

## HIND ENERGY AND COAL BENEFICATION (INDIA) LTD.

Corp. Office :

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Date: 26/08/2019

Ref.:

To,

The Director, Ministry of Environment, Forests & Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur-440001

**Sub:** Submission of EC Compliance along with Environmental Six monthly Monitoring Report for the period "*January-June 2019*".

Ref: EC letter no. J-11015/364/2009.IA-II(M) dated 21st May, 2014.

Dear Sir,

We are submitting herewith one copy of the EC Compliance Report and Environmental Status Report for above referred period for 3.6 MTPA Coal Washery of M/S Hind Energy &Coal Beneficiation (India) Pvt. Ltd. located at Hindadih Village, Masturi Tehsil, Bilaspur District, Chhattisgarh for your perusal and record.

Thanking you.

Yours faithfully

Hind Energy & Coal Beneficiation (India) Ltd.

Encl: As above

Copy to:

1. Central Pollution Control Board, Zonal Office, Sahkar Bhawan, North T.T. Nagar, Bhopal -462003

2. CECB, Vyapar Vihar, Near Pt. Din Dayal Upadyay Garden, Bilaspur

## EC COMPLIANCE REPORT & ENVIRONMENTAL STATUS REPORT

## (January - June 2019)

Of

Hindadih Coal Washery (2.4 MTPA = Dry Type + 1.2 MTPA Wet Type)

## Located At

Village - Hindadih, Tehsil - Masturi, District - Bilaspur, State - Chhattisgarh

**Project Proponent:** 



Hind Energy & Coal Beneficiation (India)Ltd. Hindadih Village, MasturiTehsil, Bilaspur District, Chhattisgarh, India

**Environmental Consultant** ANACON LABORATORIES PVT. LTD., NAGPUR

QCI-NABET Accredited EIA Consultant MoEF&CC(GOI) and NABL Recognized Laboratory ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007

> Lab. & Consultancy: FP-34, 35, Food Park, MIDC, Butibori, Nagpur - 441122 Mob.: +91-9372960077 Email: info@anacon.in, ngp@anacon.in Website: www.anaconlaboratories.com

## July, 2019

## **Index**

INTRODUCTION	1
COMPLIANCE STATUS	1
ENVIRONMENTAL STATUS REPORT	26

## List of Annexures

Annexure I: Letters from Truck Manufacturers 1	.3
Annexure II: Railway Siding at Gatora 1	5
Annexure III: Bag Filters 1	.6
Annexure IV: Plantation along the Road Side1	۲
Annexure V: Boundary Walls and Sprinklers 2	21
Annexure VI: Paper Advisement of Environmental Clearance by MOEF2	:2
Annexure- VII : AAQ DATA OF MAIN GATE2	:3
Annexure - VIII & IX : Approach road Mechanical sweeper2	:4

## **Test Results**

Test Report (January-February-March 2019)	28
Test Report (April-May-June 2019)	39



#### INTRODUCTION

**M/s Hind Energy & Coal Beneficiation (I) Ltd, (HECBIL)** has expanded capacity of its existing Coal beneficiation plant from **3.6 MTPA [2.4 Dry Type + 1.2 MTPA Wet type]** on 01.10.2015 (project commissioned). The coal washery is located at Village Hindadih, Tehsil Masturi, District Bilaspur (C.G.). The raw coal is received generally from SECL Dipka mine which is about 70 km from HECBIL.

Coal beneficiation is the process for cleaning & reducing ash content in the coal, thus improving the quality of coal. This is a wet type of coal Washery, having obtained environmental clearance vide letter No. J-11015/364/2009.IA-II(M) dated 21<sup>st</sup> May, 2014.

EC compliance status and Environmental monitoring reports for the period of **January 2019 to June 2019** is given below.

# Compliance Status of conditions stipulated in Environmental Clearance for 3.6 MTPA Coal Washery of M/s Hind Energy & Coal Beneficiation (I) Ltd, (HECBIL).

Sr.	Specific Conditions	Action Taken
No.		
i.	Coal transportation shall be by mechanically covered trucks for loading and unloading.	HECB enquired for mechanically covered trucks with leading truck manufacturers in 2013, 2016 and latest by 2018. However, mechanically covered trucks are not available in market; hence transportation of coal is done through tarpaulin covered trucks only.
ii.		Being complied. Density of existing green belt has been increased in phase wise manner. Till date about 10,000 nos. of trees and shrubs has planted within premises. Road side plantation has also been done at approach roads consisting of 2500 nos. of tree and shrubs. (Refer Annexure IV).
iii.	Automatic sprinkler system at the railway siding should be installed.	Complied. The Company has installed fixed and movable type of water sprinkling system within premises. Sprinkling system consisting of rain gun near Raw coal, washed coal and reject storage yard has been installed.
iv.	No extension for the work of railway siding will be sought by the proponent.	been completed within permitted time schedule and now in operation. (Refer Annexure II).
v.	No wastewater will be discharged into drains / water resources.	Complied. No wastewater is discharged into drains / water resources as plant

#### **COMPLIANCE STATUS**





Sr.	Sr. Specific Conditions Action Taken	
No.		
		is operating on zero discharge facility.
vi.	technology used for the washing of coal is wet process. Closed circuit water system will be adopted in the	Complied. Treated effluent after Hi-rate Thickener is being re-use for washing purpose within the premises. No effluent is being let out of the premises, hence maintaining Zero discharge
vii.	The proponent should adhere to all the conditions stipulated in letter of Central Ground Water Board letter no.21 4(102)/ CGWA/2011/ 174.	Complied. Proponent is adhering to all conditions of CGWB.
viii.	The assurances given during the Public Hearing and as per the action plan developed by the proponent should be implemented.	Complied. Air pollution control equipment are installed and Hind Energy is also actively doing CSR activities. (Refer Annexure III)
ix.	The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.	The CSR expenditure has been increased to INR 2,75,60,057 by the company till March 2019. HECB is committed to fulfill the statutory obligation of spending minimum 2% net profit for CSR activities as per the Companies act 2013.
х.	Three-tier green belt should be developed along the washery boundary and along transfer and loading points and in the proposed railway siding to mitigate/check dust pollution and the entire coal dispatch from the group of mines should be dove-tailed with the Coal evacuation system prepared for the Angul-Talcher. A 3-tier avenue plantation should also be developed along vacant areas, near washery, storage yards, loading points and transfer points and along internal roads and main approach roads and on the 2- km road upto the railway siding and at the siding.	3-tier plantation has been already implemented. Till date about 7500 nos. of trees and shrubs are planted within premises. Road side plantation is also been done at approach roads consisting of 2500 nos. of tree and shrubs. (Refer Annexure IV)





Sr. Specific Conditions Action Taken		Action Taken
No.		
xi.	The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site(s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored minerals do not catch fire.	Complied. Raw Coal, Washed coal & coal waste (rejects) are stacked properly at earmarked sites(s) surrounded by boundary walls. Water Sprinklers are provided to minimize and control fire catching in coal. (Refer Annexure V)
xii.	Hoppers of the coal crushing unit and washery unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads	Complied. Coal crusher of the plant are facilitated with Bag filters of adequate capacity and efficiency so as to comply with particulate emission norms. Mist spray water sprinkling system is provided. Closed conveyor system is provided to prevent fugitive dust emissions. Please refer Annexure – III.
xiii.	All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned with mechanical sweepers.	Complied. Approach road is black topped. All internal roads are concrete. Maintenance work is regularly carried out by HECB. Road is being clean through mechanical sweeper. Please refer to Annexure – VIII & IX
xiv.	Trucks engaged for mineral transportation outside the washery upto the railway siding covering a distance of 2 km shall be optimally loaded and covered with tarpaulin with no spillage en route. The trucks shall be properly maintained and emissions shall be below notified limits. Facilities for parking of trucks carrying raw coal from the linked coalmines shall be created within the Unit.	
XV.	Records of quantum and ash content of raw coal being washed, and clean coal and coal rejects produced from every batch of washing shall be maintained and details thereof uploaded on the company website	





Sr.	Specific Conditions	Action Taken
No.		
xvi.	The transportation of coal should be by mechanically covered trucks in order to reduce coal spillage and dust pollution	HECB enquired for mechanically covered trucks with leading truck manufacturers in 2013, 2016 and latest by 2018. However, mechanically covered trucks are not available in market; hence transportation of coal is done through tarpaulin covered trucks only (Refer Annexure – I).
xvii.	The waste water should be discharged after proper treatment;	Complied. The HECB is completely reutilizing the process water after treatment through Hi-rate Thickener and settling ponds and maintaining ZERO discharge Condition.
xviii ·	All the conditions stipulated in the letter of Central Ground Water Board letter no.21- 4(102)/CGWA/NCCR/2011/174 dated Nil should be adhered to.	Complied. All conditions in CGWB letter are adhered.
xix.	The time limit should be provided to the Contractual vendors /contractors for providing mechanically covered trucks for coal transportation.	Noted. The mechanically covered trucks are not available with truck manufactures nor intend to manufacture right now. Same will be procured by HECB whenever available in market.
xx.	The washery unit shall be a zero- discharge facility and no wastewater shall be discharged from the washery into the drains/natural water courses. Recycled water shall be used for development and maintenance of green belt and in the Plant Operations.	Complied. Zero discharge is strictly followed by recycling used water . No wastewater is discharged into drains / water resources.
xxi.	Industrial wastewater (workshop) shall 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 before use within the washery premises. Oil and grease trap shall be installed for treatment of workshop effluents. No wastewater shall be discharged from the washery into the drains/natural watercourses.	Complied. Effluent treatment plant has been constructed and the treated effluent is confirming with CECB standards. Please refer to Annexure -





Sr.	Specific Conditions Action Taken	
No.	Specific contaitions	
xxii.	No additional groundwater shall be used for the Plant Operations. Any additional water requirement envisaged shall be obtained by recycle/reuse to the maximum extent and from rainwater harvesting measures.	Complied. Water recycled from ETP is re- used in plant operation and only makeup water is withdrawn from groundwater.
xxiii	Socio-economic and welfare measures for the local communities for the adjoining villages shall be implemented under CSR. Activities under CSR activities to be undertaken for the adjoining villages shall be identified in consultation with the local authorities, the details of status of implementation of CSR and expenditure thereon which should be annually updated on the company website.	Being complied. The CSR amount was spent on various need based activities like pond construction, education facilities, drainage repairing, bore well construction and medical instrument donations to government hospital etc. The CSR expenditure details are uploaded on the website and same can be accessed at http://www.hindenergy.com.
xxiv ·	and washed coal shall be analysed	Complied. Analysis of heavy metal content in raw coal, washed coal is carried out. And records are maintained properly.
XXV.	The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.	Complied. The company is actively doing CSR activities in consultation with panchayats and administration of nearby villages.
xxvi.	The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	Complied. Air pollution control equipment are installed and Hind Energy is also actively doing CSR activities.





Sr.	Specific Conditions	Action Taken	
No.	Specific conditions		
xxvii.	<ul> <li>Corporate Environment Responsibility:</li> <li>a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.</li> <li>b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/ violation of the environmental or forest norms/conditions.</li> <li>c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.</li> <li>d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.</li> </ul>	Complied. Corporate Environment Policy in place and adhered.	





#### **General Conditions:**

Sr. No.	General Conditions	Action Taken
i.	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Noted and agreed.
ii.	No change in the calendar plan of production for quantum of mineral coal shall be made.	Noted and agreed.
iii.	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for $PM_{10}$ , $PM_{2.5}$ , $SO_2$ and NOx monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	Complied. Four nos. of ambient air quality monitoring stations have been established & are operational for monitoring ambient air data. Heavy metals (Hg, As, Ni, Cd & Cr) are monitored. Ambient air quality monitoring data for current monitoring period is enclosed along with Status report.
iv.	Data on ambient air quality (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NOx) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report.	Being Complied on regular basis.
V.	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Complied. Machines & equipment's producing noise are covered with sound absorbing material & ear plugs/muffs are being provided to the workers in noisy environment.
vi.	Industrial wastewater (workshop and wastewater from the mine) shall 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 before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Complied. Effluent treatment plant has been constructed and the treated effluent is confirming with CECB standards.





Sr.	General Conditions	Action Taken
No.	Concrui conultions	
vii.	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	Being complied. All the vehicles engaged in transportation are covered with tarpaulins and are maintained so as to follow emission norms.
viii.	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules,1986.	Complied. The environmental quality is being regularly monitored and analyzed through M/s Anacon Laboratory Pvt. Ltd., Nagpur, a MoEF recognized and NABET & NABL accredited Laboratory.
ix.	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Complied. Protective Respiratory Devices are provided & safety appliances are being used by the workers. Shoes, mask helmet safety belt & ear plug, have been provided & adequate training has been given to workers.
х.	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while out sourcing.	Complied. Protective Respiratory Devices are provided & safety appliances are being used by the workers. Shoes, mask, helmet, safety belt & ear plug, have been provided & adequate training has been given to workers. Regular health checkup conducted.
xi.	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	Being complied. Separate environment cell is in place which is headed by senior person.
xii.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.	A separate account (SBI, Bilaspur; A/c. No. 36262584886) has been opened for Environmental protection measures and year wise expenses will be submitted to Regional office periodically with Six monthly EC compliance reports. A total expenditure of Rs. 59,77,733 has been carried out for EPM activities till March 2019.





Sr.	General Conditions	Action Taken	
No.	Contra conditions	neton fuxen	
•••			
xiii.	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days 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 may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in.	May 2014 same is given to newspaper office immediately for publishing. However it was published on 30th May 2014. (Refer Annexure - VI).	
xiv.	A copy of the environmental clearance letter shall be marked to concern Panchayat/ZilaParishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	Circulated and displayed in Gram Panchayat. EC letter was now uploaded on the company website along with other relevant data. Same can be accessed at <u>http://www.hindenergy.com</u> .	
XV.	A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.	In purview of CECB, CG.	
xvi.	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NOx (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.		





Sr. No.	General Conditions	Action Taken
xvii.	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.	Being complied.
xviii.	The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.	Noted. Full co-operation will be given to the official of the Hon'ble Ministry and all data/document/reports as sought by them will be submitted.
xix.	The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF by-mail.	Being complied. Environmental Statement for each year is submitted to CECB regularly.





#### **Other Conditions:**

Sr. No.	Other Conditions	Action Taken
1.	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.	Noted and agreed.
2.	The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent	Complied.
3.	The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Complied. All clearances required are obtained.
4.	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Noted.
5.	The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.	Being complied. Environment Cell is established for monitoring of EC conditions.
6.	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted and agreed.
7.	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial	Noted and agreed.





	measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.	
8.	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act,2010.	Noted.
9.	This EC supersedes the earlier EC, vide letter no. J- 11015/190/2007-IA.II (M) dated 24.06.2008.	Noted.





#### **Annexure I: Letters from Truck Manufacturers**



To,

26/09/2018

.

The Director,

Hind Energy & Coal beneficiation (India) Ltd.,

Bllaspur.

Sub: Your query regarding mechanically covered & operated trucks.

Sir,

This is in reference to your letter dated 23/09/2013 regarding a query of mechanically obvered & operated trucks.

We wish to inform you that presently we are not providing any mechanically covered & operated trucks in Tractor Traller range.

Regards,

For, ata Motors timited.

#### TATA MOTORS LIMITED

Parthivi Pacific 2nd Floor Above Axis Bank Tatibandh GE Road Raipur 492.009 Chhattisgarh Tei 91 771 6675501 Fax 91 771 6675523 www.tatamotors.com Registered Office Bombay House 24 Homi Mody Street Mumbal 400.001









#### To Whomsoever It May Concern:

This is to certify that our company "AMW Motors Ltd" is one among the largest manufacturer of the heavy commercial vehicles in India.

- Furthermore, we certify that we do not manufacture any heavy commercial vehicles which are mechanically covered and operated, and further till date we have no future plans to manufacture the same.

This is for you kind reference.

Assuring best services all time.



AMW Motors Ltd.

#### AMW MOTORS LTD

AMW MOTORS LTD (Demerged entity of Asia Motor Works Ltd.) gd. Office : 34 Km. Milestone, Bhuj - Bhachau Road, Vilage Kanlayabe, Kachohh, Gujarat 370 020, India Tel.: (91-2832) 243700-10 (11 lines), Fax: (91-2832) 243726 / 30. Wisb : www.amwasia.com the Office : Asia MotorWorks Ltd. 7h Floor, Tower I, Equinox Business Park, (Peninaula Techno Park) Off Bandra Kurla Road, L.B.S. Marg, Kurla (West) Mumbai - 400 070. Tel.: (91-22) 67101501 / 02 Fax: (91-22) 67101503 / 04 Plant & R







#### Annexure II: Railway Siding at Gatora







#### **Annexure III: Bag Filters**







Annexure IV: Plantation along the Road Side































#### Annexure V: Boundary Walls and Sprinklers





#### Annexure VI: Paper Advisement of Environmental Clearance by MOEF







#### Annexure- VII : AAQ DATA OF MAIN GATE







#### Annexure - VIII : Approach road







#### Annexure – IX: Photographs of mechanical sweeper







#### **ENVIRONMENTAL STATUS REPORT**

#### **Air Quality Monitoring**

Regular monitoring of environmental parameters is of immense importance to assess the status of environment. With the knowledge of baseline conditions, the monitoring program will serve as an indicator for any deterioration in environmental conditions due to mining operation. Suitable mitigation steps will be taken in time to safeguard the environment, based on monitoring reports. Monitoring is important in the control of pollution since the efficiency of control measures can only be determined by monitoring.

In order to find out the impact of plant activity on sensitive receptors, it is necessary to monitor Environmental Quality to know the level of concentrations of pollutants within and around the plant area. Accordingly Hind Energy & Coal Beneficiation (India) Ltd. monitoring air, quality on monthly basis.

#### **Ambient Air Quality Monitoring**

Ambient Air Quality was monitored at four locations within plant premises and four locations in nearby villages. Fugitive emissions were monitored at two locations in the plant premises.

Thesamplingstationsareselected at the abovementioned locations, indownwind and upwind irections of the Industry. ALPLiscarrying out regular monitoring for, SPM, RPM, SO<sub>2</sub>, NOx and heavy metals at above Ambient Air Quality Monitoring (AAQM) locations. Monitoring of fugitive emissions include parameters SPM, PM<sub>10</sub>, SO<sub>2</sub>&NOx.

#### **Frequency of Sampling**

Ambient air quality monitoring was carried out on 24 hourly on quarterly basis (once in a quarter) for the monitoring period.

#### **Duration of Sampling**

The duration of sampling for  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ ,  $NO_x$  and heavy metals is twenty-four hourly. Data is compared with the standards mentioned in the Gazette Notification of the Central Pollution Control Board (CPCB) Notification 16<sup>th</sup> Nov. 2009.

#### Methods and Instruments used for Sampling

The air samples were analyzed as per methods specified by Central Pollution Control Board (CPCB).

The levels of Suspended Particulate Matter, Respirable Particulate Matter, Sulphur Dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>X</sub>) & heavy metals were monitored for identifying the impact on surrounding area.  $PM_{10}$  and  $PM_{2.5}$  were collected with the help of Respirable particulate sampler and Fine particulate sampler operating 24 hours and is computed by gravimetric method. Due to the high flow rate of air, the vacuum is formed into the hopper region of sampler which is tapped by providing a nozzle in the hopper which sucks the ambient air for sampling SO<sub>2</sub> and NO<sub>X</sub>. The





gases were measured by wet chemical method and were analyzed by colorimetrical. The measurement techniques used for various pollutants and other details are given in below:

Sr. No.	Parameter	Method	Technical Protocol	Minimum Detection limit (µg/m³)
1.	Suspended Particulate Matter, SPM	Respirable Dust Sampler (Gravimetric Method)	IS-5182 (Part – IV)	5
2.	Respirable Particulate Matter, PM <sub>10</sub>	Respirable Dust Sampler (Gravimetric Method)	IS-5182 (Part – IV)	5
3.	Fine Particulate Matter, PM <sub>2.5</sub>	Fine Particulate Sampler (Gravimetric Method)	IS-5182 (Part-IV)	-
4.	Sulphur Dioxide	Improved West and Geake Method	IS-5182 (Part – II)	4
5.	Oxide of Nitrogen	Jacob &Hochheiser Modified Method	IS-5182 (Part – VI)	4
6.	Heavy Metals	Acid digestion	CPCB Guideline (Vol. 1)	0.0001

#### **Measurement Techniques for Various Pollutants**

#### **Ambient Air Quality**

The ambient air quality monitoring was carried out at 4 locations in the Plant premises and 4 locations in the nearby villages in upwind, downwind and crosswind directions of the coal washery project. The air quality monitoring was conducted for  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ ,  $NO_x$  and heavy meals during this monitoring period.

Fugitive emission monitoring was carried out at two locations within the washery premises during this period for the parameters which includes SPM, PM<sub>10</sub>, SO<sub>2</sub>&NOx.

Overall the ambient air concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> and heavy meals were observed to be well within the limits of concentrations promulgated by CPCB, New Delhi.

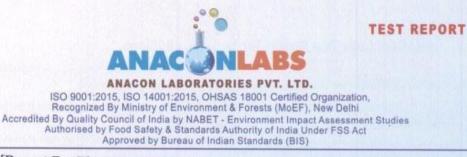
National Ambient Air Quality Standard:  $PM_{10}$  (RPM): 100 µg/m<sup>3</sup>,  $PM_{2.5}$ : 60 µg/m<sup>3</sup>SO<sub>2</sub>: 80 µg/m<sup>3</sup> and NO<sub>x</sub>: 80 µg/m<sup>3</sup>



# **Test Report**

# Jan-Feb-Mar 2019





## [Report For The Month of January-February-March-2019 (Qtrly)]

### AIR MONITORING ANALYSIS REPORT

Report No.:-	AN/AA/HECBIL/2018-19/810-1	Report Date:-	30/03/2019
Name of Client & Address:-	M/s HIND ENERGY AND Village:- Hindadih, Si	COAL BENIFICATIO	<b>N (I) LTD.</b> 95 001.
Type of Work :-	Ambient Air Monitoring (March-2019)	Sample Ref.No. :-	1819/Mon-771-1
Sample Drawn By :	Anacon Representative	Sample Received Date	25.03.2019

				(	24 hrs Samp	ling)
SL. No.	Sampling Location	Sampling Date	PM10 μg/m <sup>3</sup>	PM2.5 μg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NOx µg/m <sup>3</sup>
1.	Near Steel Yard	22.03.2019	61.7	26.3	11.4	27.1
2.	Near Rotary Breaker	22.03.2019	58.3	23.9	9.3	21.8
3.	Near Dispatch	23.03.2019	51.9	17.3	7.1	18.4
4.	Near Barrack	23.03.2019	52.7	18.6	7.4	19.6
CPCB Star	ndards		100	60	80	80

SL No	Sampling Location	Sampling Date	Pb µg/m³	As ng/m <sup>3</sup>	Ni ng/m <sup>3</sup>	Cd µg/m <sup>3</sup>	Cr µg/m <sup>3</sup>
1.	Near Steel Yard	22.03.2019	0.027	ND	0.039	ND	ND
2.	Near Rotary Breaker	22.03.2019	0.016	ND	0.021	ND	ND
3.	Near Dispatch	23.03.2019	0.014	ND	0.026	ND	ND
4.	Near Barrack	23.03.2019	0.011	ND	0.019	ND	ND
CPCB	Standards		1.0 (24 hrs)	6.0 (annual)	20.0 (annual)		

Thanks for utilizing our services.

Chemist: - Sky .

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Head Office : 60, Bajiprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122. Mob. No. 9373287475, Email : labngp@anacon.in Support Helplines : Technical (9373287475), Accounts Division (9326960081, 9372960079), Administration (9372960078) Email : support@anacon.in. You may also visit us at www.anaconlaboratories.com





						TEST	REPORT
		AN	ACON		ABS		
	Accredited E	SO 9001:2015, ISO Recognized By Minis By Quality Council of thorised by Food Sa	India by NABET -	AS 1800 & Fores Environ authority	1 Certified Organizati ats (MoEF), New Delh ment Impact Assessm of India Under FSS A	ent Studies	
	[Report I	for The Month	of January-1	ebrua	ary-March-2019	) (Otrly)	1
						7 11	1
	the second s				nalysis Rep	ort	
Report N	lo.:-	AN/FE/HECI	BIL/2018-19/810	-2	Report Date:-	· 30/0	03/2019
Name of Client & Address:-		M/s HIND ENERGY AND COAL BENIFICATION (1) LTD. Village:- Hindadih, Seepat, Bilaspur (C.G.)-495 001.					
Type of Work :-		Fugitive Dust Monitoring (March-2019)		-			
Type of W	/ork :-		Concentration of the second se	Samj	ple Ref.No. :-	1819/N	/on-771-2
	/ork :- Drawn By :		-2019)	-	ple Ref.No. :- ple Received Date		Mon-771-2 )3.2019
Sample I		(March	-2019) resentative	Samj		25.0	
Sample I	Drawn By :	(March Anacon Rep	-2019) resentative	Samj	ole Received Date	25.0	)3.2019
Sample I	Drawn By :	(March Anacon Rep 26.03.	-2019) resentative	Samı Testi	ole Received Date	25.0	)3.2019
Sample I	Drawn By : analysis :-	(March Anacon Rep 26.03. Location	-2019) resentative 2019	Samı Testi Date	ole Received Date ing Period SPM	25.0 01 SO2	03.2019 Day NOx
Sample I Date of A SL. NO.	Drawn By : analysis :- Sampling I Near Weigl	(March Anacon Rep 26.03. Location	-2019) resentative 2019 Sampling D	Samı Testi Date	ole Received Date ing Period SPM μg /m <sup>3</sup>	25.0 01 SO <sub>2</sub> μg/m <sup>3</sup>	03.2019 Day NO <sub>x</sub> μg /m <sup>3</sup>

Chemist: Snul

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Head Office : 60, Bajiprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122, Mob. No. 9373287475, Email : labngp@anacon.in Support Helplines : Technical (9373287475), Accounts Division (9326960081, 9372960079), Administration (9372960078) Email : support@anacon.in. You may also visit us at www.anaconlaboratories.com

Anacon Laboratories Private Limited, Nagpur



Page 30



						TEST	REPORT	
		ANA	C	LA	BS			
	Accredited E	ANACON L 50 9001:2015, ISO 1400 Recognized By Ministry of By Quality Council of India thorised by Food Safety & Approved by B	Environment by NABET - 1 & Standards A	S 18001 ( & Forests Environme uthority of	Certified Organiz (MoEF), New De ant Impact Asses India Under FSS	alhi sment Studies		
	[Report I	For The Month of	January-F	ebruar	y-March-20	19 (Otrly)	1	
		ugitive Dust M					•	
Report N	0.:-	AN/FE/HECBIL/	2018-19/810	-3 R	eport Date:-	30/0	3/2019	
Name of Client & Address:-		M/s HIND EN Village:-			AL BENIFIC , Bilaspur (C			
Type of Work :-		Fugitive Dust Me (March-201	o Jan		Sample Ref.No. :-		Mon-771-3	
Sample D	rawn By :	Anacon Represe	Anacon Representative		Sample Received Date		25.03.2019	
Date of A	nalysis :-	26.03.201	26.03.2019 Te		Testing Period		01 Day	
SL.,NO.	Sampling	Location	Sampling Date		SPM µg/m³	SO2 µg/m <sup>3</sup>	NOx µg/m <sup>3</sup>	
1	Near Vehi	icles Parking Area	23.03.2	2019	261	13.7	28.1	
		CPCB Standards			2000			
Thanks f	or utilizing	our services						
	^					Jan	rp	
Chemist	: soul				Auth	orized Sign	atory	
	-							
						ALCON.	HAC HILAN	
d Office ( #D	Bailorabbu Nagar	Nagpur - 440033 India. Ph. No.	(0712) 2242077.	372404924.	Email : ngp@anacon 75. Email : labngp@a	.in	and the second sec	





			. •		TEST REPORT
		ANAC		LABS	
	Accredite	ANACON LAB ISO 9001:2015, ISO 14001:20 Recognized By Ministry of Env ed By Quality Council of India by Authorised by Food Safety & Sta Approved by Burea	15, OHSAS /ironment & NABET - Er andards Aut	18001 Certified Organizat Forests (MoEF), New Delh wironment Impact Assessi- hority of India Under FSS (	nent Studios
	[Report	For The Month of Janu <u>NOISE MONIT</u>			(Qtrly)]
Ro	port No.:-			TREFORT	+
Rej	port 190.:-	AN/NE/HECBIL/2018-19/811		Report Date:-	30/03/2019
Name of Client & Address:-		M/s HIND ENER( Village:- Hin	GY ANE Idadih, S	COAL BENIFICA ipat, Bilaspur (C.G.	TION (I) LTD. )-495 001.
Type of Wo		Noise Monitoring (March-2019)		Sample Ref.No. :-	1819/Mon-771-N
Sample Dra	awn By :	Anacon Representative		Data Received	25.03.2019
Date	of Sampli	ng: 22 <sup>nd</sup> March-2019.		20	
SL. NO.		LOCATION		RESULT dB(A)	
C 7			A	Day Time	Night Time
Core Zon	1		.93		
1. Near Steel Yard			24	56.1	42.8
0		ary Breaker	52.7		43.9
2.	rieur Disputch		62.8		56.3
3.		a al.	58.2		477.4
3. 4.	Near Barr	rack		58.2	47.1
3. 4. CPCB Sta	Near Bari Indards	ack		58.2	47.1
3. 4. CPCB Sta Residentia	Near Barr Indards al Area	rack		55	47.1
3. 4. CPCB Sta	Near Barr andards al Area Area	rack			

Thanks for utilizing our services.

Chemist:-Sny

Stamp

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Head Office : 60, Bajiprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122. Mob. No. 9373287475, Email : labngp@anacon. Support Helplines : Technical (9373287475), Accounts Division (9326960081, 9372960079), Administration (9372960078) Email : support@anacon.in, You may also visit us at www.anaconlaboratories.com





			i		т	EST REPORT
		AN/	AC NI	ABS		
	Accredited By Qualit	2015, ISO 140 ed By Ministry y Council of Ind by Food Safet	LABORATORIE 101:2015, OHSAS 1 of Environment & F dia by NABET - Env y & Standards Autho Bureau of Indian S	8001 Certified orests (MoEF), ironment Impa- prity of India U	Organization, New Delhi	tudies
			San Zull	Shi wasan	Report No - Al	PL/30032019/811-
'illage:- eepat , E	ERGY AND COAL BENIFICATIO "Tindadih Bilaspur (C.G.)-495 001.	N (1) LTD.	Sample Inward No Report Issue Date Your Reference Reference Date	: 30.03.	Mon-771-GW1 2019 IL/HINDADIH/B	
imple C imple L	ocation : Near Main Gate					(Page 1 of 2)
uantity	received :2 L ested as received	3.2019 2019	Analysis Starting Da Analysis Completion Tests required Sampled by	Date : :	26.03.2019 29.03.2019 As per w.o. Anacon Represent	átive
			TEST RESULTS		-	
	[Report For	The Month o	f January-Februa	ry-March-20	19 (Otrly)]	
Sr. No	Test Parameter	Measurement Unit		Require IS 105 (Drinking Wat Including An	ment as per 00 : 2012 er Specifications) undment No. 2	Test Results
1.	pH value			Acceptable Limit	Permissible Limit #	
2.	Electrical Conductivity at 25°C	• µs/cm	IS 3025 (Part 11)	6.5 to 8.5	No relaxation	6.92 at 25°C
3,	Turbidity	NTU	IS 3025 (Part 14) IS 3025 (Part 10)	- 1		439
4.	Apparent colour	Hazen units	IS 3025 (Part 4)	5	5	0.6
5.	Odour	+	IS 3025 (Part 5)	Agreeable	Agreeable	1 Agreeable
6,	Taste	-	IS 3025 (Part 8)	Agreeable	Agreeable	Agreeable
7,	Iron (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.26
<u>8</u> 9.	Total dissolved solids (TDS) Fluoride (as F)	mg/l	IS 3025 (Part 16)	500	2000	246
10.	Cyanide (as CN)	mg/1	IS 3025 (Part 60)	1.0	1.5	0.61
11,	Chlorides (as Cl)	mg /1 mg /1	IS 3025 (Part 27) IS 3025 (Part 32)	0.05	No relaxation	< 0.005
12	Free residual chlorine	mg/l	IS 3025 (Part 32)	250 Min. 0.2	1000	27.43
13,	Total alkalinity (as CaCO2)	mg/l	1S 3025 (Part 23)	200	600	< 0.1
14.	Total hardness (as CaCO2)	mg / 1	IS 3025 (Part 21)	200	600	121.59
	Calcium (as Ca)	mg / 1	IS 3025 (Part 40)	75	200	46.52
16.	Magnesium (as Mg)	mg / 1	IS 3025 (Part 46)	30	100	13.69
18.	Sulphate (as SO4) Nitrates (as NO3)	mg/1	15 3025 (Part 24)	200	400	21.43
19.	Copper (as Cu)	mg/1 mg/1	APHA Method	45	No relaxation	12.68
20.	Manganese (as Mn)	mg/1 mg/1	IS 3025 (Part 2) IS 3025 (Part 2)	0.05	1.5	< 0.03
Anaco the dat probab	S: • Please see watermark "Original 7 able to tested parameters only. • Test r n Labs is limited to invoiced amount only e of issue of Test Report, unless specifies the number. • 'mg/r' is equivalent to 'p ered as 'absent'. • Result for test no. 12 is	Test Report" to confi eport shall not be re v.  Non-perishable a d otherwise.	irm the authenticity of the produced except in full w ind perishable sample(s) sh	all be disposed off at	approval of Anacon I ter 30 days and 15 day	abs.  Liability of s respectively from
	erified by					CALL DESCRIPTION PRODUCTS





						TEST	REPORT
					-		
		A	RIAC	NLA	BS		
		AN	ACON LABO	RATORIES PV	T. LTD.		
	IS F	SO 9001:2015, Recognized By	ISO 14001:201 Ministry of Envi	5, OHSAS 18001 C ronment & Forests	(MoEF) New	nization, Delhi	
	Accredited E	ly Quality Cour	ncil of India by M	ABET - Environme	nt Impact Ass	essment Studio	S
	Au	thorised by Fo	od Safety & Sta roved by Bureau	ndards Authority of of Indian Standard	India Under F Is (BIS)	SS Act	
		In the set			Rom	ort NoALPL/30	00000101011
	D TO:		Sam	ele Inward No.	: 1819/Mon-7	the second s	/032019/811-1
	ENERGY AND COAL BENI :- Hindadih	FICATION (1) L	TD. Repo	rt Issue Date	: 30.03.2019	Search Sector Street	
	, Bilaspur (C.G.)-495 001.			Reference ence Date		NDADIH/BSP/20	19-20/06
	Category : Ground Wat	er	neter	Since Date	: 30.04.2019		
ample	Code : GW-1					(Page 2 d	of 2)
ample	Location : Near Main C	late				(rage 2 (	n 2)
Sample	e Registration Date	: 25.03.2019	Analys	is Starting Date	: 26.03.2	019	
Quanti	ty received	:2 L	205	is Completion Date	: 29.03.2		
			Tests re	equired	: As per		
- C -	e tested as received		Sample	d by		n Representative	
Sampli	ng Date	: 23.03.2019					
+.					The second		
					Requir	ement as per	
Sr. No	Test Parameter		Measurement		IS 10	0500 : 2012 ater Specifications)	
	· cov i minutetet		Unit	Test Method	Including A	mendment No. 2	Test Result
					Acceptable Limit	Permissible Limit #	
21.	Mercury (as Hg) Cadmium (as Cd)		mg/l	IS : 3025 (Part 48)	0.001	No relaxation	< 0.0005
23.	'Jelenium (as Se)		mg/l mg/l	15 3025 (Part 41)	0.003	No relaxation	< 0.001
24.	Arsenic (as As)		tng/l	IS: 3025 (Part 56) IS 3025 (Part 37)	0.01	No relaxation No relaxation	< 0.001
25, 26	Aluminium (as Al) Lead (as Pb)		mg/l	IS 15302	0.03	0.2	< 0.01
27.	Zinc (as Zn)		mg/l mg/l	IS 3025 (Part 47)	0.01	No relaxation	< 0.001
28,	Total Chromium (as Cr)		mg/1	IS 3025 (Part 2) IS 3025 (Part 2)	5 0.05	15	< 0.1
29.	Boron (as B)		mg/l	IS 3025 (Part 2)	0.05	No relaxation	< 0.03
30.	Mineral Oil		mg/l	IS 3025 (Part 39)	0.5	No relaxation	< 0.1
31.	Phenolic compounds (as CoHsOH)		mg / 1	IS 3025 (Part 43)	0.001	0.002	< 0.001
32.	Anionic detergents		mg / 1	IS 13428 (Annex K)	0.2	1.0	
33.	Polynuclear aromatic hydro	carbons	µgЛ	USEPA 550	0.1	No relaxation	< 0.01
34.	Total coliform		Per 100 ml	IS 15185	Absent	Abcout	
OTES:	<ul> <li>Please see watermark "Origin s only.          <ul> <li>Test report shall not b</li> </ul> </li> </ul>	al Test Report" to co	onfirm the authenticity	of this report Results	shall be referred to		the second s
nount on	ly Non-perishable and perish	able sample/e) shall		minen approvat of Attac	con Labs, . Liabili	ity of Anacon Labs is	limited to involced
verwise.	· Permissible limit in absence	of an alternate course	ma for data the	to only o units 10 onlys respec	uvery from the dat	te of issue of Test Repo	ort, unless specified
				commerce as absent, .	Result for test no.	12 is not relevant.	
REN	ARKS: Based upon request st conducted, indicating that	of the party, sam	ple was tested for a	bove mentioned param	eters only same	le complier with re-	10500-3017
te	st conducted, indicating that	it is fit for drinkir	ig purpose with res	pect to tested paramete	rs.	e compues with IS:	10900:2012, for
		For ANACO	N LABORATORIE	SPVT. LTD			
	Verified by		ON I ONLE		Author	ized Signatory	
R	haking				p	Gamp	
1000	oshani Thakur				Drau	NSD C	NAC NLABS
					PAT PAT	s.) S.D. Garway	
(	(Chemist) ffice : 60, Bajiprabhu Nagar, N	No. modeling	ST 10 TEENSO		(Di	rector-Labs)	





					TE	ST REPORT
			<b>IC</b> NI			
	Accredited By Qualit	2015, ISO 1400 ed By Ministry o y Council of Indi by Food Safety	LABORATORIE 01:2015, OHSAS 1 of Environment & Fo ia by NABET - Envi & Standards Autho Bureau of Indian St	8001 Certified orests (MoEF), ironment Impac ority of India Un	Organization, New Delhi	tudies
					Report NoAL	PL/30032019/811-2
Village:-1	ERGY AND COAL BENIFICATIO	N (1) LTD.	Sample Inward No Report Issue Date Your Reference Reference Date	o. : 1819/N : 30.03.2	/lon-771-GW2 2019 IL/HINDADIH/B	
ample Co	ategory : Ground Water ode : GW-2 ocation : Near Security Quar	ter			(Pa	ige 1 of 2)
Quantity	received : 2 L sted as received	-	Analysis Starting Da Analysis Completior Tests required Sampled by	Date : 2 : /	26.03.2019 19.03.2019 As per w.o. Anacon Represent	ative
			ST RESULTS			
-	[Report For		January-Februa	ry-March-201	9 (Otrly)]	
Sr. No	Test Parameter	Measurement Unit	Test Method	Requirer IS 105 (Drinking Wate Including Am Acceptable	nent as per 00 : 2012 er Specifications) nendment No. 2 Permissible	Test Results
1.	pH value		IS 3025 (Part 11)	Limit 6.5 to 8.5	Limit # No relaxation	7.06 at 25%C
2.	Electrical Conductivity at 25% Turbidity	µs/cm	IS 3025 (Part 14)	-	-	392
.4.	Apparent colour	NTU Hazen units	IS 3025 (Part 10) IS 3025 (Part 4)	1 5	5	0.3
5.	Odour		IS 3025 (Part 5)	Agreeable	15 Agreeable	1 Agreeable
6.	Taste Iron (as Fe)		IS 3025 (Part 8)	Agreeable	Agreeable	Agreeable
8.	Total dissolved solids (TDS)	mg/l mg/l	IS 3025 (Part 2) IS 3025 (Part 16)	1.0	No relaxation	0.27
9.	Fluoride (as F)	mg/1	1S 3025 (Part 60)	1.0	2000	0.21
10,	Cyanide (as CN) Chlorides (as Cl)	mg / 1	IS 3025 (Part 27)	0.05	No relaxation	< 0.005
12.	Free residual chlorine	mg/l mg/l	IS 3025 (Part 32) IS 3025 (Part 26)	250 Min. 0.2	1000	36.48
13.	Total alkalinity (as CaCO3)	mg/1	IS 3025 (Part 23)	200	600	< 0.1 121.49
14.	Total hardness (as CaCO <sub>2</sub> ) Calcium (as Ca)	mg / 1	IS 3025 (Part 21)	200	600	186.46
16.	Magnesium (as Mg)	mg / 1 mg / 1	IS 3025 (Part 40) IS 3025 (Part 46)	75 30	200	53.82
	Sulphate (as SO4)	mg/1	IS 3025 (Part 24)	200	400	12.64 31.93
18. 19.	Nitrates (as NOs) Copper (as Cu)	mg / 1 mg / 1	APHA Method IS 3025 (Part 2)	45	No relaxation	8.27
20.	Manganese (as Mn)	mg/1	IS 3025 (Part 2)	0.05	0.3	< 0.03
limited to in Test Report 'mg/I' is eq for test Ve	Please see watermark "Original Test R arameters only. Test report shall not nvoiced amount only. Non-perishable t. unless specified otherwise. #Permis uivalent to 'ppm'. * 'pg/' is equivalent 12 is not relevant. For A erified by GAAMA shani Thakur aceticst ajiprabhu Nagar, Nagpur - 44 AS Food Park, Eve Star Estate, Mil	and periabable sampl sible limit in absence to 'ppb'. • '< Indicat NACON LABORA'	(0712) 2242077 93724	tion approval of Ani fiter 30 days and 15 d drinking water. • 5 ument/method and r 04824. Email: non	acon Labs. • Liability lays respectively from MPN indicates most p shall be considered as Authorized Signator	of Anacon Labs is the date of issue of robable number. • 'absent'. • Result





				DC	TEST	REPORT
			CONLA	CURSE IN A		
	Accredited By Quality	2015, ISO 1400 of By Ministry of Council of India by Food Safety	ABORATORIES PV 1:2015, OHSAS 18001 ( I Environment & Forests a by NABET - Environme & Standards Authority of ureau of Indian Standard	Certified Orga (MoEF), New Int Impact Ass India Under F	Delhi esement Studio	s
				Repo	ort NoALPL/30	0032019/811-2
ISSUE HIND I	D TO: ENERGY AND COAL BENIFICATION		Sample Inward No.	: 1819/Mon-7		7052017/011-2
Village	- Hindadih	((I) LTD.	Report Issue Date	: 30.03.2019		
	, Bilaspur (C.G.)-495 001.		Your Reference Reference Date	: HECBIL/HI	NDADIH/BSP/20	19-20/06
a lange of the land	Category : Ground Water		Acteletence Date	: 30.04.2019		
Sample						
Sample	Location : Near Security Quart	er			(Page 2 of 2)	
1000	Registration Date : 25.03.		mahania Disati - Tau			
	ty received :2 L		unalysis Starting Date unalysis Completion Date	: 26.03.2		
C			ests required	: 29.03.2 : As per		
	tested as received	S	ampled by		n Representative	
Sampu	: Date : 23.03.20	19				
			ST RESULTS			
-	[Report For T	he Month of	January-February-Ma	rch-2019 (O	trlv)]	
100	A CONTRACTOR OF A CONTRACTOR O			1	ement as per	
e . N.		Measurement		1S 10	1500 : 2012	
Sr. No	Test Parameter	Unit	Test Method	(Drinking Wa	ter Specifications) mendment No. 2	Test Result
		1		Acceptable	Permissible	
21.	Mercury (as Hg)	mail	10 2025 (2) 10	Limit	Limit #	
22.	Cadmium (as Cd)	mg/l mg/l	IS: 3025 (Part 48) IS: 3025 (Part 41)	0.001	No relaxation	< 0.0005
23,	Selenium (as Se)	mg/l	IS: 3025 (Part 56)	0.003	No relaxation No relaxation	< 0.001
24.	Arsenic (as As)	mg/l	15: 3025 (Part 37)	0.01	No relaxation	< 0.001
25, 26.	Aluminium (as Al) Jead (as Pb)	mg/l	IS: 15302	0.03	0.2	< 0.01
27.	Zinc (as Zn)	mg/l mg/l	15: 3025 (Part 47)	0.01	No relaxation	< 0.001
28.	Total Chromium (as Cr)	mg/l	IS: 3025 (Part 2) IS: 3025 (Part 2)	5	15	< 0.1
29	Boron (as B)	mg/l	IS: 3025 (Part 2)	0.05	No relaxation	< 0.03
30.	Mineral Oil	mg / 1	IS: 3025 (Part 39)	0.5	2.4 No relaxation	< 0.1
31.	Phenolic compounds (as CeHsOH)	mg/1	IS: 3025 (Part 43)	0.001	State State State	< 0.001
32.	Anionic detergents	The second se		100000	0.002	< 0.001
33.	Polynuclear aromatic hydrocarbons	mg/1 µg/1	IS: 13428 (Annex K)	0.2	1.0	< 0.01
34.	Total coliform	Per 100 ml	USEPA 550	0.1	No relaxation	< 0.03
OTES:	Please see watermark "Original Test Report only.     Test report shall not be reproduced	the second second	IS: 15185	Absent	Absent	Absent
mount on therwise.« quivalent EMARK	y. • Non-perishable and perishable sample(p #Permissible limit in absence of an alterna to 'ppb'. • '< indicates detection limit of ins' S: Based upon request of the party, san I, indicating that it is fit for drinking put	a) shall be disposed of the source for drinking trument/method and apple was tested for pose with respect for	if after 30 days and 15 days respec g water. • MPN indicates most p shall be considered as 'absent'. • above mentioned parameters to tested parameters.	tively from the dat robable number. • Result for test no.	ty of Anacon Labs is the of Issue of Test Repo "mg/l" is equivalent is 12 is not relevant.	limited to involced ort, unless specified o 'ppm'. • 'µg/l' is
١	/erified by	NACON LABORAT	TORIES PVT. LTD.			
1	shake			Author	ized Signatory	
Ms. R	oshani Thakur			L	yang	1ª 1/3
	Chemist)				s.) S.D. Garway	MAC MILASS
Head Of	fice : 60, Bajiprabhu Nagar, Nagpur - 440 9 34-35, Food Park, Five Star Estate, MID	C Butibori, Nagpur -	0712) 2242077, 9372404924, E 441122, Mob. No. 9373287475 6960081, 9372960079), Admini	mail : ngp@anac , Email : labngp@	anacon.in	





.1		NAC	) NLAE		ST REPORT
	AN ISO 9001:2015, Recognized By Accredited By Quality Cou	ACON LABOI ISO 14001:2015 Ministry of Enviro ncil of India by N	ATORIES PVT. OHSAS 18001 Ce onment & Forests (N ABET - Environment	LTD. rtified Organization, toEF), New Delhi	dies
	Authorised by Fo App	ood Safety & Stan proved by Bureau	dards Authority of In of Indian Standards	(BIS)	
HIN Villa	UED TO: ID ENERGY AND COAL BENIFICATION () age:- Hindadih 2 , Bilaspur (C.G.)-495 001.	1) LTD. Repo Your	rt Issue Date Reference	Report NoALP : 1819/Mon-771-W1 : 30.03.2019 : HECBIL/HINDADIH/BS : 30.04.2019	
	ple Registration Date : 25.03.2019	Analysi	s Starting Date	: 26.03.2019	
Quar Samp Samp	ple Registration Date : 25.03.2019 ntity received : 2 L & 250ml ple tested as received pling Date : 23.03.2019	Analysi Tests re Samples TEST R	s Completion Date quired : d by :	: 26.03.2019 : 29.03.2019 As per w.o. Anacon Representa	tive
Quar Samp	ntity received : 2 L & 250ml	Analysi Tests re Samples TEST R	s Completion Date quired : d by :	: 29.03.2019 As per w.o. Anacon Representa	
Quar Samp Samp	ntity received : 2 L & 250ml ple tested as received pling Date : 23.03.2019	Analysi Tests re Samples TEST R	s Completion Date quired : d by : ESULTS Test Method	: 29.03.2019 As per w.o. Anacon Representa Specification as per IS:2490-1982	Test Result
Quar Samp Samp Samp	ntity received : 2 L & 250ml ole tested as received oling Date : 23.03.2019 Test Parameter	Analysi Tests re Samples TEST R Measurement Unit	s Completion Date quired : d by : ESULTS Test Method IS 3025 (Part 11)	: 29.03.2019 As per w.o. Anacon Representa	Test Result 6.76 at 25°C
Quar Samı Samı Sar. No. 1. 2.	ntity received : 2 L & 250ml ole tested as received oling Date : 23.03.2019 Test Parameter pH	Analysi Tests re Samples TEST R	s Completion Date quired : d by : ESULTS Test Method	: 29.03.2019 As per w.o. Anacon Representa Specification as per IS:2490-1982	Test Result
Quar Samp Samp Sr. No. 1.	htity received : 2 L & 250ml ole tested as received oling Date : 23.03.2019 Test Parameter pH Chemical oxygen demand (COD) Biochemical oxygen demand	Analysi Tests re Sampled TEST RI Measurement Unit - mg / 1	ESULTS Test Method IS 3025 (Part 11) IS 3025 (Part 44)	: 29.03.2019 As per w.o. Anacon Represents Specification as per IS:2490-1982 5.5-9.0 -	Test Result 6.76 at 25°C 24.9 8.27
Quar Samp Samp Samp Samp Samp Samp Samp Samp	titity received : 2 L & 250ml ole tested as received oling Date : 23.03.2019 Test Parameter pH Chemical oxygen demand (COD) Biochemical oxygen demand (BOD at 27°C for 3 days)	Analysi Tests re Samples TEST RI Measurement Unit - mg / 1 mg / 1	s Completion Date quired : d by : ESULTS Test Method IS 3025 (Part 11) IS 3025 (Part 58)	: 29.03.2019 As per w.o. Anacon Represents Specification as per IS:2490-1982 5.5-9.0 -	Test Result 6.76 at 25°C 24.9 8.27 18
Quar Samp Samp Samp Samp Sr. No. 1 2, 3, 4, 5, 6,	htity received : 2 L & 250ml ole tested as received oling Date : 23.03.2019 Test Parameter pH Chemical oxygen demand (COD) Biochemical oxygen demand (BOD at 27°C for 3 days) Total suspended solids (TSS)	Analysi Tests re Samples TEST RI Measurement Unit - mg / 1 mg / 1 mg / 1	s Completion Date         quired       :         d by       :         ESULTS         Test Method         IS       3025 (Part 11)         IS       3025 (Part 44)         IS       3025 (Part 17)	: 29.03.2019 As per w.o. Anacon Represents Specification as per IS:2490-1982 5.5-9.0  100 	Test Result 6.76 at 25°C 24.9 8.27 18 392
Quar Samp Samp Samp Sr. No. 1 2. 3. 4. 5. 6. 7.	htity received : 2 L & 250ml ble tested as received bling Date : 23.03.2019 Test Parameter pH Chemical oxygen demand (COD) Biochemical oxygen demand (BOD at 27°C for 3 days) Total suspended solids (TSS) Total dissolved solids (TDS) Chlorides (as C1) Sulphate (as SO4)	Analysi Tests re Sampled TEST RI Measurement Unit 	s Completion Date         quired       :         quired       :         d by       :         ESULTS         Test Method         IS       3025 (Part 11)         IS       3025 (Part 58)         IS       3025 (Part 44)         IS       3025 (Part 17)         IS       3025 (Part 16)	: 29.03.2019 As per w.o. Anacon Represents Specification as per IS:2490-1982 5.5-9.0 - 100 - 2100	Test Result 6.76 at 25°C 24.9 8.27 18 392 27.46
Quar Samp Samp Samp Sr. No. 1. 2. 3.	htity received : 2 L & 250ml ble tested as received bling Date : 23.03.2019 Test Parameter pH Chemical oxygen demand (COD) Biochemical oxygen demand (BOD at 27°C for 3 days) Total suspended solids (TSS) Total dissolved solids (TDS) Chlorides (as Cl)	Analysi Tests re Sampled TEST RI Measurement Unit - mg / 1 mg / 1 mg / 1 mg / 1 mg / 1 mg / 1	s Completion Date         quired       :         quired       :         d by       :         ESULTS         Test Method         IS       3025 (Part 11)         IS       3025 (Part 58)         IS       3025 (Part 44)         IS       3025 (Part 17)         IS       3025 (Part 16)         IS       3025 (Part 12)	: 29.03.2019 As per w.o. Anacon Represents Specification as per IS:2490-1982 5.5-9.0  100  2100 600	Test Result 6.76 at 25°C 24.9 8.27 18 392

REMARKS: Above waste water is recycled 100% and zero discharge in maintain. Sample complies with IS: 2490-1982 effluent on land for Irrigation purpose for the tests conducted.

For ANACON LABORATORIES PVT. LTD.,

Verified by Phakus

Roshani Thakur (Chemist)

Authorized Signatory Stamp Dr. (Mrs.) S.D. Garway (Director-Labs)

- CANAC ANLARS

Head Office : 50, Bajiprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122. Mob. No. 9373287475, Email : labngp@anacon.in Support Helplines : Technical (9373287475), Accounts Division (9326960081, 9372960079), Administration (9372960078) Email : support@anacon.in. You may also visit us at www.anaconlaboratories.com







**TEST REPORT** 

ANACON LABORATORIES PVT. LTD. ISO 9001:2015, ISO 14001:2015, OHSAS 18001 Certified Organization, Recognized By Ministry of Environment & Forests (MOEF), New Delhi Accredited By Quality Council of India by NABET - Environment Impact Assessment Studies Authorised by Food Safety & Standards Authority of India Under FSS Act Approved by Bureau of Indian Standards (BIS)

ISSUED TO: H'ND ENERGY AND COAL Village:- Hindadih Seepat , Bilaspur (C.G.)-495		Sample Inward No. Report Issue Date Your Reference Reference Date	: 30 : H	Report NoALPL/30032019/8 519/Mon-771-W2 0.03.2019 ECBIL/HINDADIH/BSP/2019-20/06 0.04.2019
	fluent Water ttling Tank-2			
Sample Registration Date	: 25.03.2019	Analysis Starting Date	:	26.03.2019
Quantity received	: 2 L & 250ml	Analysis Completion Date	:	29.03.2019
		Tests required	:	As per w.o.
Sample tested as received Sampling Date	: 23.03.2019	Sampled by	:	Anacon Representative

#### TEST RESULTS

Sr. No.	Test Parameter	Measurement Unit	Test Method	Specification as per IS:2490-1982	Test Result
1.	pH		IS 3025 (Part 11)	5.5-9.0	7.17 at 25°C
2,	Chemical oxygen demand (COD)	mg / 1	IS 3025 (Part 58)	-	16.28
3.	Biochemical oxygen demand (BOD at 27°C for 3 days)	mg / 1	IS 3025 (Part 44)	100	4.59
4.	'Total suspended solids (TSS)	mg/l	IS 3025 (Part 17)	-	11
5.	Total dissolved solids (TDS)	mg / 1	IS 3025 (Part 16)	2100	243
6	Chlorides (as Cl)	mg/l	IS 3025 (Part 32)	600	
7.	Sulphate (as SO4)	mg/l	IS 3025 (Part 24)		16.59
8,	Oil & Grease	mg/l	15 3025 (Part 24)	1000	21.76

NOTES : 
Please see watermark "Original Test Report" in blue color to confirm the authenticity of this report.
Results shall be referred to tested sample(s) and applicable to tested parameters only.
Test report shall not be reproduced except in full without prior written approval of Anacon Labs.
Liability of Anacon Labs is limited to involced amount only.
Note: Non-perishable and perishable sample(s) shall be disposed off after 90 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise.
"mg/l" is equivalent to "ppb".
"'up/l" is equivalent to "pub."

REMARKS: Above waste water is recycled 100% and zero discharge in maintain. Sample complies with IS: 2490-1982 effluent on land for Irrigation purpose for the tests conducted.

Verified by

For ANACON LABORATORIES PVT. LTD.,

aku

Roshani Thakur (Chemist)

Authorized Signatory

ANAC HHLABS

Dr. (Mrs.) S.D. Garway (Director-Labs)

Head Office : 60, Bajiprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122. Mob. No. 9373287475, Email : labngp@anacon.in Support Helplines : Technical (9373287475), Accounts Division (9328960081, 9372960079). Administration (9372960078) Email : bupport@anacon.in. You may also visit us at www.anacontaboratories.com





Page 38

# **Test Report**

# Apr-May-June 2019

Anacon Laboratories Private Limited, Nagpur



Page 39



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				ANAC	INC	R	RS			
				NACON LABORA		-				
		Accredited	ISO 9001:201 Recognized B I By Quality Co Authorised by F	5, ISO 14001:2015, C by Ministry of Environm funcil of India by NABI food Safety & Standar pproved by Bureau of	HSAS 1 nent & Fo ET - Envi	8001 prest ronn	I Certified O ts (MoEF), N nent Impact of India Und	lew Delhi Assessmen		
		[Re	port For T	he Month of Ap	nril-M	au.	-Iune_20	10 /0+-1		
								and the second	21	
			AIRM	IONITORING	ANAL	YSI	IS REPO	RT		
ReI ort	No.	÷	AN/AA/	HECBIL/2019-20/	172-1	Re	Report Date:-		05/	07/2019
Tonnad			M/s	HIND ENERGY	AND	CC	DAL BEN	IFICAT	ION (I)	ITD
Issued	to			Village:- Hinda	dih, Si	ipat	, Bilaspu	ur (C.G.)-	495 001	LID,
Type of	Wo	rk :-	Ambi	ient Air Monitoring					1	
		awn By :		(June-2019)		Sa	mple Ref.N	No. :-	1920/1	Mon-127-1
			Anac	on Representative		Sa	mple Recei	ived Date	29.0	06.2019
Date of	Ana	alysis :-	1.1.1.1.1.1.1	01.07.2019		Te	Testing Period		01 Day	
				Assisted and			Q.			
CT N		<b>C U</b>			Dad	Sil.			s Sampli	ng)
SL. N	0.	Sampling		Sampling Date	PM µg/		PM2 µg/r		5O2	NOx
1,		Near Steel		22.06.2019	56.1	_	24.9		g/m <sup>3</sup> 2.8	μg/m <sup>3</sup> 26.3
2.	-	Near Rotar	the second se	22.06.2019	61.3	7	28.1		3.2	17.1
3.	-	Near Dispa	the second s	22.06.2019	52.9		16.8		7.3	16.4
4.		Near Barra	ck	22.06.2019	56.3		21.9		3.7	22.6
CPC <sub>b</sub> S	tan	dards		1000 Mar 100	100	)	60		80	80
	-			(O)	100					00
SL No.	Sa	mpling Loca	ation	Sampling Date	Pb µg/n		As ng/m <sup>3</sup>	Ni	Cd	Cr
1.	N	ear Steel Ya	ard	22.06.2019	0.024		ND	ng/m <sup>3</sup> 0.031	µg/m <sup>3</sup>	µg/m <sup>3</sup>
2.	N	ear Rotary I	Breaker	22.06.2019	0.017	-	ND	0.031	ND	ND
3.	Ne	ear Dispate	h	22.06.2019	0.014		ND	0.025	ND	ND
4.	Ne	ear Barrack		22.06.2019	0.016	-	ND	0.028	ND	ND ND
CPCB S	tand	dards			1.0	2	6.0	20.0		
anks fo	r ut	ilizing our s	services.	7	(24 h)	rs)	(annual)	(annual)		
								17	100	
C	hem	uist:-S Mu	0					2 ya	mf	
		3010	4.				A	uthorized	Signator	y MIADS
		120000000000000000000000000000000000000	Stand and the standard	India. Ph. No. (0712) 22420		a a mark	Emple Anna Ma	inness lo		





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	ANAC		
Accredited	ANACON LABORATO SO 9001:2015, ISO 14001:2015, OHSA Recognized By Ministry of Environment By Quality Council of India by NABET - uthorised by Food Safety & Standards A Approved by Bureau of India	AS 18001 Certified Organizati & Forests (MoEF), New Delhi Environment Impact Assessm Authority of India Under FSS A	ent Studies
	gitive Dust Monitorii		ort
Eu Report No.:-	gitive Dust Monitoria AN/FE/HECBIL/2019-20/172		05/07/2019
	AN/FE/HECBIL/2019-20/172 M/s HIND ENERGY AN	2-2 Report Date:-	05/07/2019
Report No.:- Name of Client & Address:- Type of Work :-	AN/FE/HECBIL/2019-20/172 M/s HIND ENERGY AN	2-2 Report Date:- ND COAL BENIFICA	05/07/2019
Report No.:- Name of Client &	AN/FE/HECBIL/2019-20/172 M/s HIND ENERGY AI Village:- Hindadih, Fugitive Dust Monitoring	2-2 Report Date:- ND COAL BENIFICA , Seepat , Bilaspur (C.C	05/07/2019 TION ( I ) LTD. 5.)-495 001.

SL. NO.	Sampling Location	Sampling Date	SPM µg /m³	SO2 µg /m <sup>3</sup>	NOx μg/m <sup>3</sup>
1	Near Weight Bridge	22.06.2019	282	12.7	32.6
2	Near Environment Lab	22.06.2019	216	7.9	14.8
	CPCB Standards		2000		

Thanks for utilizing our services

Chemist:-Snu

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Head Office : 60, Baijprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122. Mob. No. 9373267475, Email : labngp@anaco Support Helplines : Technical (9373267475), Accounts Division (9326960081, 9372960079), Administration (9372960078) Email : support@anacon.in. You may also visit us at www.anaconlaboratories.com in in







# [Report For The Month of April-May-June-2019 (Qtrly)]

# Fugitive Dust Monitoring Analysis Report

Report No .:-	AN/FE/HECBIL/2019-20/172	05/07/2019	
Issued to	M/s HIND ENERGY Al Village:- Hindadih,	ND COAL BENIFICAT Seepat , Bilaspur (C.G.	TION (I) LTD. )-495 001.
Type of Work :-	Fugitive Dust Monitoring (June-2019)	Sample Ref.No. :-	1920/Mon-127-3
			**********************
Sample Drawn By :	Anacon Representative	Sample Received Date	29.06.2019

SL. NO.	Sampling Location	Sampling Date	SPM µg /m³	SO2 µg/m <sup>3</sup>	NOx µg/m <sup>3</sup>
1	Near Vehicles Parking Area	22.06.2019	273	12.8	26.9
	CPCB Standards	a separate se	2000		

Thanks for utilizing our services

Chemist:- S

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Head Office : 60, Bajiprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122, Mob. No. 9373267475, Email : labngp@anacon.in Support Helplines : Technical (9373267475), Accounts Division (9326960081, 9372960079), Administration (9372960078) Email : support@anacon.in. You may also visit us at www.anaconlaboratories.com





:**	TEST REPORT
ANACANIADE	
ANACONLABS	
ANACON LABORATORIES PVT. LTD.	
ISO 9001:2015, ISO 14001:2015, OHSAS 18001 Certified Organ Recognized By Ministry of Environment & Forests (MoEF), New	Delbi
Accredited By Quality Council of India by NABET - Environment Impact Ass Authorised by Food Safety & Standards Authority of India Under F Approved by Bureau of Indian Standards (BIS)	essment Studies

# [Report For The Month of April-May-June-2019 (Qtrly)]

#### NOISE MONITORING REPORT

Report No.:-	AN/NE/HECBIL/2019-20/172	05/07/2019				
Name of Client & Address:-	M/s HIND ENERGY AND COAL BENIFICATION (1) LTD. Village:- Hindadih, Sipat, Bilaspur (C.G.)-495 001.					
Type of Work :-	Noise Monitoring (June-2019)	Sample Ref.No. :-	1920/Mon-127-N			

#### Date of Sampling: 22nd June-2019.

SL. NO.	LOCATION	RESULT dB(A)			
	Location	Day Time	Night Time		
Core Lon	e	.9	0		
1.	Near Steel Yard	58.1	43.6		
2.	Near Rotary Breaker	46.9	37.2		
3.	Near Dispatch	54.2	. 46.3		
4. Near Barrack		59.7	51.8		
CPCB St	andards	and the second second second	0.10		
Residenti	al Area	55	45		
Industrial Area		75	70		
Commercial Area		65	55		

Thank <sup>+</sup> for utilizing our services.

Chemist:-SNY

Damp

ANAC INLA

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Head Office : 50, Bajiprabhu Nagar, Nagpur - 440033 India. Ph. No. (0712) 2242077, 9372404924, Email : ngp@anacon.in Lab : FP 34-35, Food Park, Five Star Estate, MIDC Butibori, Nagpur - 441122, Mob, No. 9373287475, Email : labngp@anacon.in Support HelpInes : Technical (9373287475), Accounts Division (9326960081, 9372960079), Administration (9372960078) Email : support@anacon.in. You may also visit us at www.anaconlaboratories.com





Village:- Hin Seepat, Bilas ample Categ ample Code ample Locat Sample Regis Quantity reco	Recognize Accredited By Quality Authorised b SY AND COAL BENIFICATION dadih pur (C.G.)-495 001. gory : Ground Water	015, ISO 1400 d By Ministry of Council of India y Food Safety Approved by E	ABORATORIES 1:2015, OHSAS 18 f Environment & Fo a by NABET - Envir & Standards Autho sureau of Indian Str Sample Inward No Report Issue Date Your Reference	001 Certified C rests (MoEF), onment Impac rity of India Un andards (BIS)	New Delhi Assessment St der FSS Act	udies PL/05072019/173-1
HIND ENERC /illage:- Hin Seepat , Bilas ample Categ ample Code ample Locat Sample Regis Quantity reco	Y AND COAL BENIFICATION dadih pur (C.G.)-495 001. gory : Ground Water : GW-1 ion : Near Main Gate	((1) LTD.	Report Issue Date		the second s	PL/05072019/173-1
HIND ENERC /illage:- Hin Seepat , Bilas ample Categ ample Code ample Locat Sample Regis Quantity reco	Y AND COAL BENIFICATION dadih pur (C.G.)-495 001. gory : Ground Water : GW-1 ion : Near Main Gate	((I) LTD,	Report Issue Date		100-127.CW1	
ample Categ ample Code ample L scat Sample Regi Quantity rec	ory : Ground Water : GW-1 ion : Near Main Gate			: 05.07.2 : HECB		SP/2019-20/06
ample Code ample Locat Sample Regi Quantity reco	: GW-1 ion : Near Main Gate		Reference Date	: 30.04.2	019	
Quantity rec	stration Date : 29.06.					(Page 1 of 2)
	1.C. boxia		Analysis Starting Da		1.07.2019	
ample teste	eived : 2 L		Analysis Completion Tests required		4.07.2019 As per w.o.	
ampling Da	d as received	:	Sampled by		as per w.o. Anacon Represent	ative
sampung Da	te : 23.06.20	AND IN COLUMN				
	[Report ]		EST RESULTS th of April-May-	June-2019 (O	(ula)	
				and the second second second	nent as per	
Sr. No Te	st Parameter	Measurement Unit	Test Method	(Drinking Wate Including Am	00 : 2012 rr Specifications) endment No. 2	Test Results
				Acceptable Limit	Permissible Limit #	
	f value ectrical Conductivity at 25%	+	15 3025 (Part 11)	6.5 to 8.5	No relaxation	6.73 at 25°C
	rbidity	µs/cm NTU	15 3025 (Part 14) 15 3025 (Part 10)			358
	parent colour	Hazen units	IS 3025 (Part 10)	1 5	5	0.8
5. Od	lour		IS 3025 (Part 5)	Agreeable	Agreeable	1 Agreeable
6. Ta	Chryster Contract of Contract		IS 3025 (Part 8)	Agreeable	Agreeable	Agreeable
	n (as Fe)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.32
	tal dissolved solids (TDS) oride (as F)	mg/1	IS 3025 (Part 16)	500	2000	200
	anide (as CN)	mg/1 mg/1	IS 3025 (Part 60)	1.0	1.5	0.53
the second second	lorides (as Cl)	mg/1	IS 3025 (Part 27) IS 3025 (Part 32)	0.05	No relaxation	< 0.005
and the second s	e residual chlorine	mg/l	15 3025 (Part 26)	Min. 0.2	1000	32.48
	al alkalinity (as CaCO3)	mg/1	15 3025 (Part 23)	200	600	131.69
	al hardness (as CaCO <sub>3</sub> )	mg/1	15 3025 (Part 21)	200	600	186.14
	cium (as Ca) gnesium (as Mg)	mg/1	15 3025 (Part 40)	75	200	53.79
	phate (as SO4)	mg/l	15 3025 (Part 46)	30	100	12.58
	rates (as NOi)	mg/1 mg/1	IS 3025 (Part 24) APHA Method	200	400	27.43
19. Co	pper (as Cu)	mg/1	15 3025 (Part 2)	45	No relaxation 1.5	13.68
A REAL PROPERTY AND INCOME.	nganese (as Mn)	mg/l	15 3025 (Part 2)	0.1	0.3	< 0.03
perishable an absence of an of instrumen √erifi	Please see watermark "Original Test Repore report shall not be reproduced except in fi d perishable sample(s) shall be disposed off alternate source for drinking water. I withy alternate source for disking water. I with alternate for AN ed by alternate source for disking water. I with alternate water alternate source for disking water. I with alternate water alternate source for disking water. I water is alternate source for disking water. I with alternate for AN ed by alternate source for disking water. I water alternate water alternate source for disking water. I water alternate water alternate source for disking water. I water alternate water alternate source for disking water. I water alternate for AN ed by alternate source for disking water alternate for AN ed by alternate source alternate for AN ed by alt	after 30 days and 15 day i indicates most probabi it".	ys respectively from the date of	Liability of Anacon La liasue of Test Report, un it to "ppen". • 'µg/I' is eq	bs is limited to involced	amount only,   Not-  Permissible limit in  dicates detection limit





	AN ISO 9001:2015, Recognized By Accredited By Quality Cour	ACON LABO ISO 14001:201 Ministry of Envi cil of India by N	S, OHSAS 18001 C ronment & Forests JABET - Environment	<b>F. LTD.</b> Certified Orga (MoEF), New nt Impact As:	inization, Delhi sessment Studies	REPORT
	Authorised by Foo Appr	oved by Bureau	ndards Authority of J of Indian Standard	is (BIS)		
HIND I Village Seepat	ED TO: ENERGY AND COAL BENIFICATION (1) L 2:- Hindadih , Bilaspur (C.G.)-495 001.	TD. Repo Your	ple Inward No. ort Issue Date Reference rence Date	: 1920/Mon- : 05.07.2019	Dort NoALPL/0 127-GW1 INDADIH/BSP/20	
ample	Category : Ground Water Code : GW-1 Location : Near Main Gate					(Page 2 of 2)
Quanti Sample	e Registration Date : 29,06.2019 ty received : 2 L e tested as received ng Date : 23,06.2019	Analys	sis Starting Date sis Completion Date equired ed by			(1 4 6 2 01 2)
Sr. No	Test Parameter	Measurement Unit	Test Method	IS (Drinking V	irement as per 10500 : 2012 Vater Specifications) Amendment No. 2 Permissible	Test Result
21.	Mercury (as Hg)	mall	IC . 2025 (D	Limit	Limit #	
22.	Cadmium (as Cd)	mg/l mg/l	15:3025 (Part 48) 15:3025 (Part 41)	0.001	No relaxation	< 0.0005
23,	Selenium (as 5e)	mg/l	15:3025 (Part 41) 15:3025 (Part 56)	0.003	No relaxation No relaxation	< 0.001
24.	Arsenic (as As)	mg/l	1S 3025 (Part 37)	0.01	No relaxation	< 0.001
25.	Aluminium (as Al)	mg/l	IS 15302	0.03	0.2	< 0.01
20.	Lead (as Pb) Zinc (as Zn)	mg/l	IS 3025 (Part 47)	0.01	No relaxation	< 0.001
28.	Total Chromium (as Cr)	mg/1	IS 3025 (Part 2)	5	15	< 0.1
29.	Soron (as B)	mg/l	IS 3025 (Part 2) IS 3025 (Part 2)	0.05	No relaxation	< 0.03
30.	Mineral Oil	mg/l	IS 3025 (Part 2)	0.5	2.4 No relaxation	< 0.1
31.	Phenolic compounds	mg/1	and the second second second			< 0.001
32.	(as C4H5OH) Anionic detergents		15 3025 (Part 43)	0.001	0.002	< 0.001
33.		mg/I	IS 13428 (Annex K)	0.2	1.0	< 0.01
34.	Polynuclear aromatic hydrocarbons	µg/l	USEPA 550	0.1	No relaxation	< 0.03
-	Total coliform  Please see watermark "Original Test Report" to confirm th set be reproduced except in full without price written approx	Per 100 ml	IS 15185	Absent	Absent	Absent
N indicat test no. 12 REM tc:	one of a thre 30 days and 15 days respectively from the date, we must probabilit number. • 'mg/l' is equivalent to 'ppm'. • 'j li not relevant. I is not relevant. IARKS: Based upon request of the party, samp et conducted, indicating that it is fit for drinkin t.	of issue of Test Report, u ag/T is equivalent to 'ppt	ntess specified otherwise. • rPe × • * dindicates detection limit bove mentioned parameter pect to tested parameter	eters only, sam rs. Autho Dr. (M	sence of an alternate source hod and shall be considere	d perishable sample(s) e for drinking water. • rd as "absent". • Result
(						





					TE	ST REPORT
		AN/	<b>IC</b> NI	ABS		
	Accredited By Quality	ANACON 2015, ISO 140 ad By Ministry Council of Ind by Food Safety	LABORATORIE 01:2015, OHSAS 1 of Environment & F	S PVT. LTD. 8001 Certified orests (MoEF), ironment Impac	Organization, New Delhi of Assessment Si	tudies
					Report NoAL	PL/05072019/173-2
'illage:- eepat ,	NERGY AND COAL BENIFICATION Hindadih Bilaspur (C.G.)-495 001.	N (1) LTD.	Sample Inward N Report Issue Date Your Reference Reference Date	: 05.07.	Mon-127-GW2 2019 IIL/HINDADIH/B	
mple (			1			(Page 1 of 2)
ample : uantity	cocation       : Near Security Quar         'egistration Date       : 29.06         received       : 2 L         ested as received       : 23.06.20	.2019 019	Analysis Starting De Analysis Completion Tests required Sampled by	n Date : (	01.07.2019 14.07.2019 As per w.o. Anacon Represent	
	[Report	For The Mon	EST RESULTS th of April-May-	June-2019 (C)	trlv)]	
Sr. No	Test Parameter	Measurement Unit	1	Requirer IS 105 (Drinking Wab Including Am	nent as per 00 : 2012 er Specifications) sendment No. 2	Test Results
1.	pH value		10 0000 00 000	Acceptable Limit	Permissible Limit #	
2.	Electrical Conductivity at 25%	µs/cm	IS 3025 (Part 11) IS 3025 (Part 14)	6.5 to 8.5	No relaxation	7.16 at 25%C
3.	Turbidity Apparent colour	NTU	IS 3025 (Part 10)	1	5	416
5.	Odour	Hazen units	IS 3025 (Part 4) IS 3025 (Part 5)	5	15	1
6.	Taste	+	15 3025 (Part 8)	Agreeable Agreeable	Agreeable Agreeable	Agreeable
7.	Iron (as Fe) Total dissolved solids (TDS)	mg/l	IS 3025 (Part 2)	1.0	No relaxation	0.21
- 9.	Fluoride (as F)	mg/1	IS 3025 (Part 16)	500	2000	233
10,	Cyanide (as CN)	mg/1 mg/1	IS 3025 (Part 60) IS 3025 (Part 27)	1.0	1.5	0.42
11.	Chlorides (as Cl)	mg/l	IS 3025 (Part 32)	0.05	No relaxation 1000	< 0.005
12	Free residual chlorine Total alkalinity (as CaCOs)	mg/l	15 3025 (Part 26)	Min. 0.2	1	37.52
	Total hardness (as CaCO <sub>3</sub> )	mg/1 mg/1	IS 3025 (Part 23)	200	600	131.68
13. 14.	Calcium (as Ca)	mg/1 mg/1	IS 3025 (Part 21) IS 3025 (Part 40)	200 75	600	198.53
13. 14. 15.	Magnesium (as Mg)	mg / 1	IS 3025 (Part 46)	30	200	56.94
13. 14. 15. 16.	Sulphate (as SO4)	mg/1	IS 3025 (Part 24)	200	400	28.43
13. 14. 15. 16. 17.	Nitrates (as NO <sub>2</sub> )	mg/1	APHA Method IS 3025 (Part 2)	45	No relaxation	9.16
13. 14. 15. 16.	Nitrates (as NO <sub>2</sub> ) Copper (as Cu)	me /1		0.05	0.3	< 0.03
13. 14. 15. 16. 17. 18.		mg/1 mg/1			03	< 0.05
13. 14. 15. 16. 17. 18. 19. 20. VOTES:	Copper (as Cu) Manganese (as Mn) Please see watermark "Original Test Re-	mg/1	IS 3025 (Part 2)	0.1 Results shall be re	Name of Street, or other Designation of the Owner, which the Owner, which the Owner, which the Owner, which the	del and another black
13. 14. 15. 16. 17. 18. 19. 20. OTES: o tested p mited to i est Repor ng/l' is ex- or test no.	Copper (as Cu) Manganese (as Mn) Please see watermark "Original Test Rep arameters only. • Test report shall not b nvoiced amount only. • Non-perishable a t, unless specified otherwise. • #Permissi juvalent to 'ppm'. • 'µg/l' is equivalent to 12 is not relevant.	mg / 1 port" to confirm the reproduced except nd perishable sampl ble limit in absence o'ppb'. • '<' indicat	IS 3025 (Part 2) authenticity of this report. in full without prior writ e(s) shall be disposed off a	<ul> <li>Results shall be re- ten approval of Ana ther 30 days and 15 d drinking water.</li> <li>hument/method and s</li> </ul>	ferred to tested sample con Labs. • Liability ays respectively from t	of Anacon Labs is the date of issue of obable number. • 'absent'. • Result





					TEST	REPORT
		ANA		BS		
		ANACON L	ABORATORIES PV1	LTD.		
	Recognize Accredited By Quality	d By Ministry of Council of India by Food Safety	1:2015, OHSAS 18001 C Environment & Forests ( a by NABET - Environment & Standards Authority of Standards Authority of Standards Authority of Standard	(MoEF), New I nt Impact Asse India Under F	Delhi essment Studies	
					ort NoALPL/05	5072019/173-2
ISSUE			Sample Inward No.	: 1920/Mon-1	statement of the local division in the local division of the local	
	ENERGY AND COAL BENIFICATION	(1) LTD.	Report Issue Date	: 05.07.2019		
	, Bilaspur (C.G.)-495 001.		Your Reference Reference Date	: HECBIL/HI : 30.04.2019	NDADIH/BSP/20	19-20/06
Sample	Category : Ground Water			. 00.042019		
Sample Sample	Code : GW-2 Location : Near Security Quart	er			(Page 2	of 2)
	Registration Date : 29.06.		Analysis Starting Date	: 01.07.2	010	1
Quanti	ty received :2 L		Analysis Completion Date	: 01.07.2		
Sample	tested as received	٦	lests required	: As per	w.o.	
	ng Date :23.06.20		iampled by	: Anaco	n Representative	
and the second second		And in case of the owner, where the second se	ST RESULTS		-	
	[Report ]		h of April-May-June-	2019 (01-1-)	1	
	C. C		in or reprin-wray-june-		STREET, STREET	
				IS 10	ement as per 1500 : 2012	
Sr. No	Test Parameter	Measurement	Test Method	(Drinking Wa	ter Specifications)	Test Result
		Unit		Acceptable Permissible		- test nesdit
21.	Mercury (as Hg)	mg/l	IS : 3025 (Part 48)	Limit	Limit #	
22.	Cadmium (as Cd)	mg/l	IS : 3025 (Part 48)	0.001 0.003	No relaxation No relaxation	< 0.0005
23.	Selenium (as Se)	mg/l	IS : 3025 (Part 56)	0.01	No relaxation	< 0.001
24.	Arsenic (as As) Aluminium (as Al)	mg/l	IS: 3025 (Part 37)	0.01	No relaxațion	< 0.01
26.	Lead (as Pb)	mg/l mg/l	IS: 15302 IS: 3025 (Part 47)	0.03	0.2	< 0.01
27.	Zinc (as Zn)	mg/l	IS: 3025 (Part 2)	5	No relaxation 15	< 0.001
28.	Total Chromium (as Cr)	mg/1	IS: 3025 (Part 2)	0.05	No relaxation	< 0.03
29. 30.	Boron (as B) Mineral Oil	mg/l	15: 3025 (Part 2)	0.5	2.4	< 0.1
31.	Phenolic compounds	mg/1	15: 3025 (Part 39)	0.5	No relaxation	< 0.001
32	(as CaHsOH)	mg / 1	IS: 3025 (Part 43)	0.001	0.002	< 0.001
33.	Anionic detergents	mg/l	IS: 13428 (Annex K)	0.2	1.0	< 0.01
34.	Polynuclear aromatic hydrocarbons Total coliform	µg/l	USEPA 550	0.1	No relaxation	< 0.03
The second se		Per 100 ml	IS: 15185	Absent	Absent	Absent
mount on therwise, quivalent EMARK	<ul> <li>Please see watermark "Original Test Report only.</li> <li>Test report shall not be reproduced by.</li> <li>Non-perishable and perishable sampled effermissible limit in absence of an alterna to 'ppb'.</li> <li>'&lt;' indicates detection limit of ins S: Based upon request of the party, sam J, indicating that it is fit for drinking pur For Al</li> </ul>	(c) and the disposed of (is source for drinkin trument/method and inple was tested for rpose with respect	ff after 30 days and 15 days respecting water.  MIPN indicates most play and the considered as "absent".	con Labs. • Liabili tively from the dat robable number. • Result for test no.	ty of Anacon Labs is te of issue of Test Repo 'mg/l' is equivalent b 12 is not relevant.	limited to invoiced art, unless specified o 'ppm'. • 'µg/T' is
1	Verified by	ACON LABORA	TORIES PVT. ETD.	Author	ized Signatory	
P	hars			A	T	1
Ms. R	oshani Thakur			L	Juan	RNACONLARS
(	Chemist)		ALL PRIME STATE	(Dir	s.) S.D. Garway rector-Labs)	
Head O	ffice : 60, Bajiprabhu Nagar, Nagpur - 44 P 34-35, Food Park, Five Star Estate, MID	C Butibori, Nagpur	(0712) 2242077, 9372404924, - 441122, Mob. No. 937328747 26960081, 9372960079), Admin	Email : ngp@anao 5. Email : labngpi	con.in Banacon.in	





	7			TE	ST REPORT
		NAC	NLAB	IS	
			ATORIES PVT.		
	ISO 9001:2015, Recognized By Accredited By Quality Cour Authorised by Fo	ISO 14001:2015 Ministry of Enviro noil of India by NA od Safety & Stand	OHSAS 18001 Ce	rtified Organization, IoEF), New Delhi Impact Assessment Stu dia Under FSS Act	dies
				Report NoALPL/050	72019/174-1
HIN Vill	UED TO: ID ENERGY AND COAL BENIFICATION ( age:- Hindadih pat, Bilaspur (C.G.)-495 001,	) LTD. Repo Your		: 1920/Mon-127-W1 : 05.07.2019 : HECBIL/HINDADIH/B: : 30.04.2019	
	ele Category : Effluent Water			1 30104.2019	
-	ple Particulars : Settling Tank-1	10.10			
	p. Registration Date : 29.06.2019		0	: 01.07.2019	
Quar	ntity received : 2 L & 250ml	Analysi	s Completion Date	: 04.07.2019	a the second second
c		Tests re	quired :	As per w.o.	
	ple tested as received pling Date : 23.06.2019	Sample	d by ;	Anacon Representa	ative
-					
		TEST R	FEITTE		
Sr.		Measurement	LJOLIJ	6 10 1	
No.	Test Parameter	Unit	Test Method	Specification as per	Test Result
1.	рН		IS 3025 (Part 11)	IS:2490-1982 5.5-9.0	6.63 at 25°C
2.	Chemical oxygen demand (COD)	mg/l	IS 3025 (Part 58)		32.8
3.	Biochemical oxygen demand (BOD at 27°C for 3 days)	mg/1	IS 3025 (Part 44)	100	9.3
4	Total suspended solids (TSS)	mg/l	IS 3025 (Part 17)		
5,	Total dissolved solids (TDS)	mg/l	IS 3025 (Part 17)	- 2100	21
6,	Chlorides (as Cl)	mg/l	IS 3025 (Part 32)	600	516 32.46
7.	Sulphate (as SO4)	mg/l	IS 3025 (Part 24)	1000	28.43
8.	Oil & Grease	mg/l	IS 3025 (Part 39)	10	<4
	Please see watermark "Original Test Repois sample(s) and applicable to tested paramete Anacon Labs. I Liability of Anacon Labs is I off after 90 days and 15 days respectively fro "µg/l' is equivalent to 'ppb'. I'< indicates ARKS: Above waste water is recycled 10 r Irrigation purpose for the tests conduct	mited to invoiced an m the date of issue o detection limit of ins	shall not be reproduced nount only.  Non-peris f Test Report, unless spe trument/method and sha	d except in full without prior shable and perishable sample ecified otherwise. • 'mg/l' is e all be considered as 'absent'.	written approval of (s) shall be disposed equivalent to 'ppm'.
nd fo			FORIES PVT. LTD.,	Authorized S	ignatory
nd fo	pharm			05	
nd fo	A THE A				uni
1	ishani Thakur			Dr. (Mrs.) S.E (Directo	
1	oshani Thakur (Chemist)			(1)trecto	(~1.3bs)





			•	TES	T REPORT
		NAC	NLABS		
	ANA ISO 9001:2015, IS Recognized By Mi Accredited By Quality Counci Authorised by Food	CON LABORA O 14001:2015, O inistry of Environm I of India by NABE Safety & Standar	TORIES PVT. LTI HSAS 18001 Certified tent & Forests (MoEF	D. d Organization, ), New Delhi act Assessment Stud Jnder FSS Act	dies
			Rei	port NoALPL/0507	72019/174-2
HIN Villa	JED TO: D ENERGY AND COAL BENIFICATION (1) Ce:- Hindadih at , Bilaspur (C.G.)-495 001.	a manufacture of the second	Inward No. : 192 ssue Date : 05. ference : HE	20/Mon-127-W2 07.2019 SCBIL/HINDADIH/BS 04.2019	
	le Category : Effluent Water le Particulars : Settling Tank-2				
Samp Quan Samp	ele Registration Date : 29.06.2019 atity received : 2 L & 250ml ele tested as received bling Date : 23.06.2019	and the second		01.07.2019 04.07.2019 As per w.o. Anacon Representa	ntive
-	-	TEST RES	ULTS	Saad Gastles as	
Sr. No.	Test Parameter	Measurement Unit	Test Method	Specification as per IS:2490-1982	Test Result
1.	pH		IS 3025 (Part 11)	5.5-9.0	7.08 at 25°C
2.	Chemical oxygen demand (COD)	mg / 1	IS 3025 (Part 58)	-	16.52
3.	Biochemical oxygen demand (BOD at 27°C for 3 days)	mg / 1	IS 3025 (Part 44)	100	5.16
4.	Total suspended solids (TSS)	mg/1	IS 3025 (Part 17)	-	13
5.	Total dissolved solids (TDS)	mg/1	IS 3025 (Part 16)	2100	259
6. 7.	Chlorides (as Cl)	mg/l	IS 3025 (Part 32)	600	21.46
8.	Sulphate (as SO4) Oil & Grease	mg/l	IS 3025 (Part 24)	1000	16.52
-	Piease see watermark 'Original Test Report'	mg / I	IS 3025 (Part 39)	10	< 4
EMA	Anacon Labs.	the date of issue of 7 lection limit of instrum	inall not be reproduced eye not only. ● Non-perishable rest Report, unless specifi ent/method and shall be or ge in maintain. Sample of	<pre>kcept in full without prior and perishable sample( ed otherwise. ● 'mg/l' is onsidered as 'absent'. complies with IS: 249(</pre>	r written approval of s) shall be disposed equivalent to 'ppm'. D-1982 effluent
1	Ruakus.			Authorized S	Signatory
Ro	oshani Thakur (Chemist)			Dr. (Mrs.) S.	D. Garway
				(Directo	ANAC ONLABS
	ffice : 60, Bajiprabhu Nagar, Nagpur - 440033 Ind			non-Banacon in	

