall not be affected due to blasting	Controlled blasting is practiced and ground vibration is measured as per guidelines of DGMS & the Director Explosive. The recommendations of CIMFR for blasting is implemented and the vibrations measured are within the stipulated limits. Hence there have been no impacts on the buildings/structures in the nearby areas due to blasting. Blasting was not carried out during reporting period.
xx	Drill shall either be operated with dust extractors or equipped with water injection system.	Wet drilling is followed during mining (Annexure – 9).

S.No.	Conditions	Compliance Status
xxi	Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Loading, unloading points are sprinkled with water using mobile tanker to ensure effective dust control. At transfer points of the crusher, water sprinklers are installed.
xxii	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and the wastewater generated during mining operation	No workshop is constructed in the mine site as all mining vehicles are serviced in the nearby city of Udaipur. No colony is constructed in mine area, as the employees commute from the nearby city of Udaipur and other villages around the mine lease. The only effluent generated due to office is treated through septic tanks and soak pits for disposal complying to discharge standards.
xxiii	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly	All permanent and contractor employees undergo pre-placement medical test and periodic medical test as per the DGMS rules.
xxiv	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project	No construction labour is residing in the project area, as the project is located in the outskirts of Udaipur city and it has adequate infrastructure for housing and other amenities.
xxv	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora and fauna spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wild life Department. Necessary allocation of funds shall be included in the project cost. All the safeguard measures to the project site shall be effectively implemented copy of action plan shall be submitted to the Ministry of Environment and Forest and its Regional Office, Lucknow.	Based on the list of flora & fauna, authenticated by Deputy Conservator of Forest, Udaipur (North), GoR vide letter no. P()Survey/UaVS/North/6094 dt.19.12.2009, there is no schedule –I fauna & endangered flora in the project area (copy enclosed as Annexure - 10). As stated above, mine is continuously carrying out plantation and has planted 52,000 saplings within project area (8000 during FY 2019-20) and 500 plants outside project area under CSR activities. However, for fresh assessment of present status of flora & fauna in-line with suitable conservation plan, a study work was accorded to Green Future Foundation, New Delhi. GFF has completed the field study and is preparing final report, which will be further submitted to DFO / DCF office for assessment & approval, followed by implementation.
xxvi	The critical parameters such as RSPM (Particulate matter with size less than 10µm	The parameters of RSPM, NOx and SOx are periodically monitored In the core and buffer

S.No.	Conditions	Compliance Status
	i.e., PM <sub>10</sub> ), NOX in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance	area and report submitted to RSPCB and MoEF periodically (copy of AAQ & Noise monitoring are enclosed as Annexure 11 & 12). Blasting was not carried out during reporting period. Surface and ground water samples are monitored every season (copy enclosed as Annexure - 13). The AAQ monitoring results are displayed on the board at the gate of the mines.
xxvii	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval	The same shall be complied prior to closure.

#### General Conditions

S.No.	Conditions	Status
i	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Complied. There is no change in mining technology.
ii	No change in the calendar plan including excavation, quantum of mineral Rockphospahte and waste should be made.	Calendar plan, as per approved mine plan, is being adhered to.
iii	At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10µm i.e., PM <sub>10</sub> ) & NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Five monitoring locations based on Meteorological data have been established in and around the mining lease area in the core and buffer zone. The AAQ is monitored every fortnightly for PM10, PM2.5, SOx, NOx and the results submitted to RSPCB and MoEF.
iv	Data on ambient air quality RSPM (Particulate matter with size less than 10µm i.e., PM <sub>10</sub> ) & NOx should be regularly submitted to the Ministry including its Regional office located at Lucknow and the State Pollution Control Board / Central Pollution Control Board once in six months.	The AAQ monitoring results are submitted to MoEF every six monthly.
v	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Water sprinkling using mobile tankers is undertaken regularly to arrest fugitive emission.

S.No.	Conditions	Status
vi	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	All machines undergo periodic maintenance. All mine workers are provided with ear plugs with at least 25dB(A) noise reduction to ensure that the exposure to noise is always below 85dB(A). Work zone noise monitoring is carried out as defined.
vii	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	There is no workshop in the lease area and hence no industrial effluent generated from the project site.
viii	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	All workers are provided with dust mask to ensure protection against dust related occupational hazards. Periodic medical health check-up is carried out to monitor any dust related impacts.
ix	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	A qualified environmental professional, reporting to the Mines manager & Unit Head, thus team ensures compliance to the environmental stipulations.
x	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Lucknow.	Complied. The environmental expenditure are: 2010-11 - Rs. 13,76,791/- 2011-12 - Rs. 11, 80,034/- 2012-13 - Rs. 56,80,534/- 2013-14 - Rs. 36,42,879/- 2014-15 - Rs. 30,16,703/- 2015-16 - Rs. 48,07,747/- 2016-17 - Rs. 31,41,428/- 2017-18 - Rs. 31,35,354/- 2018-19 - Rs. 39,07,310/- 2019-20 (Apr-Sept) – Rs. 14,05,868/-
xi	The project authorities should inform to the Regional Office located at Lucknow regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Financial closure for the project was achieved in May 2010. The land development work started immediately and production of ore achieved since June 2010.
xii	The Regional Office of this Ministry located at Lucknow shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	All necessary support shall be extended to the authorities.

S.No.	Conditions	Status
xiii	The project proponent shall submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Lucknow, the respective Zonal Office of CPCB and the SPCB. The proponent shall upload the status of compliance of the EC conditions, their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Lucknow, the respective Zonal Officer of CPCB and the SPCB.	The report in hardcopy and emails are submitted to RO, MoEF, Lucknow. Hardcopy is sent to MoEFCC, CPCB and RSPCB. Six monthly reports are regularly submitted in hard copies, soft copy and by e-mail. Latest compliance report was sent on 28.05.2019 (Annexure-14).
xiv	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied
xv	The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/Tehsildar's Office for 30 days.	Complied.
xvi	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, at Lucknow by e-mail.	Environment statement in Form-V is submitted periodically as stipulated. Environmental statement for the year 2018-19 was submitted on 27.09.2019 (Annexure -15).
xvii	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Lucknow.	Advertised in two News papers named Dainik Bhaskar and Rajasthan Patrika on 19.03.2010 (Annexure - 16).



( Ravi Kumar Dave )  
Mines Manager

Report No.20190521009

Date: - 03.06.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100018025 Date 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	20.05.2019
4. Sample received On	:	21.05.2019
5. Period of Analysis	:	25.05.2019 to 03.06.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1438	Minutes
2.	Average Flow rate for PM10	1.165	M³/ Min
3.	Ambient Temperature	40	°C
4.	Relative Humidity	29.4	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS 5182 (Part 23)2006 RA 2012	67.24	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	41.10	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 2)2001 Reaff 2008	9.77	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 6)2008	17.74	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.67	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	8.94	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.733	-

\*These Parameters are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2019 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: lab.office@wolkem.com, m.shukla@wolkem.com
3. The results listed refer only to the tested sample(s) and laboratory(s). Endorsement of product is neither inferred nor implied.
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Page 1 of 1

Registered & Corporate Office:

"Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U28299RJ1971PLC001379



Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Vllage
3. Date of Monitoring :- 20.05.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190521009

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-103, M.I.A. UDAIPUR (Rajasthan)



Report No.20190522001

Date: - 03.06.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	21.05.2019
4. Sample received On	:	22.05.2019
5. Period of Analysis	:	25.05.2019 to 03.06.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1430	Minutes
2.	Average Flow rate for PM10	1.175	M³/ Min
3.	Ambient Temperature	38	°C
4.	Relative Humidity	30.4	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 12 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	75.27	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	39.66	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	10.48	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.31	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.56	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	7.32	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 24/25	0.776	-

\*These Parameter are not in our NABL Scope.

Tested by

(Geetesh Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

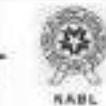
1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [info@wolkem.com](mailto:info@wolkem.com) / [khush@wolkem.com](mailto:khush@wolkem.com)
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Page 1 of 1

Registered & Corporate Office:

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Phone : +9 294 2494600 - 02 Fax: +91 294 2494608 E-mail : [info@wolkem.com](mailto:info@wolkem.com)

CIN- U29299RJ1971PLC001379



Certificate No. Chemical & Biological  
10524-A111  
SC - 5441

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 21.05.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ambient Air Monitoring :-



Latitude: 24°33'13"  
Longitude: 73°47'39"  
Elevation: 1825.35ft  
Accuracy: 13.1ft  
Time: 21-05-2019 11:17  
Note: maton villagevillage

REFERENCE: REPORT NO. 20190522001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.L.A., UDAIPUR (Rajasthan)

Report No.20190523001

Date: - 03.06.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	22.05.2019
4. Sample received On	:	23.05.2019
5. Period of Analysis	:	25.05.2019 to 03.06.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM10	1.170	M <sup>3</sup> / Min
3.	Ambient Temperature	38.2	°C
4.	Relative Humidity	30	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	68.51	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.08.2013	42.11	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	12.43	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.29	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	8.15	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.738	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurev Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: lab.officer@wolkem.com, abuwa@wolkem.com
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Page 1 of 1

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Ministry of Environment & Forests  
Government of India  
MoEFCC



KASSET



QHSEAS



NABL

Certificate No.: Chemical & Biological  
32224-A111  
TC - 1941

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 22.05.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°33'3"  
Longitude: 73°48'29"  
Elevation: 1807.97ft  
Accuracy: 13.1ft  
Time: 22-05-2019 10:56  
Note: LAKADWAS village

REFERENCE: REPORT NO. 20190523001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190524001

Date: - 03.06.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2018 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	23.05.2019
4. Sample received On	:	24.05.2019
5. Period of Analysis	:	25.05.2019 to 03.06.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1439	Minutes
2.	Average Flow rate for PM10	1.160	M <sup>3</sup> / Min
3.	Ambient Temperature	38	"C
4.	Relative Humidity	30	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	67.48	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	38.17	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	9.76	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.71	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.56	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	7.69	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.843	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab-Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1057 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [lab.office@wolkem.com](mailto:lab.office@wolkem.com); [shukla@wolkem.com](mailto:shukla@wolkem.com)
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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarada Village
3. Date of Monitoring :- 23.05.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190524001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190525004

Date: - 03.06.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	24.05.2019
4. Sample received On	:	25.05.2019
5. Period of Analysis	:	25.05.2019 to 03.06.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1435	Minutes
2.	Average Flow rate for PM10	1.150	M <sup>3</sup> / Min
3.	Ambient Temperature	38	°C
4.	Relative Humidity	29	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	62.20	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	41.60	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff. 2006	10.44	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2005	17.78	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.67	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	7.50	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.811	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
Wolkem India Limited  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

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Registered & Corporate Office:

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No - Chemical & Biological  
TC - 1941

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 24.05.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190525004

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2015.1201/5100019025 Date 13.01.2016 AMENDMENT NO. 5 Dated - 01.01.2019
3. Date of Monitoring	:	15.04.2019
4. Sample received On	:	16.04.2019
5. Period of Analysis	:	20.04.2019 to 29.04.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1420	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.17	M <sup>3</sup> / Min
3.	Ambient Temperature	34.3	°C
4.	Relative Humidity	39.5	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (GPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2005 RA 2012 SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.08.2013	67.79	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	41.62	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	9.92	80
4.	NO <sub>x</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2005	14.88	50
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.67	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	9.48	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.866	-

\*These Parameter are not in our NABL Scope.

Tested by

  
 (Gaurav Nagar)  
 Asst. Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab-Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

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- Any discrepancy in test results should be reported within 15 days.

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 15.04.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



**REFERENCE: REPORT NO. 20190416001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
F-102, M.I.A., UDAIPUR (Rajasthan)

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 16.04.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°33.21'  
Longitude: 73°47.646  
Elevation: 568.46m  
Accuracy: 4.6m  
Time: 16-04-2019 10:28  
Note: maton village 16/04/2019

**REFERENCE: REPORT NO. 20190417001**

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Report No.20190417001

Date: - 30.04.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018.1201/5100019025 Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	16.04.2019
4. Sample received On	:	17.04.2019
5. Period of Analysis	:	20.04.2019 to 29.04.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1426	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.14	M <sup>3</sup> / Min
3.	Ambient Temperature	32.3	°C
4.	Relative Humidity	42.5	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 12 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	76.04	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No 10/20 Issue date: 01.03.2010 Revision date 01.05.2013	43.12	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff: 2008	13.80	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.35	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part 22) 2004 Reaff: 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.56	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	7.97	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.729	-

\*These Parameter are not in our NABL Scope.

Tested by

  
 (Gaurav Nagar)  
 Asst. Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

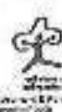
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Page 1 of

Registered &amp; Corporate Office:

 "Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan India  
 Phone : +91 294 2494600-02, Fax : +91 294 2494608 E-mail : info@wolkem.com

CIN : U28289RJ1971PLC001379



Our Commitment. Your Trust.


**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018.1201/ 5100019C25 Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	17.04.2019
4. Sample received On	:	18.04.2019
5. Period of Analysis	:	20.04.2019 to 29.04.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part29,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.17	M <sup>3</sup> / Min
3.	Ambient Temperature	35.2	°C
4.	Relative Humidity	42.6	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	69.14	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.08.2013	40.86	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2008	11.77	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2008	15.78	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182/Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO./WIL/AIR/TP/ 23/25	8.77	
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO./WIL/AIR/TP/ 24/25	0.727	

\*These Parameter are not in our KABL Scope.

Tested by

  
 (Gaurav Nahar)  
 Asst. Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1387 is valid from 02.06.2018 to 01.06.2021.
- Complaint Register is available in lab / Email ID : lab.office@wolkem.com/om.shukla@wolkem.com
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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwar Village
3. Date of Monitoring :- 17.04.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



**REFERENCE: REPORT NO. 20190418001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-107, M.I.A., UDAIPUR (Rajasthan)


**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

<b>1. Name of Customer</b>	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
<b>2. Purchase order Number</b>	:	PO No. 2018.1201/ 51000102Cv Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2019
<b>3. Date of Monitoring</b>	:	18.04.2019
<b>4. Sample received On</b>	:	19.04.2019
<b>5. Period of Analysis</b>	:	20.04.2019 to 29.04.2019
<b>6. Name of Location</b>	:	Umrada Village
<b>7. Method of Sampling</b>	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1	Duration of Survey	1416	Minutes
2	Average Flow rate for PM <sub>10</sub>	1.17	M <sup>3</sup> / Min
3	Ambient Temperature	33.1	°C
4	Relative Humidity	40.9	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 20/12	74.66	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10x25 Issue date: 01.03.2010 Revision date 01.08.2013	38.79	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	12.57	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2006	13.90	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22) 2004 Reaff 2008	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.33	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/23/25	7.82	-
8.	*PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/24/25	0.806	-

\*These Parameter are not in our NABL Scope.

Tested by

  
(Gaurav Nagar)  
Asst. Chemist

Checked &amp; Verified by

  
(Dr. Dinesh Kumar Wat)  
(Lab Incharge)

Authorized Signatory

  
(Dr. S. K. Yadav)

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarada Village
3. Date of Monitoring :- 18.04.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190419001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

<b>1. Name of Customer</b>	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
<b>2. Purchase order Number</b>	:	PC No. 2015/12017/5100018025 Date 13.01.2018 AMENDMENT NO. 6 Dated: - 01.01.2018
<b>3. Date of Monitoring</b>	:	19.04.2019
<b>4. Sample received On</b>	:	20.04.2019
<b>5. Period of Analysis</b>	:	20.04.2019 to 29.04.2019
<b>6. Name of Location</b>	:	Mine Lease area
<b>7. Method of Sampling</b>	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1423	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	31.5	°C
4.	Relative Humidity	38	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (GPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012 SOP No. 10Y25 Issue date: 01.03.2010 Revision date 01.06.2013	68.47	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2009	42.79	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2009	11.19	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2005	16.39	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.67	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOI NO.WL/AIR/TP/ 23/25	7.36	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 24/25	0.773	-

\*These Parameter are not in our NAQI Scope.

Tested by

  
 (Gaurav Nagar)  
 Asst. Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumarawat)  
 (LabIncharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 19.04.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°32'33"  
Longitude: 73°47'47"  
Elevation: 587.52m  
Accuracy: 4.0m  
Time: 19-04-2019 10:56  
Note: mine lease area 19-04-2019

REFERENCE: REPORT NO. 20190420001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190507002

Date: - 20.05.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	06.05.2019
4. Sample received On	:	07.05.2019
5. Period of Analysis	:	11.05.2019 to 20.05.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM10	1.16	M <sup>3</sup> / Min
3.	Ambient Temperature	41	°C
4.	Relative Humidity	31.3	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	76.14	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.08.2013	41.32	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	11.70	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.17	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.43	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	6.90	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.573	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab. Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

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#### Registered & Corporate Office:

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No. 132941471  
Chemical & Biological  
TC - 2011

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Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week May 2019

- |                          |  |
|--------------------------|--|
| 1. Name of Customer :-   | Hindusthan Zinc Limited<br>(Maton Mines) Udaipur |
| 2. Name of Location :-   | Mine Lease Area                                  |
| 3. Date of Monitoring :- | 06.05.2019                                       |
| 4. GPS Coordinates :-    | Mention in Photograph                            |

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°32'33"  
Longitude: 73°47'47"  
Elevation: 593.52m  
Accuracy: 4.6m  
Time: 06-05-2019 11:39  
Note: mine lease area 06

REFERENCE: REPORT NO. 20190507002

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190508011

Date: - 20.05.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	07.05.2019
4. Sample received On	:	08.05.2019
5. Period of Analysis	:	11.05.2019 to 20.05.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1430	Minutes
2.	Average Flow rate for PM10	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	40	°C
4.	Relative Humidity	29.5	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	68.02	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	42.21	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	10.60	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.22	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.55	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	7.33	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.649	-

\*These Parameter are not in our NABL Scope

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S.K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

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#### Registered & Corporate Office:

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No.: Chemical & Biological  
0224-AH1

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umrada Village
3. Date of Monitoring :- 07.05.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°31'26"  
Longitude: 73°46'48"  
Elevation: 586.57m  
Accuracy: 4.6m  
Time: 07-05-2019 10:11  
Note: umrda village 07/05/2019

REFERENCE: REPORT NO. 20190508011

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190509001

Date: - 20.05.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	08.05.2019
4. Sample received On	:	09.05.2019
5. Period of Analysis	:	11.05.2019 to 20.05.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1438	Minutes
2.	Average Flow rate for PM10	1.16	M <sup>3</sup> / Min
3.	Ambient Temperature	39	°C
4.	Relative Humidity	31.9	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	76.64	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 issue date: 01.03.2010 Revision date 01.06.2013	43.64	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff.2008	11.65	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	14.64	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff.2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	6.46	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.700	-

\*These Parameter are not in our NABL Scope.  
Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

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CIN- U29299RJ1971PLC001379



Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 08.05.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°33'3"  
Longitude: 73°48'28"  
Elevation: 561.5m  
Accuracy: 4.6m  
Time: 08-05-2019 09:59  
Note: Lakadwas village 08/05/2019

REFERENCE: REPORT NO. 20190509001

Environmental & Technical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190510006

Date: - 20.05.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	09.05.2019
4. Sample received On	:	10.05.2019
5. Period of Analysis	:	11.05.2019 to 20.05.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1435	Minutes
2.	Average Flow rate for PM10	1.15	M <sup>3</sup> / Min
3.	Ambient Temperature	41	°C
4.	Relative Humidity	30.5	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt: 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	68.27	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	40.81	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	11.12	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 8)2008	16.63	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.65	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	6.68	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.655	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
Wolkem India Limited  
E-102, M.T.A, UDAIPUR (Rajasthan)

#### Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
- Complaint Register is available in lab | Email ID: [info@wolkem.com](mailto:info@wolkem.com) / [complaints@wolkem.com](mailto:complaints@wolkem.com)
- The results listed refer only to the tested sample (s) and parameter (s). Endorsement of product 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.
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- Any discrepancy in test results should be reported within 15 days.

Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week May 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 09.05.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°33'13"  
Longitude: 73°47'39"  
Elevation: 563.46m  
Accuracy: 4.5m  
Time: 09-05-2019 10:02  
Note: maton village 09/05

REFERANCE: REPORT NO. 20190510006

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M-1A, UDAIPUR (Rajasthan)



Report No.20190511013

Date: - 20.05.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019026 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	10.05.2019
4. Sample received On	:	11.05.2019
5. Period of Analysis	:	11.05.2019 to 20.05.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1436	Minutes
2.	Average Flow rate for PM10	1.18	M <sup>3</sup> / Min
3.	Ambient Temperature	42	°C
4.	Relative Humidity	33.9	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	85.42	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	38.29	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	12.22	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.64	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Parl22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.54	04
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	6.47	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.634	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1367 is valid from 02.06.2016 to 01.06.2021.
- Complaint Register is available in lab / Email ID : lab.office@wolkem.com/om.shukla@wolkem.com
- The results listed refer only to the tested sample(s) and in English only. Endorsement of product is neither inferred nor implied.
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Page 1 of 1

Registered & Corporate Office:

"Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No: Chemical & Biological  
TD-3941

**Our Commitment.. Your Trust**

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week May 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 10.05.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°33'9"  
Longitude: 73°47'3"  
Elevation: 574.45m  
Accuracy: 4.6m  
Time: 10-05-2019 11:21  
Note: kharwaria village 10/05/2019

**REFERENCE: REPORT NO. 20190511013**

Environmental & Analytical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190504001

Date: - 20.06.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2019-1201/ 5100019C25 Date 13.01.2018 AVENUE NO: 6 Dated - 01.01.2019
3. Date of Monitoring	:	03.06.2019
4. Sample received On	:	04.06.2019
5. Period of Analysis	:	08.06.2019 to 18.06.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	S:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1439	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.16	M <sup>3</sup> / Min
3.	Ambient Temperature	36	°C
4.	Relative Humidity	45.9	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 10 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	67.29	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/20 Issue date: 01.03.2013 Revision date 01.06.2013	41.94	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 ReAF 2008	12.20	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.12	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22) 2004 ReAF 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	34 (1 hour)
7.	*SO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/A/H/17/2826	6.87	-
8.	*PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/A/H/17/2826	0.578	-

\*These Parameters are not in our NAQS Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory

**Wolkem INDIA Limited**  
E-102, M.I.A., Udaipur (Rajasthan)

Note:

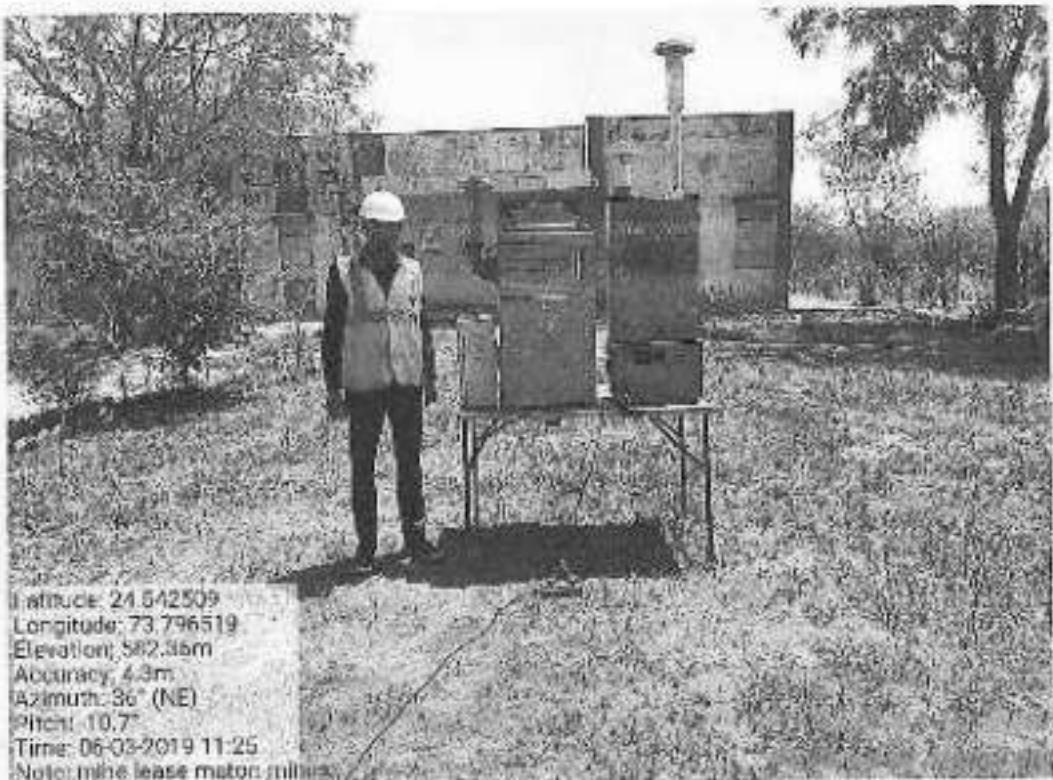
1. MoEFCC, New Delhi recognition under the Environment Protection Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Emailed to: lab.office@wolkemindia.com; shukla@wolkem.com
3. The results relate only to the tested sample of the parameter for endorsement of product is neither inferred nor implied.
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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week June 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 03.06.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24.542509

Longitude: 73.796519

Elevation: 582.35m

Accuracy: 4.3m

Azimuth: 36° (NE)

Pitch: 10.7°

Time: 06-03-2019 11:25

Note: mine lease meter: null

REFERENCE: REPORT NO. 20190604001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190605001

Date: - 20.06.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2019.1201/ 5100019020 Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	04.06.2019
4. Sample received On	:	05.06.2019
5. Period of Analysis	:	08.06.2019 to 18.06.2019
6. Name of Location	:	Umradia Village
7. Method of Sampling	:	S:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1437	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.145	M <sup>3</sup> /Min
3.	Ambient Temperature	39	°C
4.	Relative Humidity	49.3	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2006 RA 2012	77.42	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SDI No. 1025 Issue date: 01.03.2013 Revision date: 01.03.2013	38.39	50
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Raaf 2003	11.70	80
4.	NO <sub>x</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2009	16.66	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part22) 2004 Raaf 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.33	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO WIJ/AIR/TP/ 2326	5.48	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO WIJ/AIR/TP/ 2476	0.634	-

These Parameters are not in our NABL Scope.  
Tested by

(Geetav Nagar)  
Chemist

Checked & Verified by  
  
(Dr. Dinesh Kumarwati)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem INDIA Limited**

E-102, M.I.A., Udaipur (Rajasthan)

Note

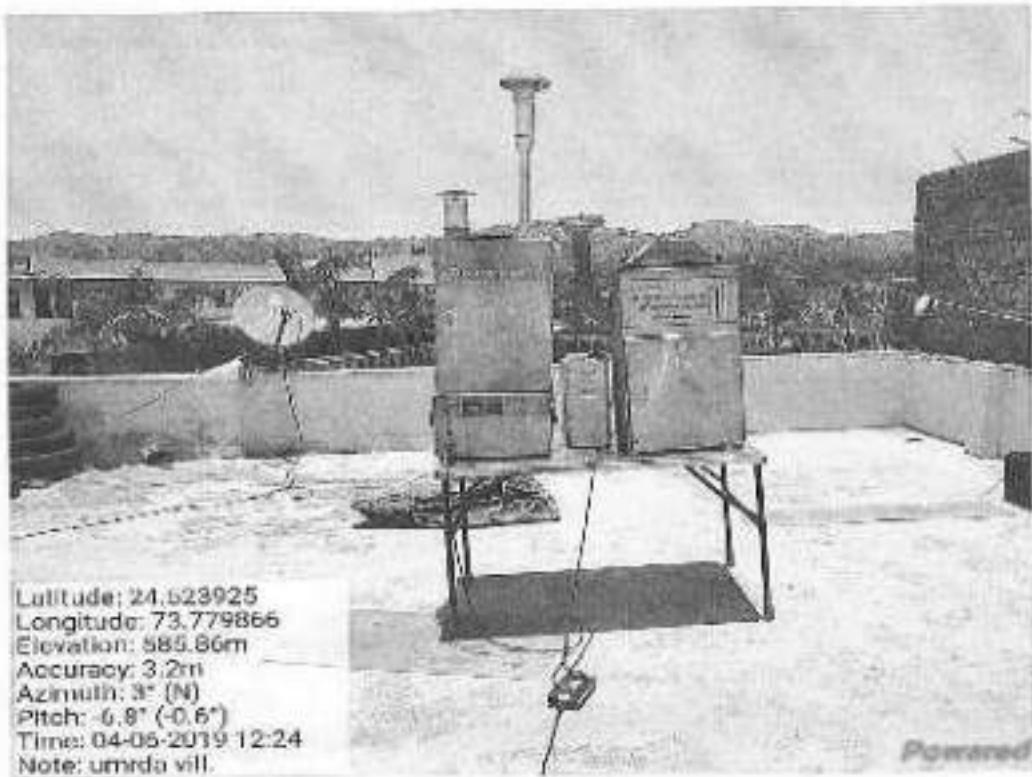
- MoEFCC, New Delhi recognition under the Environmental Protection Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
- Complaint Register is available in lab / Email ID: 1452@wolkem.com, shukla@wolkem.com
- The results listed refer only to the tested sample(s) and parameter(s). Each segment of product is neither inferred nor implied.
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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week June 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarda Village
3. Date of Monitoring :- 04.06.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



REFERENCE: REPORT NO. 20190605001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190606001

Date: - 20.06.2019

**TEST CERTIFICATE**

(Amoient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016-1201/5100019C25 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	05.06.2019
4. Sample received On	:	06.06.2019
5. Period of Analysis	:	06.06.2019 to 18.06.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1436	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.17	M <sup>3</sup> / Min
3.	Ambient Temperature	38	°C
4.	Relative Humidity	48.2	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 10 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2000 RA 2012 SOP No. 10/23 Issue date: 01.03.2010 Revision date 01.03.2013	73.69	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2009	42.45	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2008	10.0	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2008	15.64	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.66	34 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WI/AIR/TP/ 23/28	6.26	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WI/AIR/TP/ 24/28	0.572	-

\*These Parameters are not in our NABL Scope  
Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by  
  
(Dr. Dinesh Kumarwati)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., Udaipur (Rajasthan)

Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2010 to 01.06.2021.
- Complaint Register is available in lab / Email ID: lms.office@wolkem.com, nmon.shukla@wolkem.com.
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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week June 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 05.06.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°33'3"  
Longitude: 73°48'28"  
Elevation: 563.94m  
Accuracy: 3.7m  
Azimuth: 90° (E)  
Pitch: 5.4" (-2.0")  
Time: 05-06-2019 10:50  
Note: Lakadwas vill.

Powered by,

REFERENCE: REPORT NO. 20190606001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190607001

Date: - 20.06.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016_12017/5100018025 Date 13.01.2016 AMENDMENT NO: 6 Dated: 01.01.2019
3. Date of Monitoring	:	06.06.2019
4. Sample received On	:	07.06.2019
5. Period of Analysis	:	08.06.2019 to 18.06.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	143*	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1,165	M <sup>3</sup> / Min
3.	Ambient Temperature	37	°C
4.	Relative Humidity	49.1	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi etc. 18 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	67.40	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 1075, Issue date: 01.03.2010 Revision date: 01.08.2013	39.67	90
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Raaff 2006	10.59	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2009	15.21	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Raaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.65	0.4 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/23/26	6.70	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/24/26	0.551	-

\*These Parameters are not in our NABL Scope.

Tested by

(Oaurav Nagar)  
Chemist

Checked & Verified by  
  
(Dr. Dinesh Kumarwati)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., Udaipur - 313003 (Rajasthan)

Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2013 to 01.06.2021.
- Complaint Register is available in lab / Email ID: [86-02942494600@wolkem.com](mailto:86-02942494600@wolkem.com); [nclm.shukla@wolkem.com](mailto:nclm.shukla@wolkem.com)
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- Any discrepancy in test results should be reported within 15 days.

Page 1 of 1

Registered & Corporate Office:

'Wolkem House', E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan-India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : [info@wolkem.com](mailto:info@wolkem.com)

CIN- U29299RJH071PLC001379



MoEFCC



SII Certified



NABL Accredited



ISO 9001:2008 Certified



ISO 14001:2004 Certified



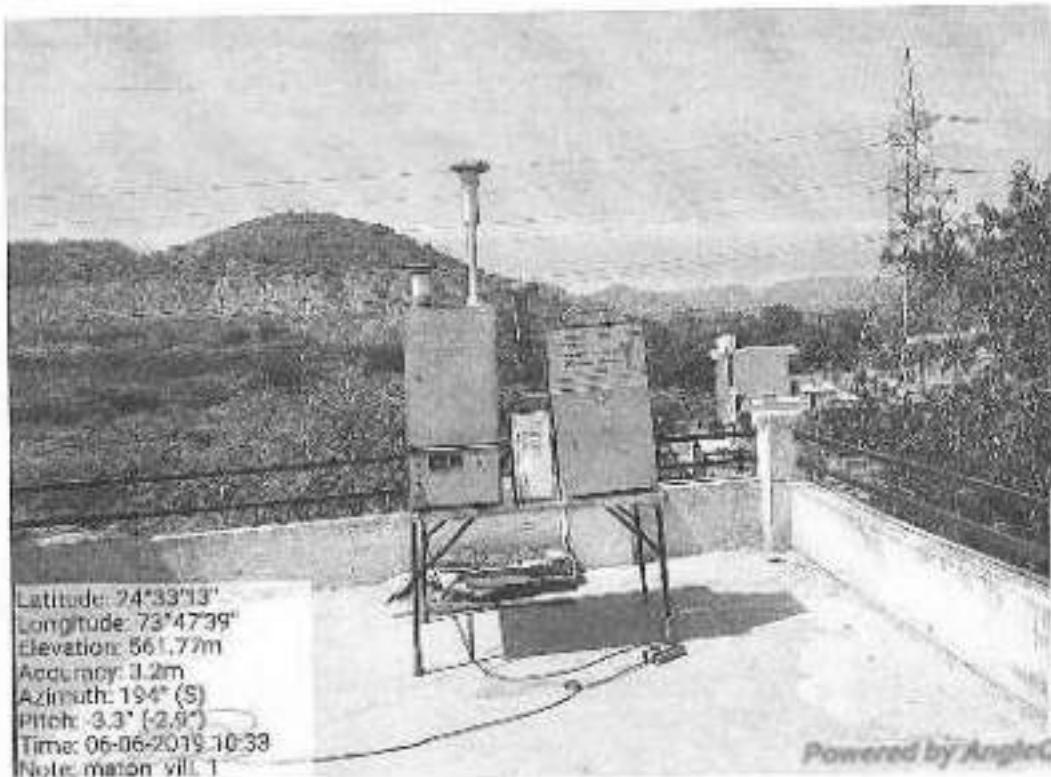
ISO 45001:2008 Certified

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week June 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 06.06.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°33'13"  
Longitude: 73°47'39"  
Elevation: 561.77m  
Accuracy: 3.2m  
Azimuth: 194° (S)  
Pitch: 3.3° (-2.9°)  
Time: 06-06-2019 10:38  
Note: maton vill. 1

Powered by AngleG

REFERENCE: REPORT NO. 20190607001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190606001

Date: - 20.06.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2019.1201/5100019026 Date 13.01.2018 AMENDMENT NO. 6 Dated - 01.01.2019
3. Date of Monitoring	:	07.06.2019
4. Sample received On	:	08.06.2019
5. Period of Analysis	:	08.06.2019 to 18.06.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM10	1.16	M <sup>3</sup> / Min
3.	Ambient Temperature	36	°C
4.	Relative Humidity	51.3	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 HA 2012	68.44	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 1025 issue date: 01.03.2010 Revision date 01.06.2013	42.57	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2001 Reaff 2006	11.73	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	14.21	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22) 2004 Reaff 2006	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.W/L/AIR/TPV 23/25	6.90	-
8.	*PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.W/L/AIR/TPV 24/25	0.542	-

\*These Parameters are not in our NABL Scope

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [ktrifff@wolkem.com](mailto:ktrifff@wolkem.com); [shukla@wolkem.com](mailto:shukla@wolkem.com)
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6. Any discrepancy in test results should be reported within 15 days.

Page 1 of 1

Registered & Corporate Office:

"Wolkem House", E-102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : [info@wolkem.com](mailto:info@wolkem.com)

CIN- U20299RJ1971PLC001379



Ministry of Environment & Forest  
Government of India  
MoEFCC



KABET



GHSAS



FSSAI

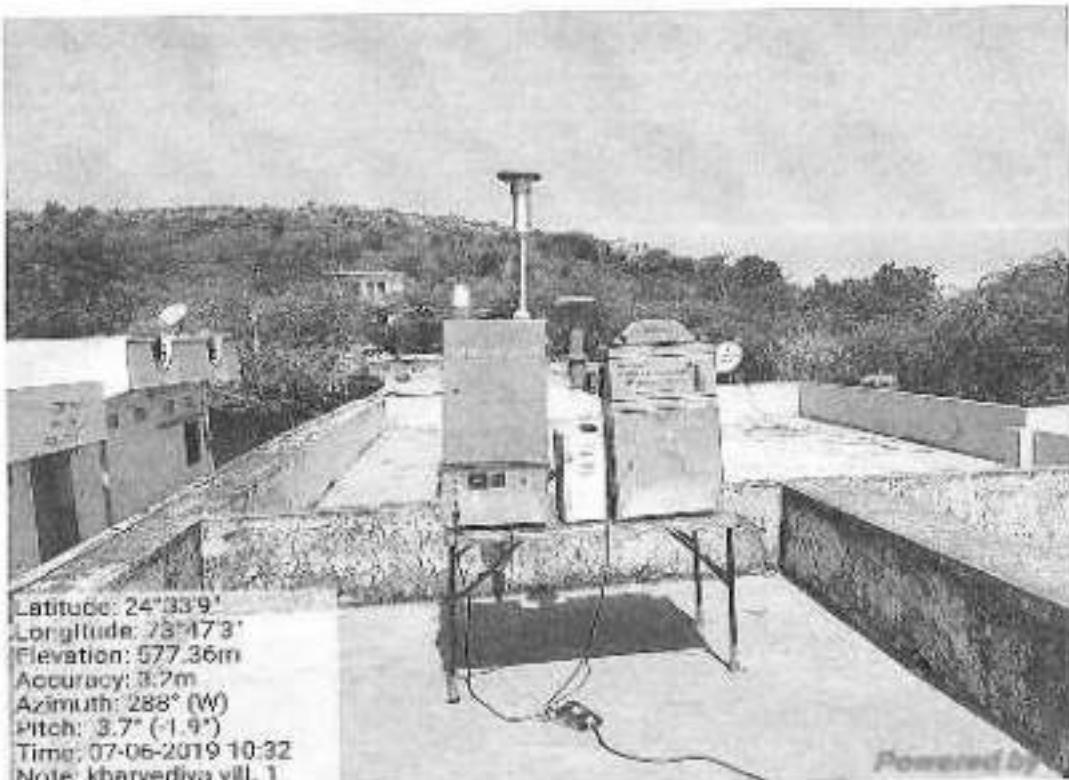
Exempted No. 00024517  
Expiry Date: 01/01/2024  
TG-5041

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week June 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 07.06.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190608001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190402001

Date: - 18.04.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016/1201/5100010025 Date 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	01.04.2019
4. Sample received On	:	02.04.2019
5. Period of Analysis	:	06.04.2019 to 15.04.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1426	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.155	m <sup>3</sup> / Min
3.	Ambient Temperature	33.5	°C
4.	Relative Humidity	39	%

#### Results Ambient Air Quality

S. No.	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 10 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	75.06	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 1325 Issue date: 01.03.2010 Revised date 01.06.2013	41.49	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Result 2006	10.63	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.74	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22) 2004 Result 2006	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	by CO meter	0.67	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 23/25	6.09	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 24/25	0.547	-

\*These Parameters are not in our NABL Scope.  
Tested by

(Gaurav Nagar)

Asst. Chemist

Checked & Verified by

(Dr. Dinesh Kumar)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.J.A., UDAIPUR (Rajasthan)

#### Note:

1. MnEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: ISB.office@wolkem.com,m.sukla@wolkem.com
3. The results listed refer only to the tested sample(s) and personnel(s). Endorsement of product is neither inferred nor implied.
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Pg: 1 of 1

Registered & Corporate Office:

"Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan India  
Phone: +91 294 2494600-02, Fax: +91 294 2494608 E-mail: info@wolkem.com  
CIN : U29299RJ1971PLC001379



Ministry of Environment & Forests  
Government of India



ISO 9001:  
2008  
Certified



ISO 14001:  
2004  
Certified



NABL  
Accredited  
TO - 2041



ISO 45001:  
2018  
Certified

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week April 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 01.04.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190402001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



INDIA LIMITED

Laboratory : E-102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan (INDIA)

Phone: +91 294 2494600 to 02 Fax : +91 294 2494608 E-mail: info.wcs@wolkem.com



www.wolkem.com

Report No.20190403001

Date: - 18.04.2019

## TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2019-12017-5100019025 Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	02.04.2019
4. Sample received On	:	03.04.2019
5. Period of Analysis	:	06.04.2019 to 15.04.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

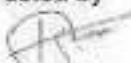
S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.16	M <sup>3</sup> /Min
3.	Ambient Temperature	31.6	°C
4.	Relative Humidity	42	%

## Results Ambient Air Quality

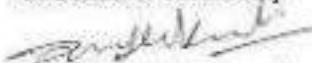
S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	61.82	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10x25 Issue date: 01.03.2013 Revision date 01.06.2013	43.82	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Raef 2006	12.81	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2006	15.19	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part22) 2004 Raef 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.56	04 (1 hour)
7.	*SIO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/28	6.48	-
8.	*PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.651	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Asst. Chemist

Checked &amp; Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

Wolkem India Limited

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note:

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1387 is valid from 02.06.2016 to 01.06.2021.
- Complaint Register is available in lab / Email ID: lab.office@wolkem.com, abhukla@wolkem.com
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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarda Village
3. Date of Monitoring :- 02.04.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24.52392  
Longitude: 73.779803  
Elevation: 585.57m  
Accuracy: 10.6m  
Time: 02-04-2019 11:10  
Note: umrda village 02/04/2019

**REFERENCE: REPORT NO. 20190403001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102/MLA, UDAIPUR (Rajasthan)

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018 1201/510019025 Date 13.01.2018 AMENDMENT NO. 6 Dated - 01.01.2018
3. Date of Monitoring	:	03.04.2019
4. Sample received On	:	04.04.2019
5. Period of Analysis	:	06.04.2019 to 15.04.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1428	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.15	M <sup>3</sup> / Min
3.	Ambient Temperature	34.5	°C
4.	Relative Humidity	43.5	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (GCCR Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	70.17	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SCP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	45.82	80
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Refit 2008	11.73	90
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2008	14.75	90
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Refit 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	94 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SCP NO.WIL/AIR/TP/ 23/25	5.66	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SCP NO.WIL/AIR/TP/ 24/25	0.680	-

\*These Parameter are not in our NABL Scope

Tested by

  
 (Gaurav Nagar)  
 Asst. Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumarat)  
 (Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

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Page 1 of 1



**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 03.04.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24.550905  
Longitude: 73.807889  
Elevation: 565.5m  
Accuracy: 4.6m  
Time: 03-04-2019 10:54  
Note: lakadwas village 03/04/2019

**REFERENCE: REPORT NO. 20190404002**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)


**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

<b>1. Name of Customer</b>	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
<b>2. Purchase order Number</b>	:	PO No. 2018/1201/5100018025 Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2018
<b>3. Date of Monitoring</b>	:	04.04.2019
<b>4. Sample received On</b>	:	05.04.2019
<b>5. Period of Analysis</b>	:	06.04.2019 to 15.04.2019
<b>6. Name of Location</b>	:	Matoon Village
<b>7. Method of Sampling</b>	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1431	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.175	M <sup>3</sup> / Min
3.	Ambient Temperature	32.2	°C
4.	Relative Humidity	41.5	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPBC Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS 5182 (Part 23)2008 RA 2012	73.47	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	43.01	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	10.03	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2008	16.19	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Reaff 2008	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.56	04 (1 hour)
7.	*SO <sub>3</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 23/26	5.23	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 24/26	0.612	-

\*These Parameter are not in our NABL Scope

Tested by

  
 (Gaurav Nagar)  
 Asst. Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

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**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 04.04.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24.553508  
Longitude: 73.794117  
Elevation: 561.4Gm  
Accuracy: 4.6m  
Time: 04-04-2019 10:33  
Note: maton village 04/04/2019

**REFERENCE: REPORT NO. 20190405001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	I INDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016/1201/5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	05.04.2019
4. Sample received On	:	06.04.2019
5. Period of Analysis	:	06.04.2019 to 15.04.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM10	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	36.1	°C
4.	Relative Humidity	48.6	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2005 RA 2012	74.74	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2013 Revision date 01.08.2013	41.32	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Raft 2006	11.14	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	14.21	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Raft 2000	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.66	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NC/W/LAIR/TP/ 23/25	6.48	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NC/W/LAIR/TP/ 24/25	0.586	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Asst. Chemist

Checked &amp; Verified by

(Dr. Dinesh Kumar)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week April 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 05.04.2019
4. GPS Coordinates :- Mention In Photograph

**5. Photograph of Ambient Air Monitoring :-**



**REFERENCE: REPORT NO. 20190406001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190903001

Date: - 16.09.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018-1201/ 5100019025 Date 13.01.2018
3. Date of Monitoring	:	AMENDMENT NO: 6 Dated: - 01.01.2019
4. Sample received On	:	02.09.2019
5. Period of Analysis	:	03.09.2019
6. Name of Location	:	09.09.2019 to 16.09.2019
7. Method of Sampling	:	Mine Lease area
	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No:	Monitoring Details	Results	Unit
1.	Duration of Survey	1445	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.16	M <sup>3</sup> / Min
3.	Ambient Temperature	31	°C
4.	Relative Humidity	41.6	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 10 <sup>th</sup> Nov. 2008
1	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	66.71	100
2	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.08.2013	40.53	60
3	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 12)2001 Reaff 2008	11.04	80
4	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 16)2008	17.49	80
5	Lead	µg/m <sup>3</sup>	IS: 3182(1 <sup>st</sup> edn)2004 Reaff 2009	<0.001	1.0
6	CO	mg/m <sup>3</sup>	By CO meter	0.67	D4 (1 hour)
7	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 23/25	7.46	-
8	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 24/25	0.671	-

Tested by

(Gaurav Nagar)  
Chemist

Authorized Signatory



Note:

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- Complaint Register is available in lab / Email ID: lab.office@wolkem.com/smr.shukla@wolkem.com
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Page 1 of 1

Registered &amp; Corporate Office:

 "Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
 Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week September 2019

- |                       |   |
|-----------------------|---|
| 1. Name of Customer   | :- Hindusthan Zinc Limited<br>(Maton Mines) Udaipur |
| 2. Name of Location   | :- Mine Lease Area                                  |
| 3. Date of Monitoring | :- 02.09.2019                                       |
| 4. GPS Coordinates    | :- Mention in Photograph                            |

5. Photograph of Ambient Air Monitoring :-



Latitude: 24° 32'33"  
Longitude: 73° 47'48"  
Elevation: 596.52m  
Accuracy: 4.6m  
Time: 02-09-2019 11:53  
Note: mine lease area

REFERENCE: REPORT NO. 20190903001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190904001

Date: - 16.09.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer

 HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA

2. Purchase order Number

 PO No. 2018-1201/ 5100019025 Date 13.01.2016  
 AMENDMENT NO: 6 Dated: - 01.01.2019

3. Date of Monitoring

03.09.2019

4. Sample received On

04.09.2019

5. Period of Analysis

09.09.2019 to 16.09.2019

6. Name of Location

Umrada Village

7. Method of Sampling

IS:5182(Part 2,Part 6,Part23,Part22) &amp; Instrument Manual

S. No.	Monitoring Details	Results	Unit
1.	Duration of Survey	1442	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.175	M <sup>3</sup> / Min
3.	Ambient Temperature	32	°C
4.	Relative Humidity	40.7	%

**Results Ambient Air Quality**

S. No.	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	73.80	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/28 issue date: 01.03.2010 Revision date 01.05.2013	44.76	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2005	12.17	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.09	80
5.	Lead	µg/m <sup>3</sup>	IS:5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.45	0.4 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 23/25	8.31	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 24/25	0.714	-

Tested by


 (Gaurav Nagar)  
 Chemist

Authorized Signatory

 Dr. S. K. Yadav  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

## Note:

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week September 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umreda Village
3. Date of Monitoring :- 03.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190904001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Laboratory : E- 102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan (INDIA)



INDIA LIMITED

Phone: +91 294 2494600 to 02 Fax: +91 294 2494608 E-mail: info.wcs@wolkem.com

www.wolkem.com

Report No.20190905001

Date: - 16.09.2019

## TEST CERTIFICATE

(Ambient Air Quality Monitoring)

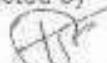
1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016 1201 / 5100019025 Date 13.01.2018 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	04.09.2019
4. Sample received On	:	05.09.2019
5. Period of Analysis	:	09.09.2019 to 16.09.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1451	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	28	°C
4.	Relative Humidity	40.2	%

## Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	68.02	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	42.01	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff.2008	10.45	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2005	15.96	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.57	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 23/26	7.02	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 24/25	0.768	-

Tested by

(Gaurav Nagar)  
Chemist

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

Wolkem India Limited

E-102, M.I.A., UDAIPUR (Rajasthan)



## Note:

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Page 1, of 1

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week September 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 04.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 27°13'59"  
Longitude: 73°48'28"  
Elevation: 563.5m  
Accuracy: 4.6m  
Time: 04-09-2019 10:40  
Note: Lakadwas village

REFERENCE: REPORT NO. 20190905001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No: 2016 1201 5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2018
3. Date of Monitoring	:	05.09.2019
4. Sample received On	:	06.09.2019
5. Period of Analysis	:	09.09.2019 to 16.09.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1448	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.175	M <sup>3</sup> / Min
3.	Ambient Temperature	29	°C
4.	Relative Humidity	41.5	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	61.15	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	37.56	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	11.57	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2008	14.06	80
5.	Lead	µg/m <sup>3</sup>	IS: 5152 (Part 22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.68	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 23/25	6.41	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 24/25	0.661	-

Tested by

(Gaurav Nagar)  
Chemist

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week September 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 05.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°43'13"  
Longitude: 73°47'19"  
Elevation: 562.46m  
Accuracy: 4.6m  
Time: 05-09-2019 10:15  
Note: maton village

REFERENCE: REPORT NO. 20190906001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



INDIA LIMITED

Laboratory : E- 102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan (INDIA)

Phone: +91 294 2494600 to 02 Fax: +91 294 2494608 E-mail: info.wcs@wolkem.com



www.wolkem.com

Report No.20190909001

Date: - 16.09.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO: 5 Dated: - 01.01.2019
3. Date of Monitoring	:	06.09.2019
4. Sample received On	:	09.09.2019
5. Period of Analysis	:	09.09.2019 to 16.09.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1446	Minutes
2.	Average Flow rate for PM10	1.18	M <sup>3</sup> / Min
3.	Ambient Temperature	31	°C
4.	Relative Humidity	41.7	%

## Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 16 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	64.26	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/26 Issue date: 01.03.2010 Revision date 01.05.2013	38.85	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS. 5182 (Part 2)2001 Reaff 2008	10.48	60
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS. 5182 (Part 6)2008	16.02	80
5.	Lead	µg/m <sup>3</sup>	IS. 5182 (Part 22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.45	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	6.21	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.756	-

Tested by

(Gaurav Nagar)  
Chemist

Authorized Signatory



(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

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CIN- U29299RJ1971PLC001379

DGACM  
Certificate No.  
23234-A117

Our Commitment.. Your Trust

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week September 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 06.09.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



REFERENCE: REPORT NO. 20190909001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190917001

Date: - 26.09.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016/1201/5100019025 Date 13.01.2016 AMENDMENT NO. 6 Dated - 01.01.2019
3. Date of Monitoring	:	16.09.2019
4. Sample received On	:	17.09.2019
5. Period of Analysis	:	21.09.2019 to 26.09.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1	Duration of Survey	1435	Minutes
2	Average Flow rate for PM <sub>10</sub>	1.150	M <sup>3</sup> / Min
3	Ambient Temperature	19.2	°C
4	Relative Humidity	42.3	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)/2006 RA 2012	71.57	100
2	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/26 Issue date: 01.03.2010 Revision date 01.06.2013	40.74	60
3	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)/2001 Reaff. 2005	13.05	80
4	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 8)/2006	20.81	80
5	Lead	µg/m <sup>3</sup>	IS: 5182 (Part22) 2004 Reaff. 2009	<0.001	1.0
6	CO	mg/m <sup>3</sup>	By CO meter	0.35	04 (1 hour)
7	SIO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WII/AIR/TP/ 23/25	8.12	-
8	PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WII/AIR/TP/ 24/25	0.686	-

Tested by

  
 (Gaurav Nagar)  
 Chemist

Authorized Signatory



(Dr. S.K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week September 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 16.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190917001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190918001

Date: - 26.09.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	PO No. 2016.12017.510001SC25 Date 13.01.2016 AMENDMENT NO. 6 Dated - 01.01.2019
3. Date of Monitoring	17.09.2019
4. Sample received On	18.09.2019
5. Period of Analysis	21.09.2019 to 26.09.2019
6. Name of Location	Matoon Village
7. Method of Sampling	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1,150	M <sup>3</sup> / Min
3.	Ambient Temperature	21.1	°C
4.	Relative Humidity	39.5	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 28)2006 RA 2012	66.15	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.05.2013	42.52	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff. 2005	9.16	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS: 5182 (Part 6)2006	14.76	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff. 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.58	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 23/25	8.56	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 24/25	0.730	-

Tested by

  
(Gaurav Nagar)  
Chemist

Authorized Signatory



(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

## Note:

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- Complaint Register is available in lab / Email ID: lab.office@wolkem.com or m.sshukla@wolkem.com
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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week September 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 17.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190918001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)


**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

**1. Name of Customer**

:

**HINDUSTAN ZINC LIMITED**
**Rockphosphate Maton Mine**
**P.O. Maton, Distt. Udaipur (Rajasthan), INDIA**
**2. Purchase order Number**

:

PO No. 2016.1201/ 5100019C26 Date 13.01.2016

AMENDMENT NO. 6 Dated: -01.01.2010

**3. Date of Monitoring**

:

18.09.2019

**4. Sample received On**

:

19.09.2019

**5. Period of Analysis**

:

21.09.2019 to 26.09.2019

**6. Name of Location**

:

Lakadwas Village

**7. Method of Sampling**

:

IS:5182(Part 2,Part 6,Part23,Part22) &amp; Instrument Manual

S. No.	Monitoring Details	Results	Unit
1	Duration of Survey	1436	Minutes
2	Average Flow rate for PM <sub>10</sub>	1.130	M <sup>3</sup> / Min
3	Ambient Temperature	19.3	°C
4	Relative Humidity	42.8	%

**Results Ambient Air Quality**

S. No.	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	59.25	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/26 Issue date: 01.03.2010 Revision date 01.06.2013.	41.16	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2005	7.18	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.23	80
5.	Lead	µg/m <sup>3</sup>	IS: 6182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.47	04 :1 hour
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	7.08	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.857	-

Tested by

  
 (Gaurav Nagar)  
 Chemist

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

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Page 1 of 1

**Registered & Corporate Office:**

 Wolkem House\*, E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
 Phone: +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail: info@wolkem.com

CIN- U29299RJ1971PLC001379



Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week September 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 18.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190919001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Report No.20190920003

Date: - 26.09.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated. - 01.01.2019
3. Date of Monitoring	:	19.09.2019
4. Sample received On	:	20.09.2019
5. Period of Analysis	:	21.09.2019 to 26.09.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1430	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.150	M <sup>3</sup> / Min
3.	Ambient Temperature	20.2	°C
4.	Relative Humidity	41.2	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (ICPCB Norms) New Delhi dt. 10 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	67.04	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date: 01.06.2013	38.41	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	13.10	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 /Part 6/2006	18.35	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182/Part 22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.58	04 (' hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 23/25	7.74	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 24/25	0.596	-

Tested by

  
 (Gaurav Nagar)  
 Chemist

Authorized Signatory



(Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

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Page 1 of 1

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 Phone: +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail: [info@wolkem.com](mailto:info@wolkem.com)

CIN- U29299RJ1971PLC001379


 GL-SAS  
 Certificate No:  
 20004-A11

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week September 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarada Village
3. Date of Monitoring :- 19.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24° 31'26"  
Longitude: 73° 46'47"  
Elevation: 582.57m  
Accuracy: 4.6m  
Time: 19-09-2019 10:01  
Note: umrada village

REFERENCE: REPORT NO. 20190920003

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190921001

Date: - 26.09.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016/1201/5100019025 Date 13.01.2016 AMENDMENT NO: 0-Dated - 01.01.2019
3. Date of Monitoring	:	20.09.2019
4. Sample received On	:	21.09.2019
5. Period of Analysis	:	21.09.2019 to 26.09.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1,165	M <sup>3</sup> / Min
3.	Ambient Temperature	19.6	°C
4.	Relative Humidity	42	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	64.20	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.05.2013	37.10	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	8.50	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	10.69	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22) 2004 Reaff 2006	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.47	C4 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/23/25	7.52	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/24/25	0.885	-

Tested by

  
 (Gaurav Nagar)  
 Chemist

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note:

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- Any discrepancy in test results should be reported within 15 days.

Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week September 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 20.09.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190921001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.L.A., UDAIPUR (Rajasthan)



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 6 Dated - 01.01.2019
3. Date of Monitoring	:	06.05.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Mine Lease Area

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		Day	Time	Leq	
1.	6-7 AM	40.6	41.2	39.8	41.2
2.	7-8 AM	41.0	41.7	40.5	41.7
3.	8-9 AM	43.0	44.3	40.9	44.4
4.	9-10 AM	43.0	43.7	42.2	43.8
5.	10-11 AM	49.7	50.5	48.9	50.5
6.	11-12 AM	52.1	53.6	49.5	53.7
7.	12-13 PM	52.7	56.2	48.9	56.5
8.	13-14 PM	48.1	48.9	47.2	48.9
9.	14-15 PM	48.7	49.5	48.0	49.5
10.	15-16 PM	51.1	52.6	48.6	52.7
11.	16-17 PM	53.2	54.0	51.6	54.1
12.	17-18 PM	42.8	45.6	40.0	45.7
13.	18-19 PM	39.3	39.9	38.5	40.0
14.	19-20 PM	39.8	40.4	39.2	40.4
15.	20-21 PM	38.5	39.2	37.8	39.2
16.	21-22 PM	39.0	39.6	38.4	39.6
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) <sup>2</sup> /60])					46.4



Note

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Page 1 of 2



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018/1201/ 5100019025 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO 6 Dated: 01.01.2019
4. Test Methods Reference	:	IS: 9989-1981 (Reaffirmed 2008)
5. Name of location	:	Mine Lease Area

S. No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>90</sub></b>	
1.	22-23PM	32.9	33.9	31.7	33.9
2.	23-24PM	33.6	34.5	32.3	34.6
3.	0-1 AM	33.6	34.5	32.3	34.6
4.	1-2 AM	34.3	35.2	33.0	35.3
5.	2-3 AM	32.0	33.0	31.3	33.0
6.	3-4 AM	35.3	36.3	34.5	36.3
7.	4-5 AM	34.6	35.6	33.8	35.6
8.	5-6 AM	32.9	33.9	31.7	33.9
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) <sup>2</sup> /60])					34.6
Day-Night Sound Level (Ldn) = 10 log [(1/24 [16 (10Lday/10) - 8 (10Lnight + 10y/10)])]					
Ldn					45.9

#### CPCB Norms

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494808 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Ministry of Environment & Forests  
Government of India  
MoEFCC



NABET



CHAS



NABL

Certification No. 32004-A111  
Chemical & Biological  
TC - NABL

Our Commitment.. Your Trust



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016-1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 6 Dated: 01.01.2019
3. Date of Monitoring	:	07.05.2019
4. Test Methods Reference	:	IS: 9989-1981 (Reaffirmed 2008)
5. Name of location	:	Umrada village

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	6-7 AM	36.4	37.0	35.7	37.1
2.	7-8 AM	36.9	37.5	36.3	37.5
3.	8-9 AM	38.7	39.8	36.8	39.9
4.	9-10 AM	40.3	40.9	39.1	41.0
5.	10-11 AM	43.3	44.9	40.8	45.0
6.	11-12 AM	48.4	52.5	44.4	52.8
7.	12-13 PM	50.1	53.5	46.5	53.7
8.	13-14 PM	49.6	52.1	46.3	52.3
9.	14-15 PM	48.3	53.6	45.5	53.7
10.	15-16 PM	51.0	53.9	47.1	54.2
11.	16-17 PM	51.6	55.5	46.6	55.9
12.	17-18 PM	33.1	35.3	30.9	35.3
13.	18-19 PM	33.5	36.3	31.1	36.4
14.	19-20 PM	36.8	38.4	28.7	39.4
15.	20-21 PM	35.1	36.8	29.4	37.3
16.	21-22 PM	33.0	34.2	30.0	34.3
		Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])			44.1



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CIN- U29299RJ1971PLC001379



Certificate No: Chemical & Biological  
SP2014-A111

Our Commitment.. Your Trust



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016-1201/ 5100019025 Date 13.01.2018 AMENDMENT NO 6 Dated- 01.01.2019
3. Date of Monitoring	:	07.05.2019
4. Test Methods Reference	:	IS: 9989-1981 (Reaffirmed 2008)
5. Name of location	:	Umrada village

S. No.	Time hours	Sound Pressure Level dB(A) Night Time			Leq
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	33.5	34.6	32.8	34.6
2.	23-24PM	32.2	33.2	31.5	33.2
3.	0-1 AM	31.8	32.3	31.3	32.3
4.	1-2 AM	32.3	33.3	31.6	33.3
5.	2-3 AM	31.8	32.4	31.3	32.4
6.	3-4 AM	32.4	33.4	31.7	33.4
7.	4-5 AM	32.2	33.2	31.5	33.2
8.	5-6 AM	31.8	32.3	31.3	32.3
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					33.1
Day-Night Sound Level (Ldn) = 10 log {1/24 [16 (10Lday/10) + 8 (10Lnigh - 10)/10])}					
Ldn					43.8

#### CPCB Norms

S. No.	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M.
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
Wolkem India Limited  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note:

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID : lab.officer@wolkem.com or s.yadav@wolkem.com
3. The results listed refer only to the tested sample(s) and parameter(s). Endorsement of product is neither inferred nor implied.
4. 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.
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#### Registered & Corporate Office:

"Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +9 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No: Chemical & Biological  
32554-A/11  
TC - 561

Our Commitment.. Your Trust



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 6 Dated- 01.01.2019
3. Date of Monitoring	:	08.05.2019
4. Test Methods Reference	:	IS: 9989– 1981 (Reaffirmed 2008)
5. Name of location	:	Lakadwas village

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>90</sub></b>	
1.	6-7 AM	41.4	42.1	40.6	42.1
2.	7-8 AM	41.9	42.6	41.3	42.6
3.	8-9 AM	43.9	45.2	41.8	45.3
4.	9-10 AM	45.8	46.5	44.4	46.5
5.	10-11 AM	53.1	55.0	50.0	55.1
6.	11-12 AM	50.3	54.5	46.1	54.8
7.	12-13 PM	53.1	56.6	49.2	56.9
8.	13-14 PM	52.6	55.2	49.1	55.4
9.	14-15 PM	51.2	56.8	48.3	56.9
10.	15-16 PM	54.1	57.1	49.9	57.4
11.	16-17 PM	53.6	57.7	48.5	58.1
12.	17-18 PM	50.7	54.1	47.4	54.2
13.	18-19 PM	38.3	39.0	37.6	39.0
14.	19-20 PM	38.8	39.4	38.2	39.4
15.	20-21 PM	40.7	41.9	38.7	41.9
16.	21-22 PM	42.4	43.1	41.2	43.1
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60]))					49.3



Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2018 to 01.06.2021.
2. Complaint Register is available in lab / Email ID : lab.office@wolkem.com, m.shukla@wolkem.com
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Page 1 of 2

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Ministry of Environment & Forests  
Government of India  
MoEFCC



NABET



OHSAS  
Certification No.: 33024-A111  
Chemical & Biological  
TC - 6641



Our Commitment.. Your Trust



Date: 20.05.2019

**TEST CERTIFICATE**

(Noise Level Monitoring)

**1. Name of Customer**

: HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA

**2. Purchase order Number**

: PO No. 2016.1201/ 5100019026 Date 13.01.2018  
 AMENDMENT NO 6 Dated:- 01.01.2019

**3. Date of Monitoring**

: 08.05.2019

**4. Test Methods Reference**

: IS: 9989-1981 (Reaffirmed 2008)

**5. Name of location**

: Lakadwas village

S. No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	35.3	36.4	34.5	36.4
2.	23-24PM	34.7	35.3	34.2	35.3
3.	0-1 AM	35.3	36.4	34.5	36.4
4.	1-2 AM	34.7	35.3	34.2	35.3
5.	2-3 AM	35.3	36.4	34.5	36.4
6.	3-4 AM	34.0	35.0	33.2	35.0
7.	4-5 AM	33.4	34.0	33.0	34.0
8.	5-6 AM	34.8	35.4	34.3	35.4
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					35.5
Day-Night Sound Level (Ldn) = 10 log {1/24 [16 (L <sub>10</sub> .day/10) + 8 (L <sub>night</sub> + 10)/10]}]					
Ldn					48.4

**CPCB Norms**

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By

  
 (Gaurav Nagar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 Dr. S. K. Yadav  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)
**Note**

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
- Complaint Register is available in lab / Email ID: lab.offices@wolkem.com/oin.shukla@wolkem.com
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Page 2 of 2

**Registered & Corporate Office:**
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 Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379


 Certificate No.: Chemical & Biological  
 32026-A111 TG - 5841

Our Commitment.. Your Trust



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No: 2016-12C1/5100019025 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO 6 Dated - 01.01.2019
4. Test Methods Reference	:	IS: 9989– 1981 (Reaffirmed 2008)
5. Name of location	:	Maton village

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	6-7 AM	41.1	41.9	40.2	41.9
2.	7-8 AM	41.9	42.8	41.1	42.8
3.	8-9 AM	43.5	44.6	42.7	44.7
4.	9-10 AM	48.9	49.9	48.0	49.9
5.	10-11 AM	50.3	51.4	48.9	51.5
6.	11-12 AM	54.5	55.5	53.5	55.6
7.	12-13 PM	53.8	54.7	52.7	54.7
8.	13-14 PM	53.6	54.3	52.7	54.3
9.	14-15 PM	54.8	55.4	54.1	55.5
10.	15-16 PM	54.3	55.3	53.5	55.3
11.	16-17 PM	55.3	56.4	54.6	56.4
12.	17-18 PM	52.8	53.6	51.9	53.6
13.	18-19 PM	48.2	49.5	46.2	49.5
14.	19-20 PM	44.1	45.1	43.3	45.1
15.	20-21 PM	41.5	42.4	40.6	42.4
16.	21-22 PM	39.4	40.7	38.4	40.6
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>50</sub> ) <sup>2</sup> / 60])					49.6



Note:

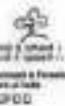
1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: lab.office@wolkem.com/om.shukla@wolkem.com
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Page 1 of 2

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Phone : +91 294 2494600 - 02. Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No: Chemcan & Biological  
2009-A111 TC-1961

Our Commitment.. Your Trust



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 6 Dated: - 01.01.2018
3. Date of Monitoring	:	09.05.2019
4. Test Methods Reference	:	IS: 9989—1981 (Reaffirmed 2008)
5. Name of location	:	Maton village

S. No.	Time hours	Sound Pressure Level dB(A) Night Time			Leq
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	35.2	36.1	33.9	36.2
2.	23-24PM	34.3	34.9	33.8	34.9
3.	0-1 AM	33.6	34.6	32.2	34.7
4.	1-2 AM	32.8	33.6	32.1	33.6
5.	2-3 AM	32.4	33.6	31.6	33.6
6.	3-4 AM	35.0	36.0	33.5	36.0
7.	4-5 AM	34.1	34.9	33.3	35.0
8.	5-6 AM	33.6	34.9	32.0	35.0
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) <sup>2</sup> /60])					34.9
Day-Night Sound Level (Ldn) = 10 log {1/24 [10 (10Lday/10) + 8 (10(Lnight + 10)/10)]}					*
Ldn					48.5

#### CPCB Norms

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
Wolkem India Limited  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
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Page 2 of 2

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No.: Chemical & Biological  
32024-ATM TG-3941

Our Commitment.. Your Trust



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 8 Dated: 01.01.2019
3. Date of Monitoring	:	10.05.2019
4. Test Methods Reference	:	IS: 9989–1981 (Reaffirmed 2008)
5. Name of location	:	Kharwaria village

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>90</sub></b>	
1.	6-7 AM	45.3	46.3	44.5	46.3
2.	7-8 AM	42.7	43.6	41.8	43.6
3.	8-9 AM	40.5	41.9	39.5	41.9
4.	9-10 AM	43.2	44.1	42.4	44.1
5.	10-11 AM	40.6	41.5	39.8	41.5
6.	11-12 AM	60.9	61.9	59.6	61.9
7.	12-13 PM	60.6	61.5	59.6	61.5
8.	13-14 PM	62.0	62.8	61.3	62.8
9.	14-15 PM	61.5	62.6	60.6	62.6
10.	15-16 PM	62.6	63.9	61.8	63.9
11.	16-17 PM	59.8	60.7	58.8	60.7
12.	17-18 PM	46.3	47.2	45.4	47.2
13.	18-19 PM	43.5	44.4	42.6	44.4
14.	19-20 PM	41.3	42.7	40.3	42.7
15.	20-21 PM	44.1	45.0	43.2	45.0
16.	21-22 PM	41.5	42.3	40.6	42.3
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					50.8



Note

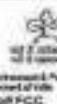
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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No.: Chemical & Biological  
TC - 3841

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Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016-1201/ 5100010025 Date 13.01.2018
3. Date of Monitoring	:	AMENDMENT NO 6 Dated:- 01.01.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Khanwaria village

S. No.	Time hours	Sound Pressure Level dB(A) Night Time			<b>Leq</b>
		<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>90</sub></b>	
1.	22-23PM	35.5	36.4	34.1	36.4
2.	23-24PM	34.6	35.2	34.0	35.2
3.	0-1 AM	35.3	35.9	34.7	35.9
4.	1-2 AM	36.1	37.4	35.3	37.4
5.	2-3 AM	33.9	34.5	33.4	34.5
6.	3-4 AM	36.8	38.1	36.0	38.1
7.	4-5 AM	37.6	38.9	36.7	38.9
8.	5-6 AM	36.1	37.4	35.3	37.4
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) <sup>2</sup> /60])					36.7
Day-Night Sound Level (Ldn) = 10 log {1/24 [16 (10Lday/10) + 8 (10Lnigh + 10)/10])}					
Ldn					49.8

#### CPCB Norms

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Areas	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Areas	55.0	45.0

Tested By

(Gautav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav

Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No: Chemical & Biologics  
33024-A111

Our Commitment.. Your Trust



Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019026 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO 6 Dated:- 01.01.2019
4. Test Methods Reference	:	IS: 9989– 1981 (Reaffirmed 2008)
5. Name of location	:	Near Udaisagar

S.No.	Time hours	Sound Pressure Level dB(A)			Leq
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	6-7 AM	41.5	42.3	40.3	42.3
2.	7-8 AM	43.2	44.1	42.2	44.1
3.	8-9 AM	45.0	46.9	44.1	46.0
4.	9-10 AM	45.9	47.4	45.1	47.5
5.	10-11 AM	46.6	47.9	45.0	48.0
6.	11-12 AM	58.2	59.3	57.3	59.3
7.	12-13 PM	55.2	56.7	54.0	56.8
8.	13-14 PM	56.9	58.4	55.4	58.4
9.	14-15 PM	59.5	61.1	57.4	61.2
10.	15-16 PM	58.4	59.4	56.3	59.5
11.	16-17 PM	56.6	57.3	55.9	57.4
12.	17-18 PM	54.6	55.4	53.3	55.4
13.	18-19 PM	48.2	48.9	47.6	48.9
14.	19-20 PM	46.9	47.7	45.6	47.7
15.	20-21 PM	44.5	46.0	43.1	46.0
16.	21-22 PM	43.4	45.2	41.5	45.2
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> – L <sub>90</sub> ) / 60])					51.5



Note

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Page 1 of 2

Date: 20.05.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO 6 Dated- 01.01.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Near Udaisagar

S. No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	40.2	41.2	39.2	41.3
2.	23-24PM	38.8	39.6	37.8	39.7
3.	0-1 AM	35.2	36.0	34.2	36.0
4.	1-2 AM	34.3	34.9	33.8	34.9
5.	2-3 AM	33.0	33.8	32.2	33.8
6.	3-4 AM	33.7	34.7	32.3	34.7
7.	4-5 AM	35.1	36.4	33.8	36.5
8.	5-6 AM	36.2	37.6	35.5	37.6
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					36.8
Day-Night Sound Level (Ldn) = 10 log {1/24 [16 (10Lday/10) + 8 (10Lnigh + 10)/10)]}					
Ldn					50.4

**CPCB Norms**

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	65.0
3	Residential Area	55.0	45.0

Tested By

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
- Complaint Register is available in lab. Email ID : lab.officer@wolkem.com/om.shukla@wolkem.com
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Page 2 of 2

Registered & Corporate Office:

"Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02. Fax: +91 294 2494808. E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001378



Ministry of Environment & Forests  
MoEFCC



NABL



GHSAS  
Certificate No. CL0001-A1H  
22024-A1H  
TC - 541



Our Commitment.. Your Trust



Date: 23.08.2019

## TEST CERTIFICATE

#### **NLM (Noise Level Monitoring)**

**1. Name of Customer** : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
  
**2. Purchase order Number** : PO No. 2016/1201/5100019025 Date 13.01.2016  
AMENDMENT NO 6 Dated:- 01.01.2019  
  
**3. Date of Monitoring** : 05.08.2019  
**4. Test Methods Reference** : IS: 9989- 1981 (Reaffirmed 2008)  
**5. Name of location** : Mine Lease Area

S.No.	Time hours	Sound Pressure Level dB(A)			Leq
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	6-7 AM	42.4	43.1	41.1	43.2
2.	7-8 AM	44.1	45.0	43.0	45.0
3.	8-9 AM	45.9	46.9	45.0	46.9
4.	9-10 AM	46.7	48.4	46.0	48.4
5.	10-11 AM	47.6	48.9	45.9	48.9
6.	11-12 AM	57.6	58.7	56.7	58.7
7.	12-13 PM	54.5	56.2	53.4	56.2
8.	13-14 PM	56.4	57.8	54.8	57.8
9.	14-15 PM	58.9	60.5	56.9	60.6
10.	15-16 PM	58.0	58.8	55.7	58.9
11.	16-17 PM	56.0	56.8	55.3	56.8
12.	17-18 PM	54.1	54.8	52.7	54.9
13.	18-19 PM	42.9	43.5	42.4	43.5
14.	19-20 PM	41.8	42.5	40.6	42.5
15.	20-21 PM	39.6	41.0	38.4	41.0
16.	21-22 PM	38.7	40.3	37.0	40.3

100

1. MoEFCC, New Delhi recognition under the Biodegradable (Prohibition) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
  2. Complaint Register is available in lab / Email ID : lab.officewest@comvom.com,vom.srujan@wolkern.com
  3. The results listed refer only to the tested sample(s) and parameters. All Endorsement of product is neither inferred nor implied.
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Page 7 of 7

Registered & Corporate Office:

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Phone : +91 294 2494800 - 02 Fax: +91 294 2494808 E-mail : info@wolkem.com

CIN: U292998J1971PLC991379



CHADS  
Centro de  
Investigación

Date: 23.08.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA PO No. 2016 1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 6 Dated - 01.01.2019
2. Purchase order Number	:	05.08.2019
3. Date of Monitoring	:	IS: 9989- 1981 (Reaffirmed 2008)
4. Test Methods Reference	:	
5. Name of location	:	Mine Lease Area

S. No.	Time hours	Sound Pressure Level dB(A)			Leq
		L <sub>10</sub>	L <sub>80</sub>	L <sub>90</sub>	
1.	22-23PM	37.0	37.8	36.1	37.8
2.	23-24PM	36.0	37.0	34.4	37.0
3.	0-1 AM	36.0	37.0	34.4	37.0
4.	1-2 AM	35.6	36.2	35.0	36.2
5.	2-3 AM	34.3	35.0	33.4	35.0
6.	3-4 AM	33.3	34.3	31.9	34.3
7.	4-5 AM	34.6	36.0	33.4	36.0
8.	5-6 AM	34.3	35.0	33.4	35.0
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) <sup>2</sup> /60])					36.1
Day-Night Sound Level (Ldn) = 10 log (1/24 [16 (10Lday/10) + 8 (10(Lnight + 10)/10)])					49.2

CPCB Norms

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	65.0
3	Residential Area	55.0	45.0

Tested By

(Gaurav Nagar)  
Chemist

Checked & Verified by  
(Dr. Dinesh Kurnawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note:

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Page 2 of 2

Date: 23.08.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016 1201/ 5100019025 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO 6 Dated- 01.01.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Umrada village

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	6-7 AM	45.2	46.0	44.1	46.0
2.	7-8 AM	46.1	46.9	45.1	47.0
3.	8-9 AM	47.8	49.0	46.8	49.0
4.	9-10 AM	50.6	51.7	49.7	51.7
5.	10-11 AM	48.2	49.3	46.8	49.3
6.	11-12 AM	52.9	53.8	51.6	53.8
7.	12-13 PM	56.1	56.9	56.8	59.0
8.	13-14 PM	57.8	58.5	56.8	58.6
9.	14-15 PM	52.9	53.8	51.6	53.8
10.	15-16 PM	58.7	59.6	57.7	59.6
11.	16-17 PM	59.6	60.8	58.8	60.8
12.	17-18 PM	39.0	39.6	38.0	39.7
13.	18-19 PM	39.7	40.5	38.9	40.5
14.	19-20 PM	41.2	42.3	40.4	42.3
15.	20-21 PM	43.7	44.6	42.9	44.6
16.	21-22 PM	41.6	42.5	40.4	42.5
Leq Day (Leq = L <sub>10</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					49.9


**Note**

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Page 1 of 2

Date: 23.08.2019

**TEST CERTIFICATE**

(Noise Level Monitoring)

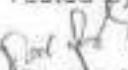
1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.t201/ 5100019025 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO 6 Dated: - 01.01.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Umrada village

S. No.	Time hours	Sound Pressure Level dB(A)			Leq
		L <sub>10</sub>	L <sub>90</sub>	L <sub>50</sub>	
1.	22-23PM	35.0	35.6	34.1	35.6
2.	23-24PM	35.7	36.3	34.9	36.4
3.	0-1 AM	37.0	38.0	36.3	38.0
4.	1-2 AM	39.2	40.0	38.5	40.0
5.	2-3 AM	37.3	38.1	36.2	38.2
6.	3-4 AM	32.3	32.9	31.6	32.9
7.	4-5 AM	33.0	33.6	32.3	33.6
8.	5-6 AM	34.2	35.1	33.5	35.1
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					36.2
Day-Night Sound Level (Ldn) = 10 log {1/24 [16 (L <sub>10</sub> /day/10) + 8 (L <sub>night</sub> + 10)/10]}					
Ldn					49.0

**CPCB Norms**

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By


  
(Gaurav Nagar)  
Chemist

Checked &amp; Verified by


  
(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory


  
Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR, Rajasthan

## Note

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Page 2 of 2

Date: 23.08.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 6 Dated: 01.01.2019
3. Date of Monitoring	:	07.08.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Lakadwas village

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		Day	Time	Leq	
1.	6-7 AM	42.4	43.8	41.0	43.8
2.	7-8 AM	46.6	47.3	45.9	47.3
3.	8-9 AM	48.2	49.2	47.3	49.3
4.	9-10 AM	49.7	50.4	48.8	50.4
5.	10-11 AM	56.7	57.5	56.0	57.5
6.	11-12 AM	52.7	53.8	51.6	53.8
7.	12-13 PM	54.3	55.0	53.3	55.0
8.	13-14 PM	60.5	61.1	59.7	61.1
9.	14-15 PM	62.4	63.8	61.4	63.8
10.	15-16 PM	59.9	61.1	58.6	61.1
11.	16-17 PM	57.3	58.6	55.7	58.6
12.	17-18 PM	59.0	60.2	57.5	60.3
13.	18-19 PM	40.8	42.1	39.4	42.2
14.	19-20 PM	44.8	45.4	44.1	45.4
15.	20-21 PM	46.4	47.3	45.4	47.4
16.	21-22 PM	47.8	48.5	46.9	48.5
Leq Day (Leq = $L_{50} + [(L_{10} - L_{90})/60])$ )					52.8



**Note:**

1. MoEFCC, New Delhi recognition under [The Environmental (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.08.2018 to 01.06.2021.
2. Complaint Register is available in lab ? EnvID : lab.officewkem@wolkem.com.in shukla@wolkem.com
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Page 1 of 2

Date: 23.08.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date: 13.01.2018
3. Date of Monitoring	:	AMENDMENT NO 6 Dated: 01.01.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Lakadwas village

S. No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	36.1	39.1	34.1	39.2
2.	23-24PM	35.9	36.6	34.6	36.6
3.	0-1 AM	35.4	35.9	34.6	35.9
4.	1-2 AM	35.8	37.3	34.1	37.3
5.	2-3 AM	33.0	33.8	32.4	33.8
6.	3-4 AM	31.8	33.3	31.2	33.3
7.	4-5 AM	30.7	31.8	29.5	31.8
8.	5-6 AM	30.5	31.4	28.4	31.5
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					34.9
Day-Night Sound Level (Ldn) = 10 log [1/24   16 (10Lday/10) + 8 (10(Lnight - 10)/10)]]					
Ldn					51.4

CPCB Norms

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By

(Saurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note

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Page 2 of 2



Date: 23.08.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ S100019025 Date 13.01.2016 AMENDMENT NO 6 Dated - 01.01.2019
3. Date of Monitoring	:	08.08.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Maton village

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		<b>Day Time</b>	<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>	
1.	6-7 AM		44.8	45.7	42.1
2.	7-8 AM		45.3	46.1	44.1
3.	8-9 AM		48.4	49.0	47.6
4.	9-10 AM		44.8	45.7	42.1
5.	10-11 AM		47.1	47.9	45.9
6.	11-12 AM		50.3	51.0	49.5
7.	12-13 PM		50.7	52.3	49.0
8.	13-14 PM		48.4	49.0	47.6
9.	14-15 PM		50.7	52.3	49.0
10.	15-16 PM		51.0	52.1	49.6
11.	16-17 PM		53.9	54.9	52.1
12.	17-18 PM		51.0	52.1	49.6
13.	18-19 PM		51.8	52.6	50.1
14.	19-20 PM		49.0	50.1	47.7
15.	20-21 PM		47.5	48.1	46.7
16.	21-22 PM		45.3	46.5	43.1
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					47.8



Note:

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Page 1 of 2



Date: 23.08.2019

## TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA PO No. 2018.1201/5100019025 Date 13.01.2016 AMENDMENT NO. 8 Dated - 01.01.2019
2. Purchase order Number	:	08.08.2019
3. Date of Monitoring	:	IS: 9989- 1981 (Reaffirmed 2008)
4. Test Methods Reference	:	
5. Name of location	:	Maton village

S. No.	Time hours	Sound Pressure Level dB(A) Night Time			Leq
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	35.3	35.9	34.1	36.0
2.	23-24PM	35.3	36.9	34.1	36.0
3.	0-1 AM	37.8	39.7	36.0	39.8
4.	1-2 AM	36.3	37.1	35.0	37.1
5.	2-3 AM	33.3	34.3	32.1	34.4
6.	3-4 AM	34.1	35.0	33.2	35.0
7.	4-5 AM	35.3	35.9	34.1	36.0
8.	5-6 AM	37.0	37.9	35.6	37.9
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					36.5
Day-Night Sound Level (L <sub>dn</sub> ) = 10 log {1/24 [16 (10L <sub>day</sub> /10) + 8 (10(L <sub>night</sub> + 10)/10)]}					48.9
Lab					

### CPCB Norms

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	60.0
3	Residential Area	55.0	45.0

Tested By

Gaurav Nagar  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory

Wolkem India Limited  
E-102, M.I.A., UDAIPUR (Rajasthan)

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Page 2 of 2

Date: 23.08.2019

**TEST CERTIFICATE**

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2018 AMENDMENT NO 6 Dated: 01.01.2019
3. Date of Monitoring	:	09.08.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Kharwaria village

S.No.	Time hours	Sound Pressure Level dB(A)			Leq
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	6-7 AM	42.6	43.8	41.2	43.8
2.	7-8 AM	43.8	44.9	42.1	44.9
3.	8-9 AM	45.6	46.2	44.7	46.2
4.	9-10 AM	48.2	49.2	46.3	49.3
5.	10-11 AM	50.5	51.3	49.2	51.3
6.	11-12 AM	54.2	55.2	53.1	55.2
7.	12-13 PM	52.0	52.9	50.7	52.9
8.	13-14 PM	47.0	47.6	46.1	47.6
9.	14-15 PM	49.7	50.7	47.7	50.8
10.	15-16 PM	52.0	52.9	50.7	52.9
11.	16-17 PM	48.6	49.8	47.6	49.8
12.	17-18 PM	53.5	54.3	52.1	54.3
13.	18-19 PM	52.2	52.9	51.3	52.9
14.	19-20 PM	47.2	48.3	46.2	48.3
15.	20-21 PM	45.6	46.2	44.9	46.2
16.	21-22 PM	43.6	44.1	42.9	44.1
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					49.4


**Note:**

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / EnviroID : lab\_official@wolkem.com; shukla@wolkem.com
3. The results listed refer only to the tested sample(s) and parameter(s). Endorsement of product is neither inferred nor implied.
4. 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.
5. The samples will be destroyed after 15 days from the date of issue of test certificate unless otherwise specified.
6. Any discrepancy in test results should be reported within 15 days.

Page 1 of 2

Date: 23.08.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No: 2016.1204/ 5100018025 Date: 13.01.2018
3. Date of Monitoring	:	AMENDMENT NO 6 Dated - 01.01.2019
4. Test Methods Reference	:	IS: 9989-1981 (Reaffirmed 2008)
5. Name of location	:	Kharwaria village

S. No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	40.4	42.1	37.9	42.2
2.	23-24PM	39.7	40.7	38.5	40.7
3.	0-1 AM	37.9	36.7	36.8	38.7
4.	1-2 AM	36.6	36.5	35.1	36.5
5.	2-3 AM	33.9	34.5	33.1	34.5
6.	3-4 AM	33.0	33.5	31.9	33.5
7.	4-5 AM	32.7	33.3	31.5	33.3
8.	5-6 AM	31.9	32.6	31.3	32.6
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>50</sub> ) <sup>2</sup> /60])					36.5
Day-Night Sound Level (Ldn) = 10 log [1/24 {16 (10L <sub>day</sub> /10) + 8 (10(L <sub>night</sub> + 10)/10)}]					
Ldn					48.6

CPCB Norms:

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note:

- NoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1337 is valid from 02.06.2010 to 01.06.2021.
- Complaint Register is available in Lab. E-mail ID: lab.offices@wolkem.com/om.shukla@wolkem.com
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Page 2 of 2

Registered & Corporate Office:

Wolkem House, E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN - U29299RJ1971PLC001379



Our Commitment.. Your Trust

Date: 23.08.2019

### TEST CERTIFICATE

(Noise Level Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO 6 Dated - 01.01.2019
3. Date of Monitoring	:	10.08.2019
4. Test Methods Reference	:	IS: 9989- 1981 (Reaffirmed 2008)
5. Name of location	:	Near Udaisagar

S.No.	Time hours	Sound Pressure Level dB(A)			<b>Leq</b>
		<b>Day Time</b>	<b>L<sub>10</sub></b>	<b>L<sub>50</sub></b>	
1.	6-7 AM		39.6	40.2	38.8
2.	7-8 AM		40.0	40.7	39.5
3.	8-9 AM		42.2	43.2	39.9
4.	9-10 AM		44.1	45.0	42.5
5.	10-11 AM		49.4	49.9	48.9
6.	11-12 AM		50.8	52.0	49.4
7.	12-13 PM		49.8	51.0	48.8
8.	13-14 PM		52.3	53.6	51.3
9.	14-15 PM		53.0	54.2	52.0
10.	15-16 PM		55.3	56.2	53.9
11.	16-17 PM		56.8	57.7	55.9
12.	17-18 PM		54.8	55.8	53.5
13.	18-19 PM		53.0	54.3	51.9
14.	19-20 PM		50.6	51.0	49.8
15.	20-21 PM		47.8	48.9	46.3
16.	21-22 PM		44.4	45.4	45.4
Leq Day (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>50</sub> ) / 60])					50.0

Note:

1. MoEFCC, New Delhi recognition under Environment (Protection) Act 1986, vide gazette notification no. 1367 is valid from 02.05.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID : lab.offices@wolkem.com, shuktak@wolkem.com
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Page 1 of 2

Date: 23.08.2019

**TEST CERTIFICATE**

(Noise Level Monitoring)

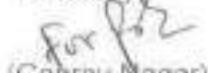
1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO 6 Dated:- 01.01.2019
4. Test Methods Reference	:	IS: 9989-1981 (Reaffirmed 2008)
5. Name of location	:	Near Udaisagar

S. No.	Time hours	Sound Pressure Level dB(A)			Leq
		L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	
1.	22-23PM	33.4	34.5	32.8	34.5
2.	23-24PM	33.0	33.5	32.5	33.5
3.	0-1 AM	38.8	39.8	37.8	39.8
4.	1-2 AM	37.0	37.9	35.5	37.9
5.	2-3 AM	34.4	35.5	33.7	35.5
6.	3-4 AM	33.9	34.5	33.5	34.5
7.	4-5 AM	31.8	33.0	31.0	33.0
8.	5-6 AM	33.3	34.3	31.9	34.3
Leq Night (Leq = L <sub>50</sub> + [(L <sub>10</sub> - L <sub>90</sub> ) / 60])					35.4
Day-Night Sound Level (L <sub>dn</sub> ) = 10 log {1/24 [16 (10L <sub>dn</sub> /10) + 8 (10(L <sub>night</sub> + 10)/10)]}					48.9
L <sub>dn</sub>					

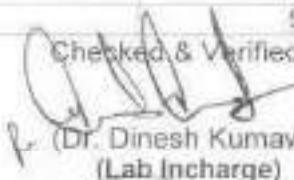
**CPCB Norms**

S. No	Category of area	6 A.M. to 10 P.M.	10 P.M to 6 A.M
1	Industrial Area	75.0	70.0
2	Commercial Area	65.0	55.0
3	Residential Area	55.0	45.0

Tested By:

  
 (Gabraw Magar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 Dr. S. K. Yadav  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

## Note:

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2018 to 01.06.2021.
2. Complaint Register is available in lab. E-mail ID: lab.office@wolkem.com/om.suhilk@wolkem.com.
3. The results listed refer only to the tested sample(s) and parameter(s). Endorsement of product is neither inferred nor implied.
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6. Any discrepancy in test results should be reported within 15 days.

Page 2 of 2



Report No.20190618001

Date: - 01.07.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No: 2016 1201/ 5/00018025 Date: 15.01.2016 AMENDMENT NO. 0 Dated: - 01.01.2019
3. Date of Monitoring	:	17.06.2019
4. Sample received On	:	18.06.2019
5. Period of Analysis	:	22.06.2019 to 01.07.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.165	M <sup>3</sup> / Min
3.	Ambient Temperature	33.9	°C
4.	Relative Humidity	42	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPB Norms) New Delhi dt. 18 <sup>th</sup> Nov, 2009
1.	PM <sub>10</sub>	ug/m <sup>3</sup>	IS:5182 (Part 23)2000 RA 2012	71.83	100
2.	PM <sub>2.5</sub>	ug/m <sup>3</sup>	SOP No. 1025 Issue date: 01.03.2010 Revision date 01.06.2013	42.11	60
3.	SO <sub>2</sub>	ug/m <sup>3</sup>	IS:5182 (Part 2)2001 Rev# 2006	9.81	80
4.	NO <sub>2</sub>	ug/m <sup>3</sup>	IS:5182 (Part 6)2005	17.30	80
5.	Lead	ug/m <sup>3</sup>	IS:5182 (Part 22) 2004 Rev# 2006	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO reader	0.56	04 (1 Hour)
7.	*SiO <sub>2</sub>	ug/m <sup>3</sup>	SOP NO. WI/AIR/TPV/23/25	8.96	-
8.	*PO <sub>4</sub>	ug/m <sup>3</sup>	SOP NO. WI/AIR/TPV/24/25	0.736	-

\*These Parameters are not in our NABL Scope.

Tested by

(Gaurav Negar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumarwala)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Notes

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1287 is valid from 02.06.2018 to 01.06.2021.
- Complaint Register is available in lab / Email ID: [lab.office@wolkem.com](mailto:lab.office@wolkem.com)/[om.shukla@wolkem.com](mailto:om.shukla@wolkem.com)
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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week June 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Malon Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 17.06.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



**Latitude: 24°34'9"**  
**Longitude: 73°47'4"**  
**Elevation: 573.45m**  
**Accuracy: 4.6m**  
**Time: 17-06-2019 10:22**  
**Note: kharwaria village, 17/06/2019**

**REFERENCE: REPORT NO. 20190618001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., Bawali, Udaipur (Rajasthan)



Report No.20190619001

Date: - 01.07.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No 2018.120/ 5100019025 Date 13.01.2019 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	18.09.2019
4. Sample received On	:	19.06.2019
5. Period of Analysis	:	22.06.2019 to 01.07.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1439	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.165	M <sup>3</sup> / Min
3.	Ambient Temperature	35.1	°C
4.	Relative Humidity	45	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 19 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2000 RA 2012	87.09	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 13/25 Issue date: 01.03.2010 Revision date 01.08.2013	40.66	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	12.37	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2008	17.73	80
5.	Lead	µg/m <sup>3</sup>	IS: 5102(Part 02) 2004 Reaff 2008	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	04 (1 hour)
7.	*SO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO. WI/AIR/TP/ 23/25	7.27	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO. WI/AIR/TP/ 24/25	0.778	-

These Parameters are not in our NAAQS Scope.  
Tested by:

(Gaurav Nagar)  
Chemist

Checked & Verified by  
  
(Dr. Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)  
Environmental & Chemical Laboratory

**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1367 is valid from 02.06.2018 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [lab.officer@wolkem.com](mailto:lab.officer@wolkem.com); [shukla@wolkem.com](mailto:shukla@wolkem.com)
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Page 1 of 1



**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week June 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 18.06.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°33'13"  
Longitude: 73°47'39"  
Elevation: 560.46m  
Accuracy: 4.6m  
Time: 18-06-2019 14:37  
Notes: maton village 18/06/2019

**REFERENCE: REPORT NO. 20190619001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.L.A, UDPLR (Rajasthan)



Report No.20190620001

Date: - 01.07.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016 1201/ 9100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	19.06.2019
4. Sample received On	:	20.06.2019
5. Period of Analysis	:	22.06.2019 to 01.07.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1438	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.180	M <sup>3</sup> / Min
3.	Ambient Temperature	36.2	°C
4.	Relative Humidity	42	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPB Norms) Now Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	66.74	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 1025 Issue date: 01.03.2013 Revision date 01.06.2013	39.44	80
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 RecF 2006	11.07	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.72	80
5.	Lead	µg/m <sup>3</sup>	IS:5182(Part 22) 2004 RecF 2006	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.66	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 23/26	8.11	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TP/ 24/26	0.722	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note

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Page: 1 of 1

Registered & Corporate Office:

"Wolkem House", E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U28298RJ1971PLC001379



Ministry of Environment & Forests  
Government of India  
MoEFCC



NABET



NISARAS



NABL

Registration No. Chemical & Biological  
32024-AU TG-B041

Our Commitment.. Your Trust

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week June 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakkadwas Village
3. Date of Monitoring :- 19.06.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°33'3"   
Longitude: 73°48'28"   
Elevation: 565.5m   
Accuracy: 4.6m   
Time: 19-06-2019 11:39   
Notes: Lakkadwas village 19/06/2019

**REFERENCE: REPORT NO. 20190620001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No 20190621001

Date: - 01.07.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018 1201/ 5100019025 Date: 13.01.2018 AMENDMENT NO. 6 Dated: 01.01.2019
3. Date of Monitoring	:	20.06.2019
4. Sample received On	:	21.06.2019
5. Period of Analysis	:	22.06.2019 to 01.07.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part 23,Part 22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1434	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	35.3	°C
4.	Relative Humidity	41	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 15 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	ug/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 20.12 SOP No. 1022 Issue date: 01.03.2010 Revision date 01.06.2013	76.28	100
2.	PM <sub>2.5</sub>	ug/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 20.12 SOP No. 1022 Issue date: 01.03.2010 Revision date 01.06.2013	42.88	60
3.	SO <sub>2</sub>	ug/m <sup>3</sup>	IS:5182 (Part 2)2001 Real/ 2008	10.45	60
4.	NO	ug/m <sup>3</sup>	IS:5182 (Part 6)2008	17.28	60
5.	Lead	ug/m <sup>3</sup>	IS:5182 (Part 22) 2004 Real/ 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO reader	0.33	04 (1 hour)
7.	*SO <sub>3</sub>	ug/m <sup>3</sup>	SOP NO.WI/AIR/TP/23/25	7.72	-
8.	*PO <sub>4</sub>	ug/m <sup>3</sup>	SOP NO.WI/AIR/TP/24/25	0.850	-

\*These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab. Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

- MoEFCC, New Delhi recognition under the Environment Protection Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week June 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarada Village
3. Date of Monitoring :- 20.06.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°31'26"  
Longitude: 73°46'47"  
Elevation: 1908.67ft  
Accuracy: 13.1ft  
Time: 20-06-2019 11:48  
Note: umrada village

**REFERENCE: REPORT NO. 20190621001**

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190622001

Date: - 01.07.2019

### TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt.: Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016 1201/5100019025 Date: 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	21.06.2019
4. Sample received On	:	22.06.2019
5. Period of Analysis	:	22.06.2019 to 01.07.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1435	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.185	M <sup>3</sup> / Min
3.	Ambient Temperature	37.5	°C
4.	Relative Humidity	48	%

#### Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAQS (GCPB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2018
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS 6182 (Part 23)2000 RA 2012	74.27	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 issue date: 01.03.2018 Revision date 01.06.2013	39.52	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 2)2001 Rev II 2008	11.75	90
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 3)2008	15.25	50
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part 22) 2004 Rev II 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.55	04 (1 hour)
7.	*SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WII/AIR/TP/23/25	7.50	-
8.	*PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WII/AIR/TP/24/25	0.801	-

\*These Parameter are not in our NAQS Scope

Tested by

(Gaurav Nogar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. C. Yadav)

Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

#### Note

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Page : 01

#### Registered & Corporate Office:

'Wolkem House', E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail: [info@wolkem.com](mailto:info@wolkem.com)

CIN- U29299RJ1971PLC001379



MoEFCC  
Ministry of Environment & Forests  
Government of India



NABL  
National Accreditation Board  
for Laboratories



IS-9000  
Certified No. 26244-A11  
TC-992



ISO 14001  
Certified No. GHA94  
TC-992

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week June 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 21.06.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°32'33"  
Longitude: 73°47'48"  
Elevation: 600.52m  
Accuracy: 4.6m  
Time: 21-06-2019 11:12  
Note: mine lease area 21/06/2019

REFERENCE: REPORT NO. 20190622001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016-1201/ 5100019025 Date: 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2016
3. Date of Monitoring	:	05.08.2019
4. Sample received On	:	06.08.2019
5. Period of Analysis	:	10.08.2019 to 19.08.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM10	1.18	M <sup>3</sup> / Min
3.	Ambient Temperature	29	°C
4.	Relative Humidity	59	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 13 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS 5182 (Part 23)2006 RA 2012 SOP No. 10/25 Issue date: 01.03.2010 Revision date: 01.08.2013	66.7	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS 5182 (Part 2)2001 Raft 2006	35.5	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 6)2006	11.7	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 22)2004 Raft 2009	17.2	80
5.	Lead	µg/m <sup>3</sup>	IS 5182 (Part 22)2004 Raft 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.45	04
7.	SIO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TPI/ 23/25	6.07	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO WIL/AIR/TPI/ 24/26	0.503	-

Tested by

Gaurav Nagar  
Chemist

Checked & Verified by  
(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week August 2019

- |                          |  |
|--------------------------|--|
| 1. Name of Customer :-   | Hindusthan Zinc Limited<br>(Maton Mines) Udaipur |
| 2. Name of Location :-   | Mine Lease Area                                  |
| 3. Date of Monitoring :- | 05.08.2019                                       |
| 4. GPS Coordinates :-    | Mention in Photograph                            |

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190806001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	06.08.2019
4. Sample received On	:	07.08.2019
5. Period of Analysis	:	10.08.2019 to 19.08.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1	Duration of Survey	1430	Minutes
2	Average Flow rate for PM10	1.155	M <sup>3</sup> / Min
3	Ambient Temperature	31	°C
4	Relative Humidity	62	%

**Results Ambient Air Quality**

S. No.	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	63.4	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.08.2013	38.4	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	10.6	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2006	15.7	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22)-2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.56	04
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 23/25	6.49	-
8.	PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 24/25	0.561	-

Tested by

  
 (Gaurav Nagar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

 Dr. S. K. Yadav  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102 M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week August 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarda Village
3. Date of Monitoring :- 06.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190807001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)


**TEST CERTIFICATE**  
 (Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	07.08.2019
4. Sample received On	:	08.08.2019
5. Period of Analysis	:	10.08.2019 to 19.08.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1438	Minutes
2.	Average Flow rate for PM10	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	28	°C
4.	Relative Humidity	65	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	65.8	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date 01.03.2010 Revision date 01.06.2013	36.9	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2000	9.99	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.1	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.88	04
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TR/ 23/25	8.87	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TR/ 24/26	0.615	-

Tested by

  
 (Saurav Nagar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumarat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 07.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190808001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No 2016.1201/ 5100019025 Date 13-01-2016 AMENDMENT NO. 0 Dated: - 01.01.2019
3. Date of Monitoring	:	08.08.2019
4. Sample received On	:	09.08.2019
5. Period of Analysis	:	10.08.2019 to 19.08.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1435	Minutes
2.	Average Flow rate for PM10	1.15	M <sup>3</sup> / Min
3.	Ambient Temperature	30	°C
4.	Relative Humidity	61	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012 SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	69.5	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	39.6	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2008	11.1	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182(Part22) 2004 Reaff 2009	16.1	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.56	04
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/23/25	5.84	-
8.	PO <sub>x</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/24/25	0.650	-

Tested by

  
 (Gaurav Nagar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

Dr. S. K. Yadav

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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6. Any discrepancy in test results should be reported within 15 days.

Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week August 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 08.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190809001



Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



## TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	09.08.2019
4. Sample received On	:	10.08.2019
5. Period of Analysis	:	10.08.2019 to 19.08.2019
6. Name of Location	:	Kharvaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1437	Minutes
2.	Average Flow rate for PM10	1.17	M <sup>3</sup> / Min
3.	Ambient Temperature	29	°C
4.	Relative Humidity	69	%

## Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) Now Delhi dL 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	62.3	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.08.2013	34.9	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2008	12.2	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	14.7	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22) 2004 Reaff 2008	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.45	04
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 23/25	6.46	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 24/25	0.536	-

Tested by

  
(Saurav Nagar)  
Chemist

Checked &amp; Verified by

  
(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

  
(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week August 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 09.08.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



REFERENCE: REPORT NO. 20190810001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO: 6 Dated: - 01.01.2019
3. Date of Monitoring	:	19.08.2019
4. Sample received On	:	20.08.2019
5. Period of Analysis	:	26.08.2019 to 04.09.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1430	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	29	°C
4.	Relative Humidity	65	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS 5182 (Part 23)2006 RA 2012	62.1	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 issue date: 01.03.2010 Revision date 01.08.2013	35.1	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 2)2001 Reaff 2006	13.8	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part 6)2006	16.8	80
5.	Lead	µg/m <sup>3</sup>	IS 5182 (Part 22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.56	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WLAI/TP/ 23/25	9.41	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WLAI/TP/ 24/25	0.655	-

Tested by

(Geetav Nagar)  
Chemist

Checked &amp; Verified by

(Dr. Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)



Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [complaints.wcs@wolkem.com](mailto:complaints.wcs@wolkem.com) / [om.shukla@wolkem.com](mailto:om.shukla@wolkem.com)
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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 19.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°33'9"  
Longitude: 73°47'3"  
Elevation: 360.45m  
Accuracy: 4.6m  
Time: 19-08-2019 10:31  
Note: kharwaria village

REFERENCE: REPORT NO. 20190820001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190821001

Date: - 04.09.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT NO. 8 Dated - 01.01.2019
3. Date of Monitoring	:	20.08.2019
4. Sample received On	:	21.08.2019
5. Period of Analysis	:	26.08.2019 to 04.09.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1	Duration of Survey	1433	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.175	M <sup>3</sup> / Min
3.	Ambient Temperature	28	°C
4.	Relative Humidity	62	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	60.7	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.05.2013	32.9	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	11.1	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.8	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.45	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	8.77	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.617	-

Tested by

(Gautav Nagar)  
Chemist

Checked &amp; Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur

2. Name of Location :- Maton Village

3. Date of Monitoring :- 20.08.2019

4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190821001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**TEST CERTIFICATE**  
 (Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/5100019025 Date 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	21.08.2019
4. Sample received On	:	22.08.2019
5. Period of Analysis	:	26.08.2019 to 04.09.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1437	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	31	°C
4.	Relative Humidity	71	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012 SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2015	63	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	37.4	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	12.4	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	14.7	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.34	04 / 1 hour
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 23/25	7.29	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 24/25	0.615	-

Tested by

Gaurav Nagar  
Chemist

Checked & Verified by



Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas Village
3. Date of Monitoring :- 21.08.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190822001



Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Report No.20190823005

Date: - 04.09.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100018025 Date 13.01.2016 AMENDMENT NO: 5 Dated: - 01.01.2019
3. Date of Monitoring	:	22.08.2019
4. Sample received On	:	23.08.2019
5. Period of Analysis	:	26.08.2019 to 04.09.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1	Duration of Survey	1439	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.145	M <sup>3</sup> / Min
3.	Ambient Temperature	30	°C
4.	Relative Humidity	65	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012,	68.1	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	32.8	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	11.7	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	16.2	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.68	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	8.11	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.688	-

Tested by

  
 (Gaurav Nagar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR, Rajasthan

**Note**

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarada Village
3. Date of Monitoring :- 22.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190823005

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No: 2016 1201/ 5100019025 Date 13.01.2016 AMENDMENT NO: 8 Dated: - 01.01.2018
3. Date of Monitoring	:	23.08.2019
4. Sample received On	:	26.08.2019
5. Period of Analysis	:	26.08.2019 to 04.09.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1434	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.145	M <sup>3</sup> / Min
3.	Ambient Temperature	32	°C
4.	Relative Humidity	64	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPGCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA/2012	65.5	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	36.2	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2009	13.7	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.3	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182(Part22) 2004 Reaff 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.56	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/25	8.55	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.638	-

Tested by

Gaurav Nagar  
Chemist

Checked & Verified by

(Dr. Dinesh Kumarat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)

Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note

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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udalpur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 23.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERANCE: REPORT NO. 20190826001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



INDIA LIMITED

Phone: +91 294 2494600 to 32 Fax: +91 294 2494603 E-mail: info.wcs@wolkem.com

www.wolkem.com

Report No.20190716001

Date: - 26.07.2019

## TEST CERTIFICATE

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDJSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016-1201/5-00010025 Date 13.01.2016 AMENDMENT NO. 6 Dated - 01.01.2018
3. Date of Monitoring	:	15.07.2019
4. Sample received On	:	16.07.2019
5. Period of Analysis	:	22.07.2019 to 26.07.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1436	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.140	M <sup>3</sup> / Min
3.	Ambient Temperature	35	°C
4.	Relative Humidity	45	%

## Results Ambient Air Quality

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2006 RA 2012	73.2	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	39.5	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 (Reaff 2006)	12.4	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)2006	16.2	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 (Reaff 2008)	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	84 (1 hour)
7.	*SO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/23/25	8.54	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/24/25	0.661	-

\*These Parameters are not in our NABL Scope

Tested by

(Gaurav Nagar)  
Chemist

Checked &amp; Verified by

(Dr. Dinesh Kumawat)

(Lab Incharge)

Authorized Signatory

Dr. S. R. Yadav  
Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week July 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Moton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 15.07.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190716001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018-19/1/5100010025 Date: 10.01.2018 AMENDMENT NO. 8 Dated: - 01.01.2019
3. Date of Monitoring	:	16.07.2019
4. Sample received On	:	17.07.2019
5. Period of Analysis	:	22.07.2019 to 26.07.2019
6. Name of Location	:	Maton Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No.	Monitoring Details	Results	Unit
1.	Duration of Survey	1433	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.175	M <sup>3</sup> /Min
3.	Ambient Temperature	36	°C
4.	Relative Humidity	46	%

**Results Ambient Air Quality**

S. No.	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS: 5182 (Part 23) 2008 RA 2012	62.4	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	38.3	90
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS: 5182 (Part 2) 2001 Reast 2006	11.8	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS: 5182 (Part 5) 2008	17.8	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Reast 2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.55	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TPV 23/25	7.51	-
8.	PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TPV 24/25	0.673	-

\*These Parameters are not in our NABL Scope.

Tested by

  
 (Gaurav Nagar)  
 Chemist

Checked & Verified by  
  
(Dr. Dinesh Kunawat)  
(Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week July 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 16.07.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



**REFERENCE: REPORT NO. 20190717001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No 2016/1201/5100019C25 Date 13.01.2018 AMENDMENT NO. 6 Dated - 01.01.2019.
3. Date of Monitoring	:	17.07.2019
4. Sample received On	:	18.07.2019
5. Period of Analysis	:	22.07.2019 to 26.07.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part 23,Part 22) & Instrument Manual

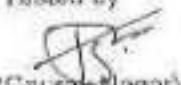
S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1432	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.155	M <sup>3</sup> / Min
3.	Ambient Temperature	37	°C
4.	Relative Humidity	52	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (GPCI Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 Part 2/2006 RA 2012	65.7	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 1/25 Issue date: 01.03.2010 Revision date 01.08.2013	40.8	50
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)/2001 Rev 3/2008	10.5	90
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 5)/2008	17.3	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Rev 1/2009	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.66	0.4 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WL/A/R/TF/23/25	7.94	-
8.	PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO.WL/A/R/TF/24/25	0.716	-

\*These Parameter are not in our NABL Scope.

Tested by

  
 (Gaurav Nagar)  
 Chemist


Checked &amp; Verified by

 (Dr. Dinesh Kumarwati)  
 (Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

## Note:

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2018 to 01.06.2021.
- Complaint Register is available in lab / Email ID: [info@wolkem.com](mailto:info@wolkem.com); [complaints@wolkem.com](mailto:complaints@wolkem.com)
- The results listed refer only to the tested sample(s) and parameter(s). Assessment of product 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 certificate unless otherwise specified.
- Any discrepancy in test results should be reported within 15 days.

Page 1 of 1

**Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week July 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakedwas Village
3. Date of Monitoring :- 17.07.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24°33'3"  
Longitude: 73°48'28"  
Elevation: 562.5m  
Accuracy: 4.6m  
Time: 17-07-2019 09:56  
Note: Lakedwas village

**REFERENCE: REPORT NO. 20190718001**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockwool Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016/12017/5100019025 Date 13.01.2016 AMENDMENT NO: E Dated: 01.01.2019
3. Date of Monitoring	:	18.07.2019
4. Sample received On	:	19.07.2019
5. Period of Analysis	:	22.07.2019 to 26.07.2019
6. Name of Location	:	Umrao Village
7. Method of Sampling	:	IS:5152(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1436	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1155	M <sup>3</sup> / Min
3.	Ambient Temperature	38	°C
4.	Relative Humidity	51	%

**Results Ambient Air Quality**

S. No.	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	S.5152 (Part 23)2006 RA 2012	64.1	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date 01.03.2016 Revision date 01.08.2018	40.3	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	S.5152 (Part 2)2001 Roaff 2006	11.1	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5152 (Part 3)2000	15.2	80
5.	Lead	µg/m <sup>3</sup>	IS:5152 (Part 22) 2004 Roaff 2008	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.55	04 (1 hour)
7.	*SIC <sub>x</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 23/26	8.11	-
8.	*PO <sub>x</sub>	µg/m <sup>3</sup>	SOP NO.WIL/AIR/TP/ 24/25	0.796	-

\*These Parameters are not in our NABL Scope.

Tested by

  
(Gaurav Nagar)  
Chemist

Checked &amp; Verified by

  
(Dr. Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

  
(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory

**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 31.05.2021.
- Complaint Register is available in lab / Email ID: lab.officewolkem@gmail.com or wolkem@wolkem.com
- The results listed refer only to the tested sample(s) and parameter(s). Endorsement of product is neither inferred nor implied.
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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week July 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarada Village
3. Date of Monitoring :- 18.07.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°31'26"  
Longitude: 73°46'47"  
Elevation: 5864.57 m  
Accuracy: 4.6m  
Time: 18-07-2019 12:25  
Note: umrada village

REFERENCE: REPORT NO. 20190719004

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2015-12017-5100019025 Date 13.01.2015 AMENDMENT NO. 6 Dated: - 01.01.2019
3. Date of Monitoring	:	19.07.2019
4. Sample received On	:	22.07.2019
5. Period of Analysis	:	22.07.2019 to 26.07.2019
6. Name of Location	:	Mine Lease area
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

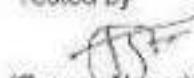
S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1430	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.180	M <sup>3</sup> /Min
3.	Ambient Temperature	36	°C
4.	Relative Humidity	56	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:6182 (Part 23)2005 RA:2012 SOP No. 10/25 Issue date: 01.03.2010 Revision date: 21.08.2013	61.3	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:6182 (Part 21)2001 Raaff 2000	39.2	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:6182 (Part 6)2006	13.1	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:6182 (Part 6)2006	15.8	80
5.	Lead	µg/m <sup>3</sup>	IS: 1182 (Part 22) 2004 Raaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	04.11 hour
7.	*SO <sub>3</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 23/25	7.95	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.WL/AIR/TP/ 24/25	0.763	-

\*These Parameter are not in our NABL Scope.

Tested by

  
 (Gaurav Nagar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumar)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

1. MoEFCC, New Delhi recognition under the Environment (Prevention of Pollution) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2015 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: lab.offices@wolkem.com, shukla@wolkem.com
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6. Any discrepancy in test results should be reported within 15 days.

Environmental Monitoring Photograph of Ambient Air 02<sup>nd</sup> week July 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location : Mine Lease Area
3. Date of Monitoring :- 19.07.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°32'33"  
Longitude: 73°47'48"  
Elevation: 591.52m  
Accuracy: 4.6m  
Time: 19-07-2019 10:17  
Note: mine lease area

REFERENCE: REPORT NO. 20190722001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190702001

Date: - 13.07.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Dist. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/s10001M025 Date 13.01.2016
3. Date of Monitoring	:	AMENDMENT NO: E Dated: - 01.01.2019
4. Sample received On	:	01.07.2019
5. Period of Analysis	:	02.07.2019
6. Name of Location	:	06.07.2019 to 12.07.2019
7. Method of Sampling	:	Mine Lease area IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1433	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.175	M <sup>3</sup> /Min
3.	Ambient Temperature	38	°C
4.	Relative Humidity	44	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (GPCB Norms) New Delhi dt. 10 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2008 RA 2012	72.2	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SDP No. 10/26 issue date: 01.03.2010 Revision date 01.06.2012	38.4	50
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Reaff 2006	10.5	50
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	15.5	50
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22)2004 Reaff 2006	<0.001	1.0
6.	CO	mg/m <sup>3</sup>	By CO meter	0.55	04 (1 hour)
7.	SiO <sub>2</sub>	µg/m <sup>3</sup>	SDP No.WI/AIR/TP:23/26	8.48	-
8.	PO <sub>4</sub>	µg/m <sup>3</sup>	SDP No.WI/AIR/TP:24/26	0.515	-

\*Those Parameter are not in our NABL Scope  
Tested by

(Gaurav Negar)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumarawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Lokman Hossain - General Manager

**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

**Note**

- MoEFCC, New Delhi recognition under the Environment Protection Act 1986, vide gazette notification no. 1357 is valid from 02.09.2010 to 01.06.2021.
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Page: 01

**Registered & Corporate Office:**

'Wolkem House', E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info.wos@wolkem.com

CIN- U28299RJ1971PLC001379

Ministry of Commerce & Poverty  
Reduction & Employment  
PromotionISO 9001:  
2008  
CertifiedNABL  
CertifiedGRIAS  
CertifiedAPLBBM  
Certified  
No. 0224-A017  
T.C. 6641**Our Commitment.. Your Trust**

**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week July 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area
3. Date of Monitoring :- 01.07.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



Latitude: 24° 32' 33"  
Longitude: 73° 17' 40"  
Elevation: 399.52m  
Accuracy: 4.6m  
Time: 01-07-2019 10:00  
Note: mine lease area 01/01

REFERENCE: REPORT NO. 20190702001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190703001

Date: - 13.07.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018-1207/5100018005 Date: 13.01.2018 AMENDMENT NO: 5 Dated: 01.01.2019
3. Date of Monitoring	:	02.07.2019
4. Sample received On	:	03.07.2019
5. Period of Analysis	:	06.07.2019 to 12.07.2019
6. Name of Location	:	Umrada Village
7. Method of Sampling	:	IS: 5182(Part 2 Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1435	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1165	M <sup>3</sup> / Min
3.	Ambient Temperature	41	°C
4.	Relative Humidity	51	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2005 RA 2012 SOP No. 10/75 Issue date: 01.03.2013 Revision date 01.06.2013	67.4	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Raef 2009	40.8	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2005	11.7	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2005	15.6	80
5.	Lead	µg/m <sup>3</sup>	IS: 1732 (Part 22) 2001 Raef 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.65	04 (* hour)
7.	*SO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 23/25	7.10	-
8.	*PO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO. WIL/AIR/TP/ 24/25	0.611	-

\* These Parameter are not in our NABL Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by  
(Dr. Dinesh Kumar)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email: D-102@wolkem.com, [www.wolkem.com](http://www.wolkem.com)
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Pg: 1 of 1

Registered & Corporate Office:

'Wolkem House', E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info.wcs@wolkem.com

CIN- U29299RJ1971PLC001379



Ministry of Environment & Forests  
Govt. of India  
MoEFCC



ISO 9001:  
2008  
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BSI  
Certified  
to  
ISO 9001:  
2008



NABL  
Certified & Accredited  
TC - 5241

**Our Commitment.. Your Trust**

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week July 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Umarda Village
3. Date of Monitoring :- 02.07.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°31'26"  
Longitude: 73°46'47"  
Elevation: 593.57m  
Accuracy: 4.6m  
Time: 02-07-2019 10:41  
Note: umrda village 02/07/2019

REFERENCE: REPORT NO. 20190703001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190704001

Date: - 13.07.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Match Mine P.O. Match, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016/1201/5/00010025 Date: 13.01.2016 AMENDMENT NO. 6 Dated: - 01.01.2018
3. Date of Monitoring	:	03.07.2019
4. Sample received On	:	04.07.2019
5. Period of Analysis	:	06.07.2019 to 12.07.2019
6. Name of Location	:	Lakadwas Village
7. Method of Sampling	:	IS:5152(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1430	Minutes
2.	Average Flow rate for PM <sub>10</sub>	1.145	M <sup>3</sup> / Min
3.	Ambient Temperature	38	°C
4.	Relative Humidity	58	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5152 (Part 23)2008 RA 2012	62.3	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 13x25   issue date: 01.03.2013 Revision date 01.08.2013	41.9	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 Part 2;2001 Reaff 2009	9.4	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2005	14.1	80
5.	Lead	µg/m <sup>3</sup>	IS: 5152(Part22) 2004 Reaff 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.55	04 (1 hour)
7.	*SO <sub>3</sub>	µg/m <sup>3</sup>	SOP NO.W/LAIR/TM 14/2005	6.04	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO.W/LAIR/TM 24/25	0.646	-

\*These Parameter are not in our NAQS Scope.

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by

(D. Dinesh Kumar)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory

**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note

- MoEFCC, New Delhi recognition under the Environment Protection Act 1986 vide gazette notification no. 1387 is valid from 02.08.2016 to 01.06.2021.
- Complaint Register is available in lab. E-mail ID: [info@wolkem.com](mailto:info@wolkem.com), [shukla@wolkem.com](mailto:shukla@wolkem.com)
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- Any discrepancy in test results should be reported within 5 days.

Page 1 of 1

Registered & Corporate Office:

'Wolkem House', E-101, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : [info@wolkem.com](mailto:info@wolkem.com)

CIN- U29299RJ1971PLC001379



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Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week July 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakkadwas Village
3. Date of Monitoring :- 03.07.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



Latitude: 24°33'4"  
Longitude: 73°10'29"  
Elevation: 559.5m  
Accuracy: 4.6m  
Time: 03/07/2019 10:33  
Note: Lakkadwas village 03/07/2019

REFERENCE: REPORT NO. 20190704001

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190705001

Date: - 13.07.2019

**TEST CERTIFICATE**  
(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2019-1201/5130019025 Date: 13.07.2019 AMENDMENT NO: E Dated: - 01.01.2019
3. Date of Monitoring	:	04.07.2019
4. Sample received On	:	05.07.2019
5. Period of Analysis	:	06.07.2019 to 12.07.2019
6. Name of Location	:	Matoon Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrument Manual

S. No	Monitoring Details	Results	Unit
1	Duration of Survey	1437	Minutes
2	Average Flow rate for PM <sub>10</sub>	1.145	M <sup>3</sup> /Min
3	Ambient Temperature	36	°C
4	Relative Humidity	52	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAAQS (CPB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2008
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	9.5*42 (Part 23:2006 RA 2012	67.2	100
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	SOP No. 10/25 Issue date: 01.03.2010 Revision date 01.06.2013	39.5	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2):2001 Raft 2006	10.5	60
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 3):2006	15.1	80
5.	Lead	µg/m <sup>3</sup>	IS:5182 (Part 22):2004 Raft 2009	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.44	04 (1 hour)
7.	*NO <sub>2</sub>	µg/m <sup>3</sup>	SOP NO:WII/AIR/TR/23/25	6.88	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO:WII/AIR/TR/24/25	0.709	-

\*These Parameters are not in our NABL Scope

Tested by

(Gaurav Nagar)  
Chemist

Checked & Verified by  
(Dr. Dinesh Kunawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Note:

1. MoEFCC, New Delhi recognition under the Environment Protection Act 1986, vide gazette notification no. 1357 is valid from 02.06.2018 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [elc.office@wolkem.com](mailto:elc.office@wolkem.com); [shukla@wolkem.com](mailto:shukla@wolkem.com)
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Page 1 of 1

Registered & Corporate Office:

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail: [info.wca@wolkem.com](mailto:info.wca@wolkem.com)

CIN- U28298RJ1971PLC001379



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**Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week July 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton Village
3. Date of Monitoring :- 04.07.2019
4. GPS Coordinates :- Mention in Photograph

**5. Photograph of Ambient Air Monitoring :-**



**REFERENCE: REPORT NO. 20190705001**

  
**Environmental & Chemical Laboratory**  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No. 20190706001

Date: - 13.07.2019

**TEST CERTIFICATE**

(Ambient Air Quality Monitoring)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No: 2016 1201/ 9100019025 Date: 13.01.2016 AMENDMENT NO: 6 Dated: - 01.07.2019
3. Date of Monitoring	:	05.07.2019
4. Sample received On	:	06.07.2019
5. Period of Analysis	:	06.07.2019 to 12.07.2019
6. Name of Location	:	Kharwaria Village
7. Method of Sampling	:	IS:5182(Part 2,Part 6,Part23,Part22) & Instrumental Manual

S. No	Monitoring Details	Results	Unit
1.	Duration of Survey	1434	Minutes
2.	Average Flow rate for PM10	1.15	M <sup>3</sup> / Min
3.	Ambient Temperature	35	°C
4.	Relative Humidity	58	%

**Results Ambient Air Quality**

S. No	Parameters	Unit	Test Method	Results	NAQS (CPCB Norms) New Delhi dt. 18 <sup>th</sup> Nov. 2009
1.	PM <sub>10</sub>	µg/m <sup>3</sup>	IS:5182 (Part 23)2005 RA 2012 SQC No. 10725 Issue date: 01.03.2010 Revision date: 01.08.2013	63.4	- 00
2.	PM <sub>2.5</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Raaff 2006	37.5	60
3.	SO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 2)2001 Raaff 2006	11.7	80
4.	NO <sub>2</sub>	µg/m <sup>3</sup>	IS:5182 (Part 6)2006	14.7	80
5.	Lead	µg/m <sup>3</sup>	IS: 5182 (Part 22) 2004 Raaff 2006	<0.001	1.0
6.	*CO	mg/m <sup>3</sup>	By CO meter	0.66	04 (+ hour)
7.	*SO <sub>3</sub>	µg/m <sup>3</sup>	SOP NO: W/L/AIR/TP/ 23/25	6.27	-
8.	*PO <sub>4</sub>	µg/m <sup>3</sup>	SOP NO: W/L/AIR/TP/ 24/25	0.583	-

\*These Parameters are not in our NAQS Scope.

Tested by

  
 (Gaurav Nagar)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumarawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. R. Yadav)

 Chief Manager (Environment)  
 Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act, 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [info@wolkem.com](mailto:info@wolkem.com), [shrikant@wolkem.com](mailto:shrikant@wolkem.com)
3. The results listed refer only to the tested sample(s) and parameter(s). Evaluation of product is neither inferred nor implied.
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Page 1 of 1

Environmental Monitoring Photograph of Ambient Air 01<sup>st</sup> week July 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria Village
3. Date of Monitoring :- 05.07.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ambient Air Monitoring :-



REFERENCE: REPORT NO. 20190706001.

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190511009

Date: - 24.05.2019

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016.1201/ 5100019025 Date 13.01.2016  
AMENDMENT No: 6 Dated - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Umrada village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Unit	Results
1.	Ambient Temperature	°C	37
2.	Relative Humidity	%	28

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.25	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1964(Pt14) Reprint, & Reaff.2007	ms	1.218	-	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	"Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt18)1984, Reaff.2012	mg/L	780	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	4	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)1989 Reaff.2014	mg/L	400	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	84.8	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff.2009	mg/L	61.44	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	296	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	122	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	9.05	-	-
15.	Dissolve Oxygen	IS:3025(Pt36)1989, Reaff.2014	mg/L	6.5	-	-
16.	Residual Chlorine	IS:3025(Pt26)1986 Reaff.2014	mg/L	0.02	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-



## Note:

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- Complaint Register is available In lab / Email ID: [lab.wca@wolkem.com](mailto:lab.wca@wolkem.com) / [umrada.wca@wolkem.com](mailto:umrada.wca@wolkem.com)
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Page 1 of 2

## Registered &amp; Corporate Office:

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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : [info@wolkem.com](mailto:info@wolkem.com)

CIN- U28299RJ1971PLC001379

Certification No: CHEMICAL & BIOLOGICAL  
3202A-A11 TO - E341

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Report No.20190511009

Date: - 24.05.2019

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016.1201/ 5100019025 Date 13.01.2016  
AMENDMENT No: 6 Dated: - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Umarda village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2006 Reaff 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff 2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt60)2008 Reaff 2013	mg/L	0.60	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Rapprint & Reaff 2003	mg/L	0.22	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1988, Reaff 2014	mg/L	63.63	200	400
23.	Nitrate as NO <sub>3</sub>	IS:3025(Pt34-3-B)1988 Reaff 2014(1 <sup>st</sup> Revision)	mg/L	14.7	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1984 RA 2014(a) AAS	mg/L	0.21	5	15
25.	Lead	IS:3025(Pt47)1984 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K: (3-87 to 3-88)	mg/L	6.9	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	30.2	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na: (3-87 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff 2014	mg/L	BDL(<0.1)	0.3	No Relaxation

BDL-Below Detection Limit

\*These Parameter are not in our NABL Scope.

Tested By

  
(Puran Singh)  
Chemist

Checked &amp; Verified by

  
(Dr. Dinesh Kumar)  
(Lab Incharge)


Authorized Signatory

  
(Dr. S. K. Yadav)  
Chief Manager (Environment)  
Environmental & Chemical Laboratory

**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 2 of 2

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 Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U28299RJ1971PLC001379

Certificate No.: Chemical & Biological  
32094-A111 TC - Sheet

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Environmental Monitoring Photograph of Ground & Surface water May 2019

- |   |
|---|
| 1. Name of Customer :- Hindusthan Zinc Limited<br>(Maton Mines) Udaipur |
| 2. Name of Location :- Umarada village (Ground water)                   |
| 3. Date of Monitoring :- 11.05.2019                                     |
| 4. GPS Coordinates :- Mention in Photograph                             |
| 5. Photograph of Ground water sampling :-                               |



Latitude: 24° 31' 38"  
Longitude: 73° 46' 42"  
Accuracy: 1992.0m  
Time: 11-05-2019 12:53  
Note: umarada village G.W.

REFERENCE: REPORT NO. 20190511009

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190511007

Date: - 24.05.2019

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016-1201/ 5100019025 Date 13.01.2016  
AMENDMENT No: 6 Dated: - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Maton village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Test Method	Unit	Results		
				Acceptable	Permissible	Limits :- IS-10500:2012
1.	Ambient Temperature		°C	36	-	-
2.	Relative Humidity		%	25	-	-
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.49	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1984(Pt14) Reprint, & Reaff. 2007	ms	2.182	-	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	*Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	1482	600	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	8	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff. 2014	mg/L	504	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	99.2	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1984, Reprint & Reaff.2009	mg/L	61.44	30	100
11.	Alkalinity	IS:3025(Pt23)1996, Reaff.2014	mg/L	428	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	312	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.6	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	7.56	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1985, Reaff.2014	mg/L	6.4	-	-
16.	Residual Chlorine	IS:3025(Pt26)1986-Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993- Reaff. 2014	mg/L	BDL(<1)	-	-



Note:

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
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Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Registration No.: Chemical & Biological  
33024-A/FII

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Report No.20190511007

Date: - 24.05.2019

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016-1201/5100019025 Date 13.01.2016  
AMENDMENT No. 5 Dated - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Maton village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2006 Reaff 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff.2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt60)2006 Reaff 2013	mg/L	0.70	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt131) Reprint & Reaff.2009	mg/L	0.15	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1998, Reaff.2014	mg/L	267.7	200	400
23.	Nitrate as NO <sub>3</sub>	IS:3025(Pt34-3-B)1988 Reaff 2014(1 <sup>st</sup> Revision)	mg/L	5.10	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	0.59	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-87 to 3-88)	mg/L	7.10	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	90.2	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt63)2003, Reaff.2014	mg/L	0.14	0.3	No Relaxation

BDL-Below Detection Limit

\*These Parameters are not in our NABL Scope.

Tested By

  
 (Purab Singh)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)  
 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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 Phone : +91 294 2494800 - 02 Fax: +91 294 2494808 E-mail : [info.wcs@wolkem.com](mailto:info.wcs@wolkem.com)

CIN- U29299RJ1971PLC001379

Certified No.  
52634-A111 Chemical & Biological  
TO - 2041

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Environmental Monitoring Photograph of Ground & Surface water May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton village (Ground water)
3. Date of Monitoring :- 11.05.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



Latitude: 24°33'36"  
Longitude: 73°46'40"  
Accuracy: 2400.0m  
Time: 11-05-2019 13:45  
Note: Maton village G.w. 11/05/2019

REFERENCE: REPORT NO. 20190511007

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.L.A., UDAIPUR (Rajasthan)

Report No.20190511006

Date: - 24.05.2019

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No: 2018-1201/5100019025 Date 13.01.2018  
 AMENDMENT No: 5 Dated: - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Khanwaria village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Unit	Results	
1.	Ambient Temperature	°C	35	
2	Relative Humidity	%	25	

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10600:2012	
					Acceptable	Permissible
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.26	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1984(Pt14) Reprint & Reaff. 2007	ms	1.729	-	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	*Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	1144	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	8	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	588	200	900
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	132.8	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff.2009	mg/L	53.78	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	320	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1986, Reaff.2014	mg/L	342	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	8.44	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1980, Reaff.2014	mg/L	6.3	-	-
16.	Residual Chlorine	IS:3025(Pt26)1986 Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1983, Reaff.2014	mg/L	BDL(<1)	-	-



Note:

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: [jts@wolkem.com](mailto:jts@wolkem.com) or [m.shukla@wolkem.com](mailto:m.shukla@wolkem.com)
3. The results listed refer only to the tested sample (s) and parameter(s). Endorsement of product is neither implied nor implied.
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Registered & Corporate Office:

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CIN- U29299RJ1971PLC001379



Our Commitment.. Your Trust

Report No.20190511006

Date: - 24.05.2019

**TEST CERTIFICATE**

(Water/Waste water)

- 1. Name of Customer** : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
**2. Purchase order Number** : PO No. 2016.1201/ 5100019025 Date 13.01.2016  
 AMENDMENT No: 6 Dated: - 01.01.2019  
**3. Date of Sampling** : 11.05.2019  
**4. Sample received on** : 11.05.2019  
**5. Period of Analysis** : 11.05.2019 to 24.05.2019  
**6. Name of sample & Location** : Kharwaria village (Ground water)  
**7. Method of Sampling** : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt5B)2005 Reaff. 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff. 2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt60)2008 Reaff. 2013	mg/L	0.90	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff. 2003	mg/L	0.13	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1996, Reaff. 2014	mg/L	149.5	200	400
23.	Nitrate as NO <sub>3</sub>	IS:3025(Pt14-3-B)1988 Reaff. 2014(1 <sup>st</sup> Revision)	mg/L	17.5	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	0.43	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-k (3-97 to 3-98)	mg/L	5.41	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	85.9	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na: (3-97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff. 2014	mg/L	0.15	0.3	No Relaxation

BDL-Below Detection Limit

\*These Parameter are not in our NABL Scope.

Tested By

  
 (Puran Singh)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumarawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

 Environmental & Chemical Laboratory  
**Wolkem India Limited**  
 E-102, M.I.A., UDAIPUR, Rajasthan

## Note

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CIN- U29299RJ1971PLC001379


 Certificate No. 02204-AHII  
 Chemical & Biological  
 TC - 5941

Our Commitment.. Your Trust

**Environmental Monitoring Photograph of Ground & Surface water May 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria village (Ground water)
3. Date of Monitoring :- 11.05.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



Latitude: 24°33'40"  
Longitude: 73°47'4"  
Accuracy: 1100.0m  
Time: 11-05-2019 13:55  
Note: kharwaria village G.

REFERENCE: REPORT NO. 20190511006

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190511008

Date: - 24.05.2019

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016-1201/ 5100019025 Date 13.01.2016  
AMENDMENT No: 8 Dated: - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Lakarwas village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Unit	Results
1.	Ambient Temperature	°C	37
2	Relative Humidity	%	29

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.81	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1984(Pt14) Reprint, & Reaff.2007	ms	2.782	-	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	1774	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	10	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	532	200	800
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	153.6	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1984, Reprint & Reaff.2009	mg/L	38.4	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	372	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	580	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	7.84	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1988, Reaff.2014	mg/L	6.6	-	-
16.	Residual Chlorine	IS:3025(Pt28)1986 Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-



Note:

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CIN- U29299RJ1971PLC001379



Certificate No. Chemical & Biological  
50024-A-111

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Report No.20190511008

Date: - 24.05.2019

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016.1201/ 5100019025 Date 13.01.2016  
 AMENDMENT No. 6 Dated - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Lakarwas village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2006 Reaff. 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff.2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F <sup>-</sup>	IS:3025(Pt80)2006 Reaff. 2013	mg/L	0.70	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff. 2003	mg/L	1.4	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff.2014	mg/L	287.68	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff. 2014(1 <sup>st</sup> Revision)	mg/L	19.43	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	1.0	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-87 to 3-88)	mg/L	6.81	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	63.9	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff.2014	mg/L	0.14	0.3	No Relaxation

BDL-Below Detection Limit

\*These Parameter are not in our NABL Scope.

Tested By

(Puran Singh)  
 Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note

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CIN- U29299RJ1971PLC001379



MoEFCC  
Ministry of Environment & Forests  
Government of India



NABL



OHSAS  
Certificate No. 3200X-A115



ISO 9001  
Chemical & Biological  
TC- 1847

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**Environmental Monitoring Photograph of Ground & Surface water May 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas village (Ground water)
3. Date of Monitoring :- 11.05.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ground water sampling :-



REFERENCE: REPORT NO. 20190511008

  
Environmental & Chemical Laboratory  
**Wolkam India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Report No.20190511010

Date: - 24.05.2019

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016.1201/5100019025 Date 13.01.2016  
AMENDMENT No: 6 Dated: - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Kanpur village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
1.	Ambient Temperature		°C	37	-	-
2.	Relative Humidity		%	28	-	-
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.81	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1964(Pt14) Reprint, & Reaff.2007	ms	1.965	-	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	*Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	1440	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	12	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	476	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	124.8	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff. 2009	mg/L	39.36	30	100
11.	Alkalinity	IS:3025(Pt23)1980, Reaff.2014	mg/L	376	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	432	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	11.62	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1988, Reaff.2014	mg/L	6.2	-	-
16.	Residual Chlorine	IS:3025(Pt28)1988 Reaff 2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-



Note:

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CIN- U29299RJ1971PLC001379



Certificate No. Chemical & Biological  
2223-A-111

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Report No.20190511010

Date: - 24.05.2019

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
 2. Purchase order Number : PO No. 2016.1201/ 5100019025 Date 13.01.2018  
 AMENDMENT No: 6 Dated: - 01.01.2019  
 3. Date of Sampling : 11.05.2019  
 4. Sample received on : 11.05.2019  
 5. Period of Analysis : 11.05.2019 to 24.05.2019  
 6. Name of sample & Location : Kanpur village (Ground water)  
 7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt168)2008 Reaff 2014	mg/L	10.97	-	-
19.	Copper as Cu	IS:3025(Pt42)1982, Reaff 2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt60)2008 Reaff 2013	mg/L	0.60	1.0	1.5
21.	Phosphate	IS:3025 1989(Pt31) Reprint & Reaff 2003	mg/L	0.34	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff 2014	mg/L	183.9	200	400
23.	Nitrate as NO <sub>3</sub>	IS:3025(Pt34-3-B)1986 Reaff 2014(1 <sup>st</sup> Revision)	mg/L	19.7	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	1.42	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-67 to 3-80)	mg/L	7.10	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	22.9	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Mn (3-97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt69)2003, Reaff 2014	mg/L	0.17	0.3	No Relaxation

BDL-Below Detection Limit

\*These Parameter are not in our NABL Scope

Tested By

  
 (Puran Singh)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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CIN- U29299RJ1971PLC001379


 Certificate No.: Chemical & Biological  
 20204-A1M TC-1647

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Environmental Monitoring Photograph of Ground & Surface water May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kanpur village (Ground water)
3. Date of Monitoring :- 11.05.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



Latitude: 24° 33' 36"  
Longitude: 73° 46' 40"  
Accuracy: 2400.0m  
Time: 11-05-2019 14:25  
Note: Kanpur village G.w. 1

REFERENCE: REPORT NO. 2019051010

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Report No.20190511011

Date: - 24.05.2019

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
 2. Purchase order Number : PO No. 2016/1201/5100019025 Date 13.01.2016  
 AMENDMENT No: 6 Dated - 01.01.2019  
 3. Date of Sampling : 11.05.2019  
 4. Sample received on : 11.05.2019  
 5. Period of Analysis : 11.05.2019 to 24.05.2019  
 6. Name of sample & Location : Nakoli village (Ground water)  
 7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition		Unit	Results		
1.	Ambient Temperature		°C	38		
2.	Relative Humidity		%	26		
S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.71	8.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1984(Pt14) Reprint, & Reaff. 2007	µs	1.512	-	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	988	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	6	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	404	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	89.2	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint, & Reaff.2009	mg/L	37.4	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	336	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	394	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	9.88	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1989, Reaff.2014	mg/L	6.0	-	-
16.	Residual Chlorine	IS:3025(Pt26)1986 Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-


**Note**

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- Complaint Register is available in lab / Email ID: [info@wolkem.com](mailto:info@wolkem.com); [mshukla@wolkem.com](mailto:mshukla@wolkem.com)
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**Registered & Corporate Office:**

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 Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail: [info@wolkem.com](mailto:info@wolkem.com)

CIN- U29299RJ1971PLC001379


 Certificate No. 32224-A21  
 Chemical & Biological TO-2641

Our Commitment.. Your Trust



Report No.20190511011

Date: - 24.05.2019

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No: 2016.1201/ 5100019025 Date 13.01.2016  
 AMENDMENT No: 6 Dated - 01.01.2019
3. Date of Sampling : 11.05.2019
4. Sample received on : 11.05.2019
5. Period of Analysis : 11.05.2019 to 24.05.2019
6. Name of sample & Location : Nakoli village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500-2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2008 Reaff 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff.2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F <sup>-</sup>	IS:3025(Pt60)2008 Reaff 2013	mg/L	0.80	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff.2003	mg/L	0.88	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1998, Reaff.2014	mg/L	143.43	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff. 2014(1 <sup>st</sup> Revision)	mg/L	11.83	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA-2014(a) AAS	mg/L	0.41	5	15
25.	Lead	IS:3025(Pt47)1994 RA-2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-87 to 3-93)	mg/L	6.97	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	89.91	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-87 to 3-93)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff.2014	mg/L	0.12	0.3	No Relaxation

BDL-Below Detection Limit

\*These Parameter are not in our NABL Scope

Tested By

(Puran Singh)  
Chemist

Checked & Verified by

(Dr. Dinesh Kumawat)  
(Lab Incharge)

Authorized Signatory

(Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental & Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

Note

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Page 2 of 2

Registered & Corporate Office:

"Wolkem Houses", E-102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan- India  
 Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No: 52024-A111  
 Chemical & Biogas TG - 2041

Our Commitment.. Your Trust

Environmental Monitoring Photograph of Ground & Surface water May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Nakoli village (Ground water)
3. Date of Monitoring :- 11.05.2019
4. GPS Coordinates :- (Network not available on this location)
5. Photograph of Ground water sampling :-



Time: 11-05-2019, 12:28  
Note: nangoli village g.w. 11/05/2019

REFERENCE: REPORT NO. 20190511011

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Report No.20190510013

Date: - 24.05.2019

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016.1201/ 5100019025 Date 13.01.2016  
 AMENDMENT No: 6 Dated: - 01.01.2019
3. Date of Sampling : 10.05.2019
4. Sample received on : 10.05.2019
5. Period of Analysis : 10.05.2019 to 24.05.2019
6. Name of sample & Location : Mine Lease Area (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Unit	Results
1.	Ambient Temperature	°C	36
2.	Relative Humidity	%	28

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10600:2012	
					Acceptable	Permissible
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.81	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1984(Pt14) Reprint, & Reaff. 2007	ms	1.216	-	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	*Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	766	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	8	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	340	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	80	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt48)1994, Reprint & Reaff.2009	mg/L	33.6	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	252	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	246	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	10.81	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1989, Reaff.2014	mg/L	6.4	-	-
16.	Residual Chlorine	IS:3025(Pt26)1988 Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-



Note

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 Phone : +91 294 2494600 - 02 Fax: +91 294 2494608 E-mail : info@wolkem.com

CIN- U29299RJ1971PLC001379



Certificate No. GHSAR  
 52004-A1H1  
 Chemical & Biological  
 TC - 541

Our Commitment.. Your Trust



Report No.20190510013

Date: - 24.05.2019

**TEST CERTIFICATE**

(Water/Waste water)

- 1. Name of Customer** : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
- 2. Purchase order Number** : PO No. 2016.1201/5100019025 Date 13.01.2018  
 AMENDMENT No: 6 Dated: - 01.01.2019
- 3. Date of Sampling** : 10.05.2019
- 4. Sample received on** : 10.05.2019
- 5. Period of Analysis** : 10.05.2019 to 24.05.2019
- 6. Name of sample & Location** : Mine Lease Area (Ground water)
- 7. Method of Sampling** : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012 Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2006 Reaff 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff.2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt80)2006 Reaff 2013	mg/L	0.10	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff 2003	mg/L	0.25	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff.2014	mg/L	38.4	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff 2014(1 <sup>st</sup> Revision)	mg/L	12.9	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	0.31	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-87 to 3-88)	mg/L	4.6	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	78.5	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-87 to 3-88)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff.2014	mg/L	BDL(<0.1)	0.3	No Relaxation

BDL-Below Detection Limit

\*These Parameter are not in our NABL Scope

Tested By

  
 (Puran Singh)  
 Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

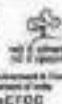
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 Phone : +91 294 2494600 - 02 Fax: +91 294 2494606 E-mail : info@wolkem.com

CIN- U28299RJ1971PLC001379



Certificate No: 32024-A111 Chemical &amp; Biological TC - 5541

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Environmental Monitoring Photograph of Ground & Surface water May 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area (Ground water)
3. Date of Monitoring :- 10.05.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



REFERENCE: REPORT NO. 20190510013

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)



Laboratory : E- 102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan (INDIA)



INDIA LIMITED

Phone: +91 294 2494600 to 02 Fax: +91 294 2494608 E-mail: info.wca@wolkem.com

www.wolkem.com

Report No.20190813001

Date: - 26.08.2019

## TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016/1201/5100019025 Date: 13.01.2016  
AMENDMENT No: 6 Dated: - 01.01.2019
3. Date of Sampling : 13.08.2019
4. Sample received on : 13.08.2019
5. Period of Analysis : 13.08.2019 to 26.08.2019
6. Name of sample & Location : Kharwaria village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Unit	Results
1	Ambient Temperature	°C	27
2	Relative Humidity	%	58

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff. 2012	-	7.15	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1984(Pt14) Reprint, & Reaff. 2007	µs	1213	-	-
3.	Color	IS:3025(Pt4)1983, Reaff. 2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition 2012	-	Agreeable	Agreeable	Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition 2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff. 2012	mg/L	1012	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff. 2012	mg/L	20	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff. 2014	mg/L	490	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff. 2014	mg/L	120	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff. 2009	mg/L	47.04	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff. 2014	mg/L	292	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1986, Reaff. 2014	mg/L	334	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff. 2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition 2012	mg/L	7.7	-	-
15.	Dissolved Oxygen	IS:3025(Pt58)1989, Reaff. 2014	mg/L	6.1	-	-
16.	Residual Chlorine	IS:3025(Pt26)1986 Reaff. 2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff. 2014	mg/L	BDL(<1)	-	-



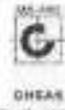
## Note

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CIN- U29299RJ1971PLC001379



Our Commitment.. Your Trust

Report No.20190813001

Date: - 26.08.2019

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
 2. Purchase order Number : PO No. 2018/1201/ 5100019025 Date 13.01.2016  
 AMENDMENT No. 6 Dated: - 01.01.2019  
 3. Date of Sampling : 13.08.2019  
 4. Sample received on : 13.08.2019  
 5. Period of Analysis : 13.08.2019 to 26.08.2019  
 6. Name of sample & Location : Kharwaria village (Ground water)  
 7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt16)2008 Reaff 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff. 2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt60)2008 Reaff 2013	mg/L	0.7	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff 2003	mg/L	0.12	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1994 Reaff 2014	mg/L	147.5	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff 2014(1 <sup>st</sup> Revision)	mg/L	16.3	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	0.39	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3.87 to 3.88)	mg/L	4.9	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	63.7	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3.97 to 3.88)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003 Reaff.2014	mg/L	0.12	0.3	No Relaxation

BDL=Below Detection Limit

Tested By

 (Gyanvati Shukla)  
 Chemist

Checked &amp; Verified by

&amp; (Dr. Dinesh Kumarawat)

(Lab Incharge)

Authorized Signatory

 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 2 of 2

Environmental Monitoring Photograph of Ground & Surface water August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kharwaria village (Ground water)
3. Date of Monitoring :- 13.08.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



REFERENCE: REPORT NO. 20190813001

Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A , UDAIPUR (Rajasthan)



### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No 2016/1201/5100019025 Date 13.01.2016 AMENDMENT No. 6 Dated: - 01.01.2019.
3. Date of Sampling	:	13.08.2019
4. Sample received on	:	13.08.2019
5. Period of Analysis	:	13.08.2019 to 26.08.2019
6. Name of sample & Location	:	Maton village (Ground water)
7. Method of Sampling	:	IS: 3025 (Pt 1) 1987

S. No	Environment Condition	Test Method	Unit	Results		Limits :- IS-10500:2012
				Acceptable	Permissible	
1.	Ambient Temperature		°C	26		
2.	Relative Humidity		%	61		
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.12	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1904(Pt14) Reprint & Reaff.2007	ms	1,962	-	-
3.	Color	IS:3025(PM)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	1308	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	6	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	456	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	85	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff.2009	mg/L	56.6	30	100
11.	Alkalinity	IS:3025(Pt23)1988, Reaff.2014	mg/L	392	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	282	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	7.1	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1980, Reaff.2014	mg/L	6.5	-	-
16.	Residual Chlorine	IS:3025(Pt26)1988 Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-

**Note**

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID: lab.officer@wolkem.com, confirm.shukla@wolkem.com
3. The results listed refer only to the tested sample (s) and parameter(s). Endorsement of product is neither inferred nor implied.
4. 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.
5. The samples will be destroyed after 15 days from the date of issue of test certificate unless otherwise specified.
6. Any discrepancy in test results should be reported within 15 days.

Page 1 of 2


**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
 2. Purchase order Number : PO No. 2016.1201/5100019025 Date 13.01.2016  
 AMENDMENT No: 6 Dated: - 01.01.2019  
 3. Date of Sampling : 13.08.2019  
 4. Sample received on : 13.08.2019  
 5. Period of Analysis : 13.08.2019 to 26.08.2019  
 6. Name of sample & Location : Maton village (Ground water)  
 7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2008 Reaff.2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff.2014 Section No. 5	mg/L	BDL(<0.01)	0.00	15
20.	Fluoride as F	IS:3025(Pt60)2008 Reaff.2013	mg/L	0.5	1.0	1.5
21.	Phosphate	IS:3025-1988(Pt31) Reprint & Reaff. 2003	mg/L	0.13	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff.2014	mg/L	260.6	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff. 2014(1 <sup>st</sup> Revision)	mg/L	4.8	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	0.54	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-87 to 3-88)	mg/L	6.8	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	86.7	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-87 to 3-95)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff.2014	mg/L	0.11	0.3	No Relaxation

BDL-Below Detection Limit

Tested By

 (Gyanvati Shukla)  
 Chemist

Checked &amp; Verified by

 (Dr. Dinesh Kumarawat)  
 (Lab Incharge)

Authorized Signatory

 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

- MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
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Page 2 of 2

Environmental Monitoring Photograph of Ground & Surface water August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Maton village (Ground water)
3. Date of Monitoring :- 13.08.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



Latitude: 24°33'33"  
Longitude: 73°47'33"  
Elevation: 549.12m  
Accuracy: 3.2m  
Azimuth: 216° (SW)  
Pitch: -2.9° (-1.6°)  
Time: 13-08-2019 13:46  
Note: maton village

REFERENCE: REPORT NO. 20190813002

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A. Colony, Udaipur (Rajasthan)

## TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT No. 5 Dated - 01.01.2019
3. Date of Sampling	:	13.08.2019
4. Sample received on	:	13.08.2019
5. Period of Analysis	:	13.08.2019 to 26.08.2019
6. Name of sample & Location	:	Lakarwas village (Ground water)
7. Method of Sampling	:	IS: 3025 (Pt 1) 1987

S. No	Environment Condition		Unit	Results	
1.	Ambient Temperature		°C	27	
2.	Relative Humidity		%	59	
S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.66	6.5 to 8.5 No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1984(Pt14) Reprint, & Reaff. 2007	ms	2.657	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5 15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	1642	500 2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	8	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	458	200 600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	145.6	75 200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff.2009	mg/L	29.76	30 100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	348	200 600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff.2014	mg/L	510	250 1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5 No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	7.4	-
15.	Dissolve Oxygen	IS:3025(Pt38)1989, Reaff.2014	mg/L	6.4	-
16.	Residual Chlorine	IS:3025(Pt26)1988 Reaff. 2014	mg/L	BDL(<0.01)	0.2 1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-


**Note**

1. MoEFCC, New Delhi recognition under the Environment (Protection) Act 1986, vide gazette notification no. 1357 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID : [sachinshukla@wolkem.com](mailto:sachinshukla@wolkem.com)
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Page 1 of 2



Laboratory : E-102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan (INDIA)



INDIA LIMITED

Phone: +91 294 2494600 Is 02 Fax: +91 294 2494608 E-mail: info.wcs@wolkem.com

www.wolkem.com

Report No.20190813003

Date: - 26.08.2019

## TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016.1201/ 5100019025 Date 13.01.2018  
AMENDMENT No. 8 Dated - 01.01.2019
3. Date of Sampling : 13.08.2019
4. Sample received on : 13.08.2019
5. Period of Analysis : 13.08.2019 to 26.08.2019
6. Name of sample & Location : Lakanwas village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2006 Reaff 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff.2014 Section No. 5	mg/L	BDL(<0.01)	0.06	1.5
20.	Fluoride as F <sup>-</sup>	IS:3025(Pt80)2008 Reaff 2013	mg/L	0.8	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint 8 Reaff. 2003	mg/L	0.99	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff.2014	mg/L	252.5	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff 2014(1 <sup>st</sup> Revision)	mg/L	17.9	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	0.98	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-k (3.87 to 5.88)	mg/L	5.91	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	51.3	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3.97 to 3.98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt56)2006, Reaff.2014	mg/L	0.15	0.3	No Relaxation

BDL-Below Detection Limit

Tested By

  
 (Gyanvati Shukla)  
 Chemist

  
 Checked & Verified by  
 (Dr. Dinesh Kurnawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

Wolkem India Limited

E-102, M.I.A, Udaipur (Rajasthan)

## Note

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Page 2 of 2

Environmental Monitoring Photograph of Ground & Surface water August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Lakadwas village (Ground water)
3. Date of Monitoring :- 13.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ground water sampling :-



Latitude: 24°30'5"°  
Longitude: 73°47'47"°  
Accuracy: 2300.0m  
Azimuth: 28° (NE)  
Pitch: -14.8° (0.6°)  
Time: 13.08.2019 13:24  
Note: lakadwas village g. w.

REFERENCE: REPORT NO. 20190813003



Laboratory : E- 102, Mewar Industrial Area, Madri, Udaipur - 313003, Rajasthan (INDIA)



INDIA LIMITED

Phone: +91 294 2494600 to 02 Fax: +91 294 2494608 E-mail: info@wolkem.com

www.wolkem.com

Report No.20190813004

Date: - 26.08.2019

## TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018.1201/ 5100019025 Date 13.01.2016 AMENDMENT No. 5 Dated: - 01.01.2019
3. Date of Sampling	:	13.08.2019
4. Sample received on	:	13.08.2019
5. Period of Analysis	:	13.08.2019 to 26.08.2019
6. Name of sample & Location	:	Umreda village (Ground water)
7. Method of Sampling	:	IS: 3025 (Pt 1) 1987

S. No.	Environment Condition	Unit	Results		
1.	Ambient Temperature	°C	26		
2	Relative Humidity	%	62		
S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.29	6.5 to 8.5 No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1964(Pt14) Reprint, & Reaff.2007	mS	1.211	-
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5 15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	716	500 2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	6	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	444	200 600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	78.4	25 200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt45)1994, Reprint & Reaff.2009	mg/L	59.5	30 100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	284	200 600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1986, Reaff.2014	mg/L	114	250 1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	8DL(<0.4)	0.5 No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	8.9	-
15.	Dissolve Oxygen	IS:3025(Pt38)1989, Reaff.2014	mg/L	6.6	-
16.	Residual Chlorine	IS:3025(Pt26)1988 Reaff.2014	mg/L	0.02	0.2 1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	8DL(<1)	-



## Note:

1. MoEFCC, New Delhi recognition under the Environmental Protection Act, 1986, vide gazette notification no. 1257 is valid from 02.06.2016 to 01.06.2021.
2. Complaint Register is available in lab / Email ID : lab.offices@wolkem.com / com.muktika@wolkem.com
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Page 1 of 2


**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
 2. Purchase order Number : PO No. 2016 1201/ 5100119025 Date 13.01.2018  
 AMENDMENT No. 6 Dated - 01.01.2019  
 3. Date of Sampling : 13.08.2019  
 4. Sample received on : 13.08.2019  
 5. Period of Analysis : 13.08.2019 to 26.08.2019  
 6. Name of sample & Location : Umreda village (Ground water)  
 7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012 Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt56)2008 Reaff.2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff.2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt20)2008 Reaff.2013	mg/L	0.5	1.0	1.5
21.	Phosphate	IS:3025 1986(Pt31) Reprint & Reaff. 2003	mg/L	0.19	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff.2014	mg/L	61.62	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1986 Reaff. 2014(1 <sup>st</sup> Revision)	mg/L	13.6	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA 2014(a) AAS	mg/L	0.19	3	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3.87 to 3-88)	mg/L	5.3	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	28.6	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Mn (3.97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff.2014	mg/L	BDL(<0.1)	0.3	No Relaxation

BDL-Below Detection Limit

Tested By

 (Gyanvati Shukla)  
Chemist

 Checked & Verified by  
  
 Dr. Dinesh Kumawat  
(Lab Incharge)

Authorized Signatory

 (Dr. S. K. Yadav)  
Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.L.A., UDAIPUR (Rajasthan)

## Note

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Page 2 of 2

Environmental Monitoring Photograph of Ground & Surface water August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udalpur
2. Name of Location :- Umarada village (Ground water)
3. Date of Monitoring :- 13.08.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



REFERENCE: REPORT NO. 20190813004

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.G. Road, Udaipur (Rajasthan)


**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA  
 2. Purchase order Number : PO No. 2016.1201/5100019025 Date 13.01.2018  
 AMENDMENT No. 0 Dated: - 01.01.2019  
 3. Date of Sampling : 13.08.2019  
 4. Sample received on : 13.08.2019  
 5. Period of Analysis : 13.08.2019 to 26.08.2019  
 6. Name of sample & Location : Kanpur village (Ground water)  
 7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition		Unit	Results		
1.	Ambient Temperature		°C	25		
2.	Relative Humidity		%	59		
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.39	6.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS:3025-1964(Pt14) Reprint. & Reaff.2007	ms	1.316	-	-
3.	Color	IS:3025(Pt14)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	1294	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	10	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff.2014	mg/L	396	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	104	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff.2009	mg/L	32.64	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	364	200	600
12.	Chlorides as Cl	IS:3025(Pt32)1988, Reaff.2014	mg/L	308	250	1000
13.	Oil & Grease	IS:3025(Pt39)1981, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	8.9	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1988, Reaff.2014	mg/L	6.3	-	-
16.	Residual Chlorine	IS:3025(Pt26)1986 Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-


**Note**

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Page 1 of 2

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018-1201/ 5100019025 Date 13.01.2016 AMENDMENT No. 0 Dated: - 01.01.2019
3. Date of Sampling	:	13.08.2019
4. Sample received on	:	13.08.2019
5. Period of Analysis	:	13.08.2019 to 26.08.2019
6. Name of sample & Location	:	Kanpur village (Ground water)
7. Method of Sampling	:	IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2008 Reaff. 2014	mg/L	5.08	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff. 2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt80)2008 Reaff. 2013	mg/L	0.7	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff. 2003	mg/L	0.27	-	-
22.	Sulphate as SO <sub>4</sub>	IS:3025(Pt24)1988, Reaff. 2014	mg/L	179.8	200	400
23.	Nitrate as NO <sub>3</sub>	IS:3025(Pt34-3-B)1988 Reaff. 2014(7 <sup>th</sup> Revision)	mg/L	16.3	45	No Relaxation
24.	Zinc	IS:3025(Pt49)1994 RA.2014(8) AAS	mg/L	1.39	5	15
25.	Lead	IS:3025(Pt47)1994 RA.2014(8) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-87 to 3-88)	mg/L	6.7	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition, 2012	mg/L	21.2	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff. 2014	mg/L	0.17	0.3	No Relaxation

BDL-Below Detection Limit

Tested By

 (Gyanvati Shukla)  
Chemist

Checked &amp; Verified by

 Dr. Dinesh Kumarawat  
(Lab Incharge)

Authorized Signatory

  
Dr. S. K. Yadav  
Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., Udaipur, Rajasthan

## Note

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Page 2 of 2

Environmental Monitoring Photograph of Ground & Surface water August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Kanpur village (Ground water)
3. Date of Monitoring :- 13.08.2019
4. GPS Coordinates :- Mention in Photograph
5. Photograph of Ground water sampling :-



REFERENCE: REPORT NO. 20190813005



Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)

Report No.20190813006

Date: - 26.08.2019

**TEST CERTIFICATE**

(Water/Waste water)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2018.1201/ 5100019025 Date 13.01.2016 AMENDMENT No. 6 Dated: - 01.01.2019
3. Date of Sampling	:	13.08.2019
4. Sample received on	:	13.08.2019
5. Period of Analysis	:	13.08.2019 to 26.08.2019
6. Name of sample & Location	:	Nakoli village (Ground water)
7. Method of Sampling	:	IS: 3025 (Pt 1) 1987

S. No	Environment Condition		Unit	Results	Limits :- IS-10500:2012	
1.	Ambient Temperature		°C	26		
S. No.	Parameters	Test Method	Unit	Results	Acceptable	Permissible
1.	pH (at 25°C)	IS 3025(Pt11)1983, Reaff.2012	-	7.46	8.5 to 8.5	No Relaxation
2.	Conductivity (at 25°C)	IS 3025-1964(Pt14) Reprint, & Reaff.2007	ms	1.309	-	-
3.	Color	IS 3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1964, Reaff. 2012	mg/L	874	600	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff. 2012	mg/L	6	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2009 Reaff. 2014	mg/L	376	200	600
9.	Calcium as Ca <sup>+</sup>	IS 3025(Pt40)1991, Reaff. 2014	mg/L	91.2	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff.2009	mg/L	35.52	30	100
11.	Alkalinity	IS:3025(Pt23)1985, Reaff. 2014	mg/L	304	200	600
12.	Chlorides as Cl <sup>-</sup>	IS:3025(Pt32)1988, Reaff. 2014	mg/L	378	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff. 2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	6.4	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1989, Reaff. 2014	mg/L	5.9	-	-
16.	Residual Chlorine	IS:3025(Pt26)1988 Reaff. 2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff. 2014	mg/L	BDL(<1)	-	-



## Note

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Page 1 of 2

### TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
 Rockphosphate Maton Mine  
 P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2018.1201/ 5100019025 Date 13.01.2016  
 AMENDMENT No: 6 Dated: - 01.01.2019
3. Date of Sampling : 13.08.2019
4. Sample received on : 13.08.2019
5. Period of Analysis : 13.08.2019 to 26.08.2019
6. Name of sample & Location : Nakoli village (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt5B)2008 Reaff. 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1982, Reaff. 2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F	IS:3025(Pt6D)2008 Reaff. 2013	mg/L	0.6	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff. 2003	mg/L	0.58	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff. 2014	mg/L	127.6	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff. 2014(1 <sup>st</sup> Revision)	mg/L	10.65	45	No Relaxation
24.	Zinc	IS:3025(Pt40)1994 RA 2014(a) AAS	mg/L	0.39	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3500-K (3-87 to 3-88)	mg/L	6.13	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition 2012	mg/L	88.3	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff. 2014	mg/L	0.11	0.3	No Relaxation

BDL-Below Detection Limit

Tested By

  
 (Gyanvati Shukla)  
 Chemist

Checked &amp; Verified by

  
 Dr. Dinesh Kumarwati  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. R. Yadav)

Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR (Rajasthan)

## Note

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Page 2 of 2

**Environmental Monitoring Photograph of Ground & Surface water August 2019**

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Nakoli village (Ground water)
3. Date of Monitoring :- 13.08.2019
4. GPS Coordinates :- (Mention in Photograph)
5. Photograph of Ground water sampling :-



**REFERENCE: REPORT NO. 20190513006**

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-103, M.I.A., UDAIPUR, Rajasthan



## TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer : HINDUSTAN ZINC LIMITED  
Rockphosphate Maton Mine  
P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number : PO No. 2016-1201/5100019025 Date 13.01.2016  
AMENDMENT No. 6 Dated - 01.01.2019
3. Date of Sampling : 23.08.2019
4. Sample received on : 23.08.2019
5. Period of Analysis : 23.08.2019 to 06.09.2019
6. Name of sample & Location : Mine Lease Area (Ground water)
7. Method of Sampling : IS: 3025 (Pt 1) 1987

S. No	Environment Condition		Unit	Results		
1.	Ambient Temperature		°C	26		
2.	Relative Humidity		%	58		
S. No.	Parameters	Test Method	Unit	Results	Limits :- IS:10500:2012	
1.	pH (at 25°C)	IS:3025(Pt11)1983, Reaff.2012	-	7.61	5.5 to 8.5 No Relaxation	
2.	Conductivity (at 25°C)	IS:3025-1954(Pt14) Reprint & Reaff.2007	ms	1.106	-	
3.	Color	IS:3025(Pt4)1983, Reaff.2012	Hazen	<5	5	15
4.	Odour	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
5.	Taste	APHA 22 <sup>nd</sup> Edition2012	-	Agreeable	Agreeable	Agreeable
6.	Total Dissolve Solid	IS:3025(Pt16)1984, Reaff.2012	mg/L	634	500	2000
7.	Total Suspended Solid	IS:3025(Pt17)1984, Reaff.2012	mg/L	6	-	-
8.	Total Hardness as CaCO <sub>3</sub>	IS:3025(Pt21)2006 Reaff.2014	mg/L	315	200	600
9.	Calcium as Ca <sup>2+</sup>	IS:3025(Pt40)1991, Reaff.2014	mg/L	73.6	75	200
10.	Magnesium as Mg <sup>2+</sup>	IS:3025(Pt46)1994, Reprint & Reaff.2009	mg/L	31.68	30	100
11.	Alkalinity	IS:3025(Pt23)1986, Reaff.2014	mg/L	236	200	600
12.	Chlorides as Cl	IS:3025(Pt32)1988, Reaff.2014	mg/L	236	250	1000
13.	Oil & Grease	IS:3025(Pt39)1991, Reaff.2014	mg/L	BDL(<0.4)	0.5	No Relaxation
14.	Silica as SiO <sub>2</sub>	APHA 22 <sup>nd</sup> Edition2012	mg/L	9.43	-	-
15.	Dissolve Oxygen	IS:3025(Pt38)1989, Reaff.2014	mg/L	8.3	-	-
16.	Residual Chlorine	IS:3025(Pt26)1986 Reaff.2014	mg/L	BDL(<0.01)	0.2	1
17.	B.O.D. 3 days @ 27°C	IS:3025(Pt44)1993, Reaff.2014	mg/L	BDL(<1)	-	-



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Page 1 of 2

## TEST CERTIFICATE

(Water/Waste water)

1. Name of Customer	:	HINDUSTAN ZINC LIMITED Rockphosphate Maton Mine P.O. Maton, Distt. Udaipur (Rajasthan), INDIA
2. Purchase order Number	:	PO No. 2016.1201/ 5100019025 Date 13.01.2016 AMENDMENT No. 6 Dated - 01.01.2019
3. Date of Sampling	:	23.08.2019
4. Sample received on	:	23.08.2019
5. Period of Analysis	:	23.08.2019 to 06.09.2019
6. Name of sample & Location	:	Mine Lease Area (Ground water)
7. Method of Sampling	:	IS: 3025 (Pt 1) 1987

S. No.	Parameters	Test Method	Unit	Results	Limits :- IS-10500:2012	
					Acceptable	Permissible
18.	Chemical Oxygen Demand	IS:3025(Pt58)2006 Reaff. 2014	mg/L	BDL(<5)	-	-
19.	Copper as Cu	IS:3025(Pt42)1992, Reaff. 2014 Section No. 5	mg/L	BDL(<0.01)	0.05	1.5
20.	Fluoride as F <sup>-</sup>	IS:3025(Pt60)2008 Reaff. 2013	mg/L	0.1	1.0	1.5
21.	Phosphate	IS:3025 1988(Pt31) Reprint & Reaff. 2003	mg/L	0.23	-	-
22.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	IS:3025(Pt24)1986, Reaff. 2014	mg/L	36.36	200	400
23.	Nitrate as NO <sub>3</sub> <sup>-</sup>	IS:3025(Pt34-3-B)1988 Reaff. 2014(1 <sup>st</sup> Revision)	mg/L	11.4	45	No Relaxation
24.	Zinc	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	0.30	5	15
25.	Lead	IS:3025(Pt47)1994 RA 2014(a) AAS	mg/L	BDL(<0.01)	0.01	No Relaxation
26.	Potassium as K	APHA 22 <sup>nd</sup> Edition, Part 3000-a (3-87 to 3-88)	mg/L	4.1	-	-
27.	Sodium as Na	APHA 22 <sup>nd</sup> Edition, 2012	mg/L	76.9	-	-
28.	Manganese as Mn	APHA 22 <sup>nd</sup> Edition, Part 3500-Na (3-97 to 3-98)	mg/L	BDL(<0.01)	0.1	0.3
29.	Iron as Fe	IS:3025(Pt53)2003, Reaff. 2014	mg/L	BDL(<0.1)	0.3	No Relaxation

BDL=Below Detection Limit

Tested By

(Gyanvati Shukla)  
Chemist

Checked &amp; Verified by

  
 (Dr. Dinesh Kumawat)  
 (Lab Incharge)

Authorized Signatory

  
 (Dr. S. K. Yadav)  
 Chief Manager (Environment)

Environmental &amp; Chemical Laboratory

**Wolkem India Limited**

E-102, M.I.A., UDAIPUR-Rajasthan

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Page 2 of 2

Environmental Monitoring Photograph of Ground & Surface water August 2019

1. Name of Customer :- Hindusthan Zinc Limited  
(Maton Mines) Udaipur
2. Name of Location :- Mine Lease Area (Ground water)
3. Date of Monitoring :- 23.08.2019
4. GPS Coordinates :- Mention in Photograph

5. Photograph of Ground water sampling :-



Latitude: 24° 32' 31"  
Longitude: 73° 47' 25"  
Elevation: 536.48m  
Accuracy: 4.6m  
Time: 23-08-2019 11:35  
Note: mine lease area GW

REFERENCE: REPORT NO. 20190823006

  
Environmental & Chemical Laboratory  
**Wolkem India Limited**  
E-102, M.I.A., UDAIPUR (Rajasthan)