



JPL/ECC/Phase-I/SHY/2022-2023/May/34

May 27, 2022

To,

The Director,

Ministry of Environment, Forests & Climate Change
3rd Floor, Vayu Block,
Indira Paryavaran Bhawan, Jor Bagh Road,
Aliganj, New Delhi-110003

Sub.: Submission of Six Monthly Compliance Report - 1x600 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.

Ref.: EC Letter No.: J-13012/105/2008-IA-II (T) dated 17th February, 2010 & Corrigendum dated 22nd December, 2010.

Dear Sir,

Please find attached the **Six Monthly Compliance Report (October' 2021 to March' 2022)** in fulfilment of conditions stipulated in the Environment Clearance (letter issued by MoEF, New Delhi and referenced above) for 1x600 MW Coal based Thermal Power Plant at Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.- Seoni, Madhya Pradesh of M/s Jhabua Power Ltd. Soft copy is uploaded on MoEF & CC web site-Parivesh.

Kindly acknowledge.

Regards,

For Jhabua Power Ltd.


22/05/2022

Authorized Signatory

Enc.: Six Monthly Compliance Report (October' 2021 to March' 2022)

Jhabua Power Limited

(CIN : U40105WB1995PLC068616)

Village Barela, PO Attaria, Tehsil Ghansore, District Seoni-480997, Madhya Pradesh, India

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AVANTHA
GROUP COMPANY

M/s JHABUA POWER LTD.

COMPLIANCE REPORT

In respect of

ENVIRONMENTAL CLEARANCE

MoEF letter no. J-13012/105/2008-IA.II (T) dated 17th February, 2010

and

Corrigendum dated 22nd December, 2010 & 25 January 2012

COMPLIANCE PERIOD: OCTOBER 2021 to MARCH 2022

FOR

Jhabua Power Limited

1 x 600 MW THERMAL POWER PLANT

AT

VILLAGE:- BARELA & GORAKHPUR

TEHSIL: - GHANSORE

DISTRICT: - SEONI

MADHYA PRADESH

Compliance to conditions stipulated in Environmental Clearance

(Ref MoEF letter no. J-13012/105/2008-IA.II (T) dated 17th February, 2010 and Corrigendum dated 22nd December, 2010 & 25 January 2012)

<u>SI No.</u>	<u>Conditions</u>	<u>Compliance</u>
i	Environmental clearance is subject to submission from the Competent Authority in the state govt. that the project area does not fall within a notified tribal area.	As per corrigendum issued from MoEF dated 22nd December, 2010 this point has been deleted.
ii	No tribal land shall be acquired for the power plant.	As per corrigendum issued from MoEF dated 22nd December, 2010 this point has also been deleted.
iii	A special scheme (as part of CSR activity) for sustainable livelihood of poor tribal and marginalized population within the study area shall be formulated with inbuilt monitoring mechanism of time bound implementation. The status of implementation shall be submitted to the Regional Office of the Ministry and the Competent Authority in the state govt. half yearly.	For sustainable livelihood of the community especially poor tribal and marginalized population is formulated based on need assessment done. Scheme prepared. Inbuilt monitoring mechanism is prepared and placed. Regular review of CSR activities at field level, beneficiary interaction at management level is done.
iv	Environmental clearance is subject to submission to the Regional Office of the Ministry the details of projected affected families (PAF), land losers (homestead as well as ordinary land losers) and compensation paid /	R & R plan has been submitted. There will be no rehabilitation of any family/person due to proposed project activity.

	proposed per acre and time schedule for implementation of R&R scheme.	
v	Hydro-geological study of the area shall be reviewed annually and results submitted to the Ministry and concerned agency in the State Govt. In case adverse impact on ground water quantity and quality is observed, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken.	Hydro-geological study of the area is being reviewed regularly. Recent hydrogeological report of the area reviewed is enclosed as Annexure -1 . The consistent trend of change in water level from pre monsoon to post monsoon of monitoring wells shows that there is no adverse impact in the ground water table in the project area and adjoining villages because of the project site. Conjunctive use of surface water and sub-surface water is benefiting the area by increase the stream flow duration and ground water level. Quality of ground water is also well within the permissible limits.
vi	A stack of 275 m height shall be provided with continuous online monitoring equipment for SO _x , NO _x and RSPM (PM _{2.5} & PM ₁₀). Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.	275 m stack height has been constructed and continuous online stack monitoring system along with remote calibration system for the monitoring of emission is installed. The exit velocity of flue gas is maintained not less than 22m/sec. Mercury emission is also periodically monitored during the operation of power plant.
vii	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	High Efficiency Electrostatic Precipitators (ESPs) has already been installed and outlet of ESP is integrated with 275 m stack height to restrict the particulate emission below 50 mg/Nm ³ .

viii	Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Effective and adequate dust suppression system like water sprinkling system, Cyclone Separator & Bag Filters have been installed in the dusty areas such as in coal handling and ash handling points, transfer areas. Coal conveyer system is permanently covered to restrict the dust release whereas transportation of fly ash from the AHP to the ash pond is through high concentration slurry disposal system.
ix	Utilization of 100% fly ash generated shall be made from 2 nd year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	<p>Fly ash is being utilized as per notification for fly ash by Ministry of Environment & Forest. The fly ash utilization in the year from April -2021 to March 2022 was 56 %.</p> <p>MoU's for 100% Fly ash utilization by various users like fly ash based bricks & building material manufacturers, Road construction Agencies & Cement Industries have been signed. More such avenues are being constantly explored. Fly ash transportation to cement industries also started through tarpaulin covered railway rake up to approx. 300 Km.</p> <p>Disposal of legacy ash to low lying area after permission from MPPCB has also been started and approx. 3.3 lacs MT legacy ash disposed as per CPCB guideline "March 2019".</p>
x	Fly ash shall be collected in dry form and storage facility (silos) shall be	<ul style="list-style-type: none"> Fly ash is being collected in the silo and then given away to the users.

	<p>provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.</p>	<p>Unutilized fly ash is disposed off through high concentration slurry disposal system.</p> <ul style="list-style-type: none"> Mercury and other heavy metals (As, Hg, Cr, Pb etc.) is being monitored in the bottom ash as well as effluent of ash pond by third party. We have engaged M/s Vardan Enviro Lab, Gurgaon registered with Ministry of Environment & Forest and also accredited in accordance with standard ISO/IEC/17025:2005 by National Accreditation Board for Testing and calibration laboratories. The analysis report of ash pond effluent is enclosed as Annexure -2.
xi	<p>Ash pond shall be lined with HDP/LDP lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.</p>	<p>Ash pond has been lined with 250µm liner to prevent the leachate. Besides, adequate safety measures are being continuously taken to avoid any breach of the dyke. IIT Roorkee examine the Ash Dyke with respect to the structural adequacy, Stability and Risk Assessment to establish that our Ash pond is made in accordance with standard design, sustainable and operating concepts with zero failures, and are suitable & healthy with no possibilities of breach.</p> <p>The Structural Adequacy report of Ash Dyke of Jhabua Power Limited, certified by</p>

		IIT, Roorkee is enclosed as Annexure -3.
xii	Closed cycle cooling system with natural draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms.	We have installed a closed cycle cooling system with Induced Draft Cooling Towers. Permission of installing the IDCT instead of NDCT has been approved by MoEF vide Corrigendum letter dated 17 January 2012.
xiii	COC 5.0 will be adopted.	Continuous optimization of cycle of concentration is carried out and achieved the COC of 5.
xiv	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.	Compliance continuously ensured. Zero Discharge condition is being maintained effectively. Separate storm water system is provided to avoid the mixing with effluent.
xv	A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.	Sewage treatment plant based on Fixed Film Aerobic Treatment System of adequate capacity has been installed for the treatment of raw sewage. Treated sewage water is being used for greenbelt development/plantation. The treated sewage analysis report carried out by MoEF's recognized laboratory is enclosed as Annexure -4.
xvi	Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for	A rain water harvesting & recharging system, designed in consultation with Central Groundwater Authority/ Board.

	<p>finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.</p>	<p>Authentication letter of Central Groundwater Board is already submitted with previous compliance report, is being implemented and followed.</p>
<p>xvii</p>	<p>Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.</p>	<p>A well-qualified Safety management team is in place for the implementation of the safety measures. The details of the safety measures undertaken and implemented is given below;</p> <ul style="list-style-type: none"> ➤ JPL is certified under the ISO 45001:1018 for safety management system. ➤ A safety committee is constituted and safety committee meeting is conducted regularly. ➤ Mock drill is conducted regularly to improve the emergency handling if any. ➤ Fire protection system like fire hydrant is installed in the fire porn area like BTG, T.G., CHP, AHP, BOP & Coal stock yard. Details of fire protection system are given as below; <ul style="list-style-type: none"> • Jockey pump -02 nos. • Electrical operated pump -02 nos. • Diesel operated pump – 01 no. • Electrical booster pump- 01 nos. • Diesel booster pump -01 nos. • Electrical operated foam pouring

		<p>system – 01 no.</p> <ul style="list-style-type: none"> • Diesel operated foam pouring system – 01 no. • Multi fire tender (5000 ltr water + 1000 ltr foam) – 02 nos. • Fire extinguisher – 395 • DV – 89 • Fire hydrant points with fire hose & box - 154 • Manual Call Points. ➤ High Velocity Water Spray system in transformers and Boiler Firing Floor. ➤ Medium Velocity Water Spray system in conveyors galleries, Oil Storage Tanks, FOPH Pump House and cable galleries ➤ Fire extinguishers are installed in the entire plant. ➤ Emergent gas flooding system in control room ➤ Fire protection & detection system in CHP conveyors galleries, cable galleries and control room. ➤ Personnel protective equipment like helmet, safety shoe, safety belt etc. is the part of the measures taken for safety management. <p>Apart from above many other safety measures has been taken as safety management system.</p>
xviii	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall	<ul style="list-style-type: none"> • Storage facilities for LDO has been made in the plant area in consultation

	<p>be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.</p>	<p>with Department of Explosives, Nagpur after getting the NOC for the same. NOC of Department of Explosives, Nagpur is already submitted with previous compliance report.</p> <ul style="list-style-type: none"> Disaster management plan has been prepared and in place to handle the any eventuality in case of an accident taking place due to storage of oil.
xix	<p>Regular monitoring of ground water (especially around ash pond and plant areas) shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.</p>	<p>Half-yearly ground water Quality monitoring in core and buffer zone including around ash pond is being strictly followed for which we have engaged Ministry of Environment & Forest registered laboratory apart from accredited in accordance with standard ISO/IEC/17025:2005 by National Accreditation Board for Testing and calibration laboratories.</p> <p>Six monthly reports are being submitted regularly to regional office of the ministry. Ground water report of core and buffer zone is enclosed as Annexure -5.</p>
xx	<p>Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the</p>	<p>The surface water samples are collected from the river/nalla regularly and records maintained effectively. Analysis report of surface water are enclosed as Annexure-6.</p>

	direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	
xxi	Green Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not less than 2500 per ha with survival rate not less than 70 %.	<p>We are developing greenery in and around the plant and approximately 181082 trees have been planted. Local plant species have been preferred for the plantation having following characteristics</p> <ul style="list-style-type: none"> • Fast growing with thick canopy cover • Adequate height with longer duration of foliage • Perennial and evergreen <p>Details of green belt development and supporting photographs are enclosed as Annexure- 7.</p>
xxii	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	<p>Power plant is commissioned and under commercial operation since 3rd May 2016. Well-equipped Medical center with doctor and paramedical staff is in place to attend the person required First Aid round the clock, whereas urinals & toilets facilities are installed at various location in the plant for sanitation for the drivers and other contract workers.</p> <p>COD letter is enclosed as Annexure -8 and Photographs of medical center & sanitation is enclosed as Annexure -9.</p>
xxiii	Noise levels emanating from turbines	<ul style="list-style-type: none"> • The noise level in the work zone area

	<p>shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.</p>	<p>is maintained below 75 dBA.</p> <ul style="list-style-type: none"> • Acoustic hood has been provided for the turbine. • Earplugs /ear muffs being provided as personal protective equipment to the workers. <p>Noise level monitoring report is enclosed as Annexure 10.</p>
xxiv	<p>Regular monitoring of ground level concentration of SO₂, NO_x, RSPM (PM_{2.5} & PM₁₀) and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.</p>	<ul style="list-style-type: none"> • Regular monitoring of ground level concentration of SO₂, NO_x, RSPM (PM_{2.5} & PM₁₀) and Hg is being carried out in the impact zone and records are being maintained. Ambient Air Quality monitoring report is enclosed as Annexure- 11. • The location of the monitoring stations has been decided in consultation with Regional Office of MPPCB, Jabalpur. Letter of Regional Office of MPPCB, Jabalpur regarding selection of monitoring stations has already been submitted with previous compliance report. • Permanente Online Ambient Air Quality Monitoring Station has been installed and commissioned for the continuous monitoring of PM₁₀, PM_{2.5}, SO_x, NO_x

		<p>& CO along with meteorological study like % Humidity, Rainfall, Wind Velocity, Wind Velocity, Solar Radiation, Atmospheric Pressure, Maximum & Minimum temperature and connectivity is established with MPPCB & CPCB.</p> <ul style="list-style-type: none"> Besides Permanent AAQMS, Mobile Van for monitoring of PM10, PM2.5, SOx, NOx & CO has also been installed & commissioned.
xxv	A good action plan for R&R (if applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months from the date of issue of this letter.	R & R plan has been already submitted.
xxvi	An amount of Rs 12.0 Crores shall be earmarked as one-time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 2.50 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.	Expenditure details under CSR is enclosed Annexure -12.
xxvii	As part of CSR programme the company shall conduct need based assessment for the nearby villages to	1. Based on need assessment identified verticals for working on agro based livelihood including improved and

	<p>study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self-employment and jobs.</p>	<p>sustainable agricultural practices for higher yield and income generation.</p> <ol style="list-style-type: none"> 2. The capacity building of the community is done from time to time. Demonstration plots of improved seed varieties, cultivation methods, tools and equipment on farmer's field is regular feature of the CSR activities. 3. Vegetable cultivation is becoming important income generation activity among the community due to its short gestation time. Input for same is also provided to the farmers 4. A part from above activities breed improvement in cattle through Artificial Insemination (AI) is done for enhancing milk yields and strengthening dairy development activities. Till March 2022 calves of improved breed borned is 1198. 103(78 Cow & 25 Buffalo) such progenies are in lactation. 5. Under the income generation programme 84 fruit bearing orchards are developed on farmers land, additionally training and required input for the growth and development of the orchard is also provided to the farmers. Continuous and regular monitoring of orchards along with training of farmers is also done. 6. Vocational training provided to the
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		<p>youth of adjoining villages, a special batch of (batch of youth from land seller families) 37 students were trained from Govt. ITI. Successfully passed out students are absorbed in the company.</p> <p>55 Self Help groups of women are formed for nearby villages promoting savings and carry out income generation activities. For said purpose regular trainings and exposure visit are carried out. The members are trained for commercial stitching and doing successful activity. They are getting order of for preparation of readymade garments suppliers. Apart from this vegetable selling, general store, grocery shop, tent house business, goat rearing, Bricks making etc. are done by group members.</p>
xxviii	<p>Provision shall be made for the housing of construction labor 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.</p>	<p>All necessary facility for workers is provided.</p> <p>After completion of the project activities and start of O&M phase, part of the temporary structure are being used for O&M personnel and remaining has been removed.</p>
xxix	<p>The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the</p>	<p>Not relevant now.</p> <p>However, for records, we had published in three newspapers (Hindustan Times, Dainik Bhaskar & Nai Duniya on 28.02.2010).</p>

	<p>date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.</p>	
xxx	<p>A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.</p>	<p>Not relevant now.</p> <p>However, for records, copy of the clearance letter had been sent to Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO. Regarding this details have been submitted with half yearly compliance report, June 2011.</p>
xxxii	<p>A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.</p>	<p>A separate Environment Management Cell is in place headed by DGM. Environment.</p> <p>Details of Environment Management cell including personnel involved, their designation, qualification and hierarchy is enclosed as Annexure -13.</p>
xxxiii	<p>The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It</p>	<p>Status of compliance of the stipulated EC conditions, including results of monitored data is hosted on company web site.</p> <p>The criteria pollutant levels namely; RSPM,</p>

	<p>shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO₂, NO_x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>SO₂, NO_x (ambient levels as well as stack emissions) is displayed at the plant operation gate.</p>
xxxiii	<p>The project proponent shall also 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 by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.</p>	<p>We are regularly submitting the six monthly compliance reports on the status of compliance of the stipulated EC conditions including results of monitored data to the respective Regional Office of MOEF, Bhopal, the respective Zonal Office of CPCB and the SPCB. The receipts of last compliance report submission is enclosed as Annexure-14.</p>
xxxiv	<p>The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail</p>	<p>The environment Statement report for the year 2020 - 2021 was submitted to Madhya Pradesh State Pollution Control Board before 30th September 2021. Submission receipt is enclosed as Annexure -15.</p>

xxxv	<p>The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.</p>	<p>We are regularly submitting the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board.</p>
xxxvi	<p>Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants</p>	<p>We comply and agreed to the same.</p>

	levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.	
xxxvii	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	We comply and agreed to the same. The item-wise expenditure break-up from April 2021 to March 2022 is enclosed as Annexure -16.
xxxviii	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	No Longer relevant. However, the same has been complied with.
xxxix	Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.	We ensure full cooperation to the Scientists / Officers from the Ministry / Regional Office of the Ministry / CPCB/ SPCB who would be monitoring the compliance of environmental status.

4	The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.	Agreed for the same.
5	The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.	Power plant is commissioned and operational.
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.	Agreed.
7	In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.	Agreed.
8	The above stipulations would be enforced among others under the Water (Prevention and Control of	Noted & same shall be complied with.

	<p>Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.</p>	
9	<p>Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.</p>	<p>Agreed.</p>



Annexure -1

Hydrogeological Study Report

HYDROGEOLOGICAL REPORT

SUBMITTED TO

M/S JHABUA POWER PLANT LTD.

*Situated at Barela-Gorakhpur, Tehsil-Ghansore Seoni, Madhya
Pradesh*



SUBMITTED BY

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	Hydrogeological Report
	<i>M/s Jhabua Power Ltd.</i>
	<i>(Village Barela-Gorakhpur, Tehsil- Ghansore, Dist-Seoni, Madhya Pradesh)</i>

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	Hydrogeological Report
	<i>M/s Jhabua Power Ltd.</i>
	<i>(Village Barela-Gorakhpur, Tehsil- Ghansore, Dist-Seoni, Madhya Pradesh)</i>

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CHAPTER -1

Brief about the proposed project giving location details, coordinates, google/ toposheet maps, etc. demarcating the project area.

1.1 BRIEF INTRODUCTION ABOUT COMPANY

M/s Jhabua Power Limited

Jhabua Power Limited (JPL) is a power generation company based at Seoni district in the State of Madhya Pradesh. The site is located near village Barela - Gorakhpur, Tehsil Ghansore of Seoni District. JPL currently has 600MW thermal capacity fully operational and 660MW under implementation. The plant is generating power on commercial basis. Jhabua Power Limited has at present a total tied up capacity of app 89%. This consists of: - (a) Long term tied up capacity to the tune of 71% with the states of Madhya Pradesh (35%) & Kerala (36%), and (b) Medium term PPA with PTC/Bengal (3 year starting from Mar'2019) to the tune of 18% has also been tied-up. The plant has full fuel linkage for tied up capacity with SECL & MCL (Subsidiaries of Coal India Limited). The nearest Railway station is Binaki, located in the Jabalpur Gondia section of Indian Railways and the nearest airport is at Jabalpur. The private siding of JPL is PJPB. JPL is committed towards the environment and the welfare of the community. JPL has implemented several programs in the field of infrastructure development, health, education and livelihood for the community around its area of operation.

The total project area of the project is 1861042 Sq. Meter. The Seoni Block has been categorized as "Safe" as per CGWA portal.

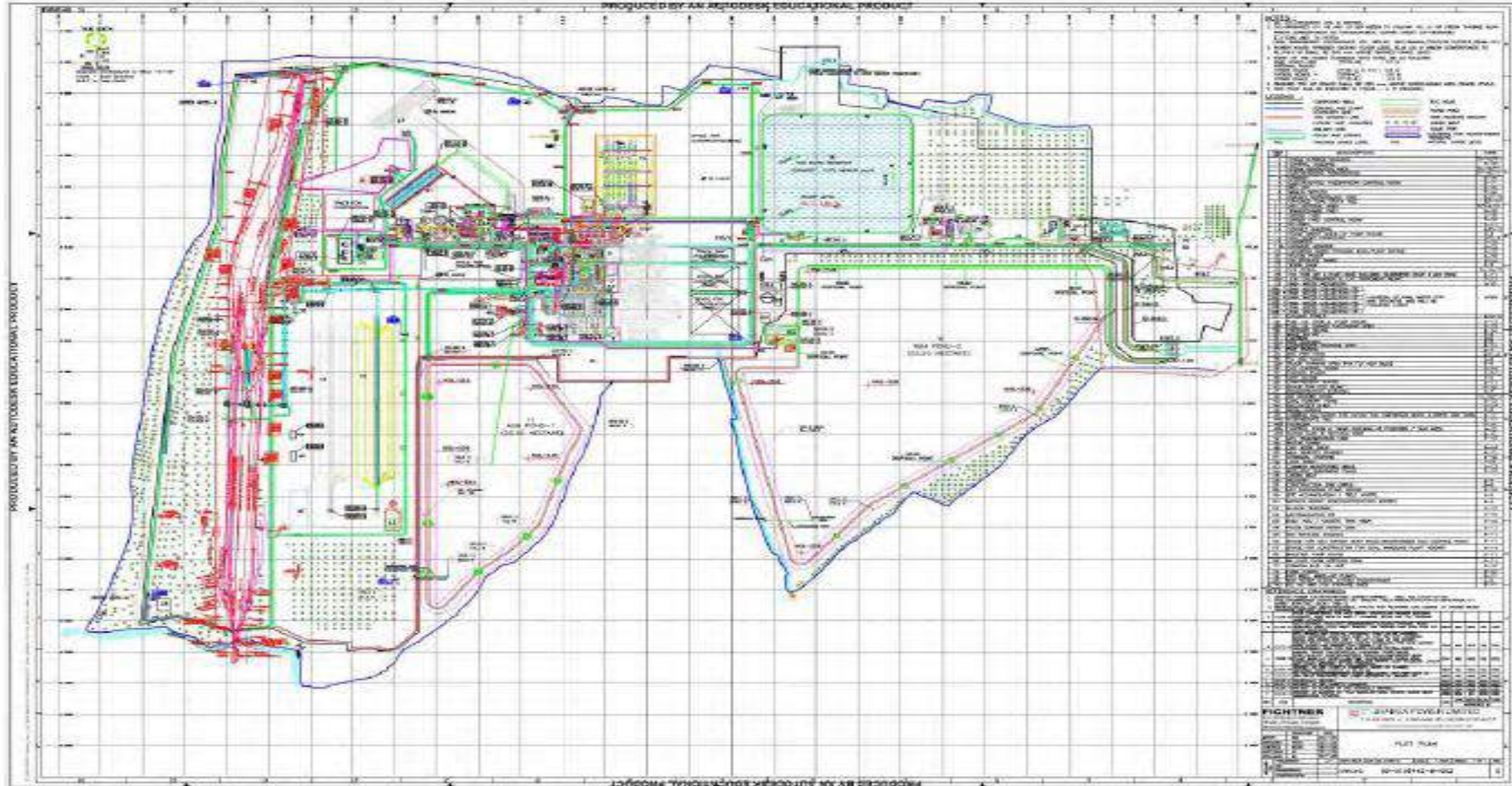


Figure 1.1: Site Plan- M/s Jhabua Power Ltd.

1.2 PURPOSE OF THE PROJECT

M/s Jhabua Power Limited has retained M/s Vardan Environet, Gurgaon to evaluate comprehensive hydro-geological & groundwater resources evaluation studies in their project premises and around the vicinity of 5 km radius buffer zone of their project located at Seoni, Madhya Pradesh.

1.3 LOCATION AND ACCESSIBILITY

The Jhabua Power Limited- 600 MW is located at Village Barela, Gorakhpur, in Ghansore Tehsil- Seoni, Madhya Pradesh and the coordinates of the project site is **22.73788N & 79.91085E**. The location map of the study area is given in **fig 1.2**

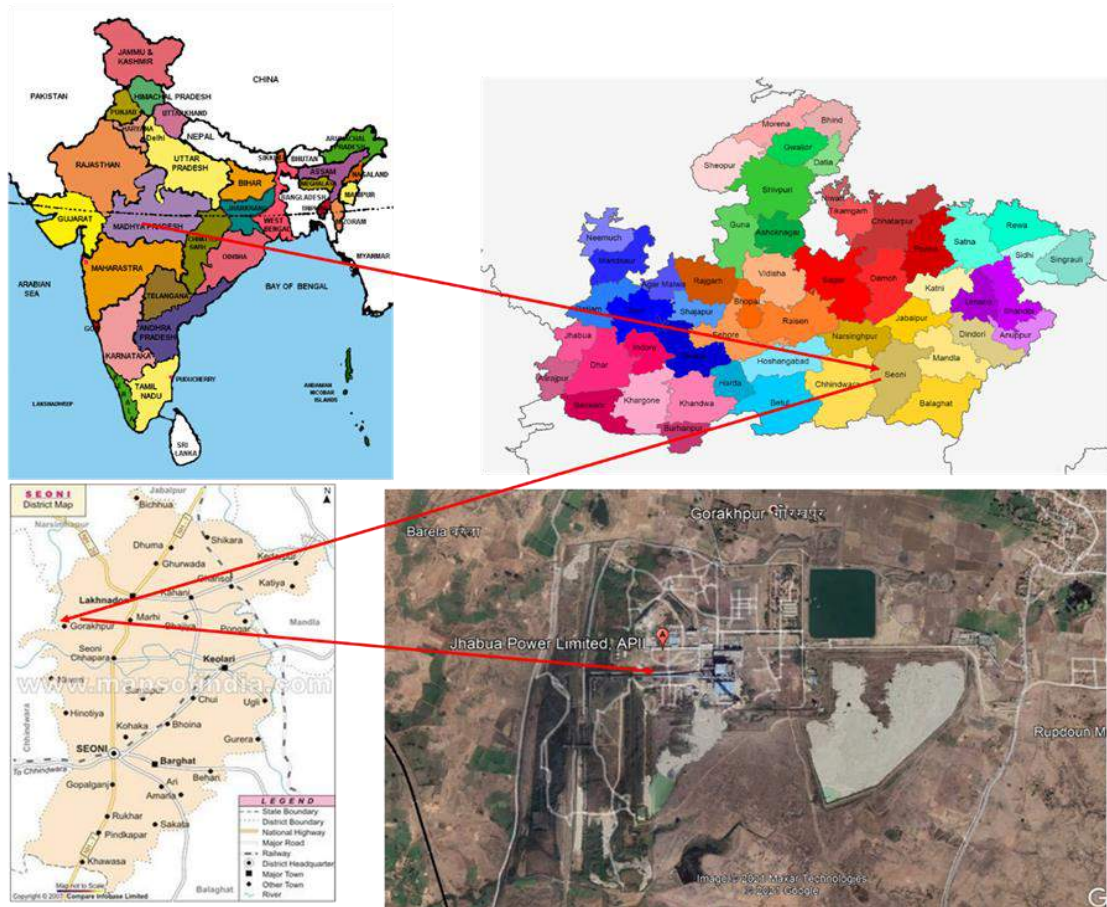


Figure 1.2: Location Map of the Project Site

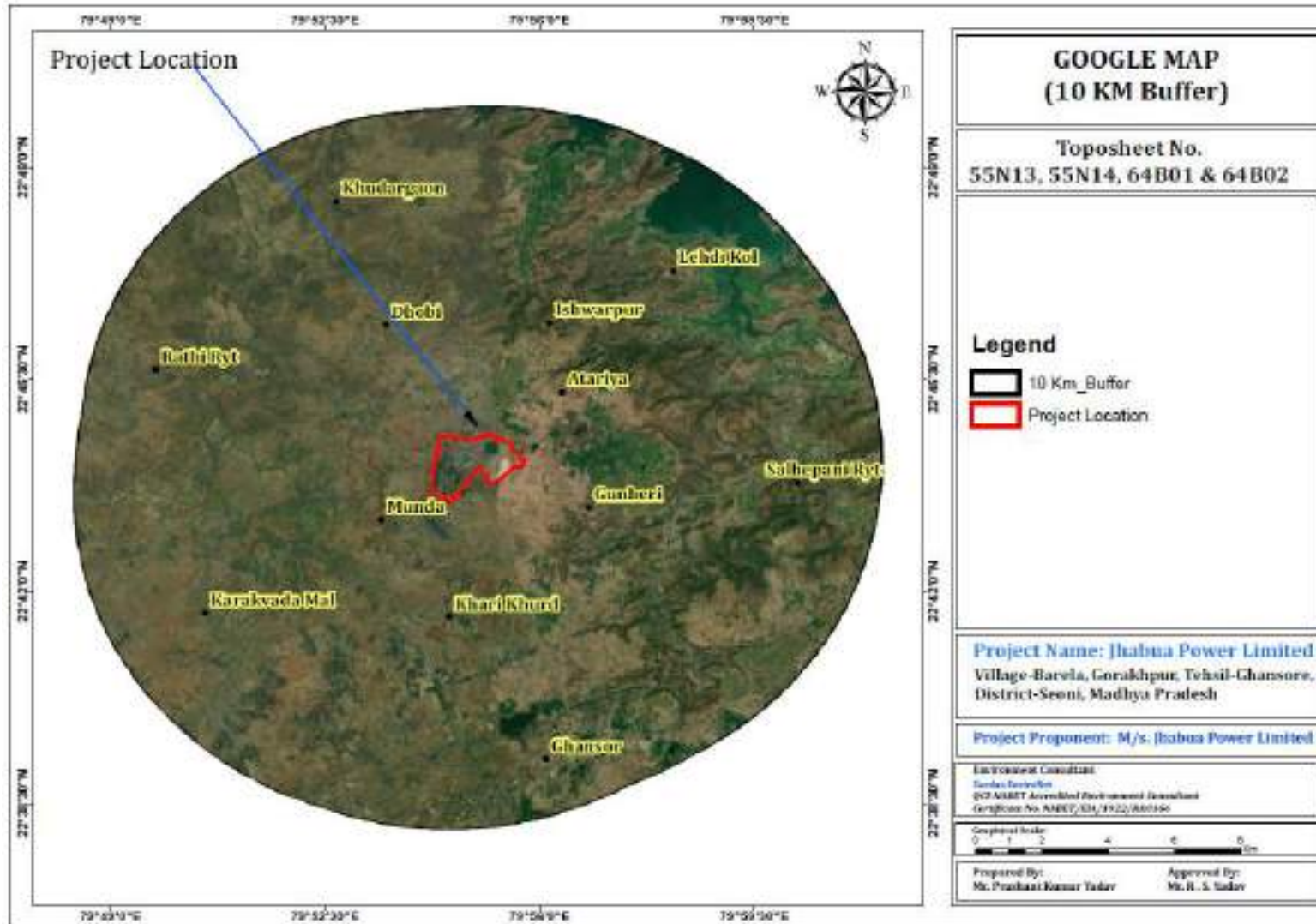


Fig 1.3: Google map of Jhabua district 10 km Buffer



1.4 SCOPE OF WORK

The scope of work includes the following:

- To analyse physiographic conditions of the study area with the help of field observations, GPS readings, Survey of India (SOI) Toposheet and Satellite images.
- To observe hydrogeological conditions and study of aquifer system of the area i.e. in Core and 5 km Buffer Zone.
- To work out quantitative as well as qualitative variations in groundwater with respect to aerial extent and to find out water balance.
- To suggest ways and means of creating artificial recharge to negate adverse impact on groundwater regime and their impact on groundwater regime of the area.
- To prepare detailed Hydro-geological report and rainwater harvesting plan.

1.5 METHODOLOGY

Following methodology has been adopted to conduct hydro-geological investigation in the area:

- Physiographic studies of the industry and its surroundings with the help of latest Google images, site visit, GPS survey etc. which helps in determining physiographic gradient.
- Secondary data collection i.e., climate and rainfall, soil and topography, geology, drainage etc. for interpretation.
- Detailed hydro-geological survey in study area including geology, types of aquifers and their hydraulic parameters governing the groundwater regime of the area, depth to water level, groundwater quality, water abstraction structures and their discharge, surface water bodies, drainage pattern, major irrigation sources and their potential etc.
- Interpretation of the ground water level data of the study area.

CHAPTER -2

Meteorology- Drainage and Geomorphology

2.1 CLIMATE AND RAINFALL

The Climate of the study area characterized by a hot summer and general dryness except during the southwest monsoon season. The year may divide into four seasons. The cold season, December to February is followed by the hot season from March to about the middle of June. The period from the middle of June to September is the southwest monsoon. October and November form the post monsoon or transition period. The normal annual rainfall of Study area is 1323.7 mm. The maximum rainfall received during southwest monsoon period i.e., June to September. About 86.3% of the annual rainfall received during monsoon season. Only 13.7% of the annual rainfall takes place between October to May period. Thus, surplus water for ground water recharge is available only during the southwest monsoon period.

The normal maximum temperature received during the month of May is 40.3° C and minimum during the month of December is 11.3° C. The normal annual means maximum and minimum temperatures of study area are 31.3° C & 18.9° C respectively. During the southwest monsoon season the relative humidity generally exceeds 88% (August month). In the rest of the year, it is drier. The driest part of the year is the summer season, when relative humidity is less 34%. May is the driest month of the year. The wind velocity is higher during the pre-monsoon period as compared to post monsoon period. The maximum wind velocity 7.7 km/hr. observed during the month of June and minimum 3.9 km/hr during the month of December.

The average annual rainfall of the district is 1145.13 mm, and is unevenly distributed over the area. The highest rainfall recorded is 1748.34mm in the year 2013 and the lowest rainfall is recorded is 504.55 mm in the year 2007.

Table 2.1: Rainfall data in mm for last 20 years as per IMD are given below:

YEAR	RAINFALL	YEAR	RAINFALL
2001	1086.14	2011	1302.28
2002	1141.07	2012	1069.78
2003	1482.93	2013	1748.34
2004	887.47	2014	985.03
2005	1256.81	2015	1041.18
2006	1158.12	2016	1127.14
2007	504.55	2017	853.72
2008	1032.31	2018	928.44
2009	1125.41	2019	1527.28
2010	1345.54	2020	1299.15

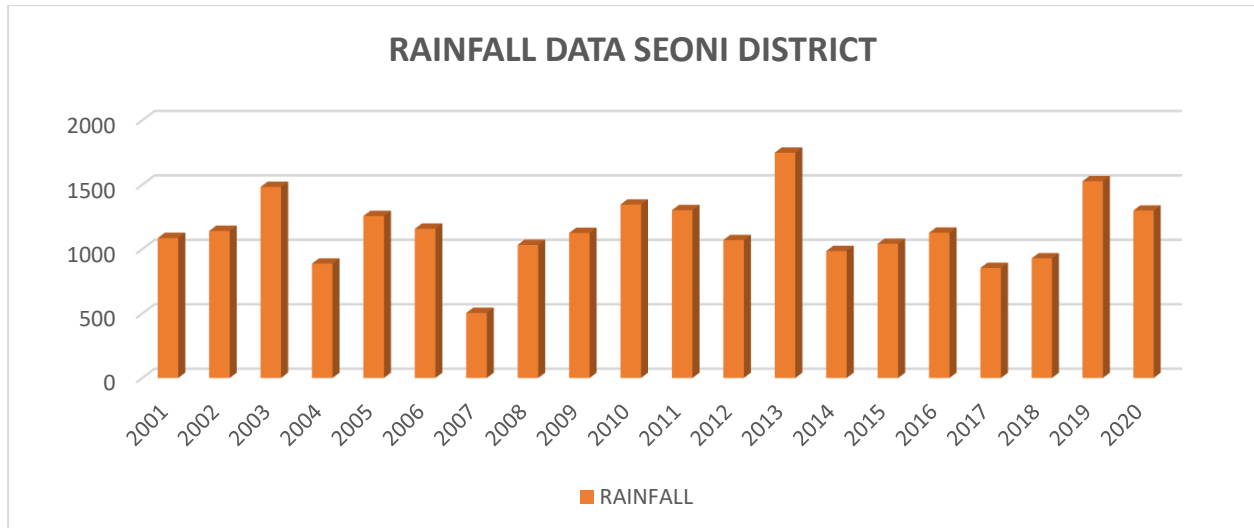


Figure 2.1: Rainfall Pattern of Seoni District (in mm)

2.2 GEOMORPHOLOGY, DRAINAGE AND SOIL

The area has undulating topography comprising hills of Satpura plateau from South to North. While the North Eastern part covered by Deccan plateau and falls at the altitude in between 325 to 740 m above MSL. The general trend of hills in the district is North-south with some isolated hillocks. Physio-geographically the area is divided into five parts.

- 1. Lakhnadon Plateau.**
- 2. Upper Wainganga Valley.**
- 3. Lower Wainganga Valley.**

4. Sagar and Hirri River Valley

5. Southern Lower Land.

The area is undulating plane, hilly and forested. The area North of Barghat is plane and Rice producing belt has covered by Bori Canal system. The Keolari block has plateau like appearance and covered by good network of canals under Sanjay Sarovar Pariyojna. The Wainganga is the main river flowing in the area having perennial flow. The other rivers are Thawari, Hiui, Sagar, Thal and Shadu and PENCH. The black cotton soil, sandy loam, loams soil and moland soils are main soils in the area.

2.3 Hydrogeology of the study area

The occurrence and movement of ground water in hard rock areas is widely controlled by the secondary porosity present in them like joints, fractures, weathering and linearity etc. The Seoni district is mainly occupied by Archean rocks and Basaltic lava flows. The weathering of Archean rocks ranges from 0.50 mbgl to 10.00 mbgl. The weaker zones in Deccan traps are also developed at the contacts of two consecutive lava flows, which facilitate downward movement of ground water. In Vesicular basalts the voids provide more space for the accumulation of ground water. The Laterite is porous enough in nature and absorbs rain water very fast and loses it also. The water bearing properties of these formations varied widely depending upon their lithological properties and structural control.

2.3.1 Water Bearing Formations

The Ground Water occurs under water table and semi confined to confined conditions in all formations of the area. Topographic depressions, nature and extent of weathering, presence of joints and fractures play an important role in the occurrence and movement of ground water. The area occupied by Archean rocks is mostly undulating. The ground water in these rocks occurs under unconfined conditions, which is widely controlled by the weathering of the rocks, presence of joints, fracture and lineament in them.

The area occupied by Deccan trappean rocks, where ground water occurs under phreatic conditions in the weaker zones of weathered, vesicular, fractured and jointed parts of the flows.

The sheet joints, basal parts of flows and inter-connection of joints and fractures controls the horizontal as well as vertical movement of ground water. The plateau like topography plays an important role in occurrence and movement of ground water. Under semi-confined conditions the ground water occurs at the contacts of two flows and at the contact of trappean rocks with Archean basement. The Laterites are highly porous in nature and allows fast movement of ground water as well.

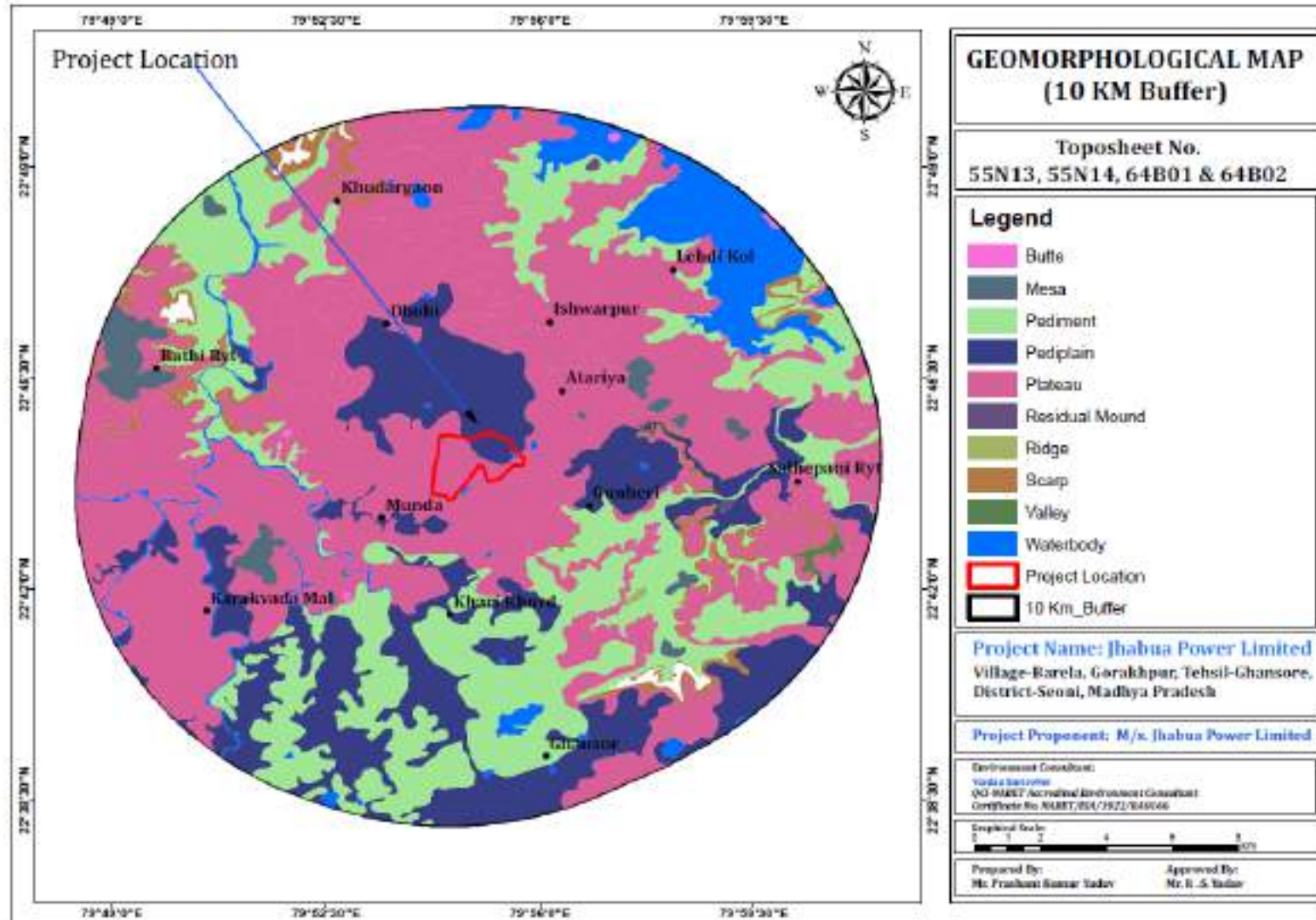


Figure 2.2: Geomorphology map of the Project Site 10km Buffer



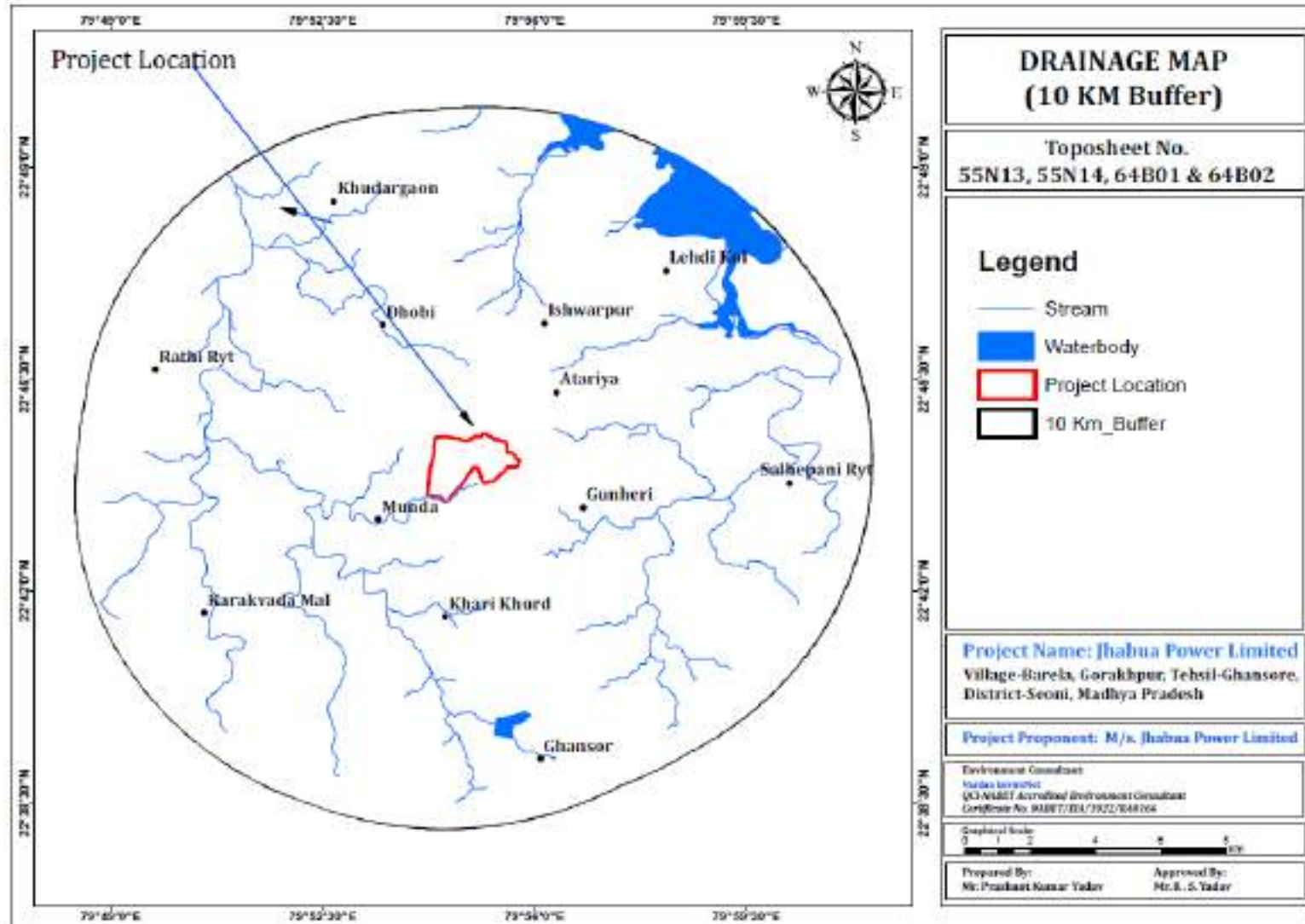


Figure 2.3: Drainage map of the Project Site 10km Buffer



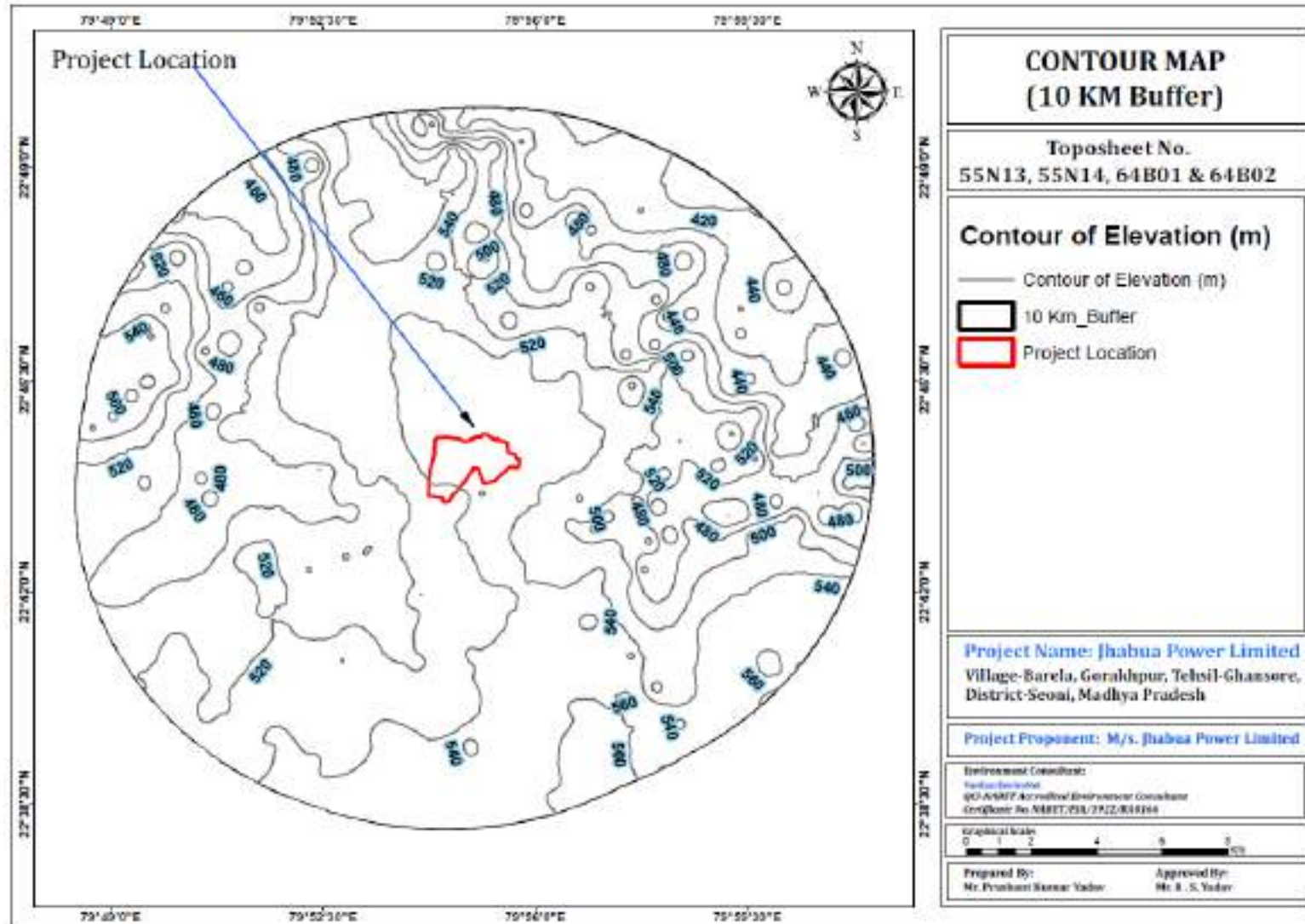


Figure 2.4: Contour Map of the study area 10 km Buffer



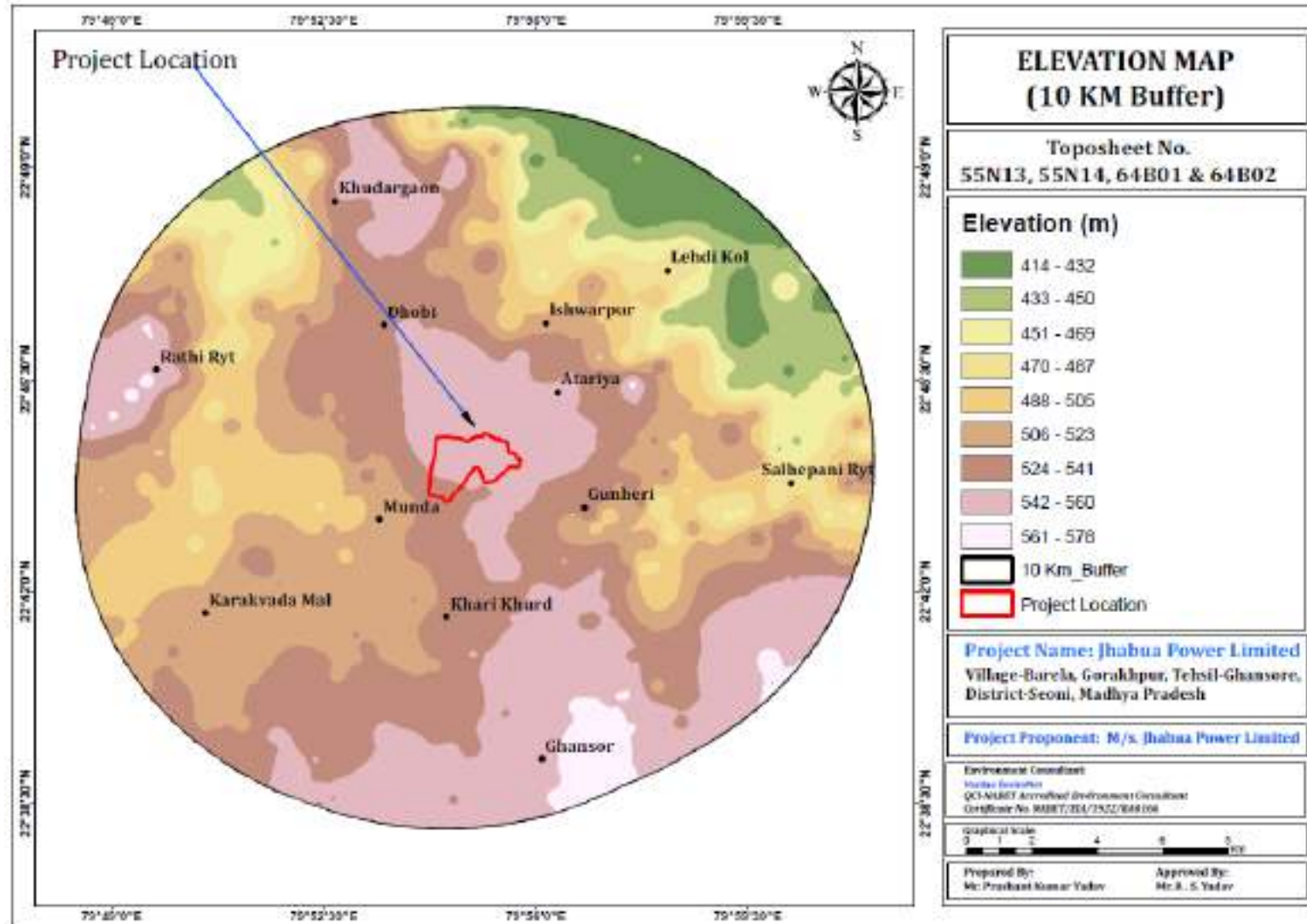


Fig 2.5: Elevation Map of the study area 10km Buffer



CHAPTER-3

Geology and Hydrogeology of the Study area

3.1 REGIONAL GEOLOGY

Seoni is a part of ENE-WSE trending Central Indian Tectonic Zone (CITZ) limited by Sone-Narmada South Fault (SNSF) in the north and Central India Suture (CIS) in the north and Central India Suture (CIS) in the south, while Tan Shear Zone (TSZ) is located midway between the two. Geologically, the district comprises of Tirodi Biotite Gneiss (TBG) and Supracrustal Sausar Group (SSG) in the south eastern parts while major parts are covered with Deccan Traps with few outcrops of lameta, intertrappean beds, laterite cappings and alluvium ranging in age from Meso-Proterozoic to Recent. TBG forms the base mand of the Sausar Supracrustal and comprises grey stromatic and/or streaky gneisses with enclaves of high grade metamorphites, pink gneiss with migmatites and amphibolite. SSG is represented by Lohangi Fm, Mansar Fm, Chorbaoli Fm, Bichua Fm. Lithologically, cratonic assemblage consists of metamorphosed quartzite, pelites and carbonate and intrusive syntectonic strongly foliated granite and post-tectonic massive granite. The basement-cover contact was largely obliterated due to intense shearing and /or migmatitic foliation of TBG. Late cretaceous (Maestrichtian) strata include the Lameta Group occurring as thin bands and discontinuous patches in the south-eastern parts of the area. These are represented by cherts, cherty modular limestone, variegated clay and shale, deposited in a lacustrine environment, Along the eastern margin, the Deccan Traps overlies the Lameta sediments and along the southern margin, they are found above gneisses. The cumulative lava pile (430 m) comprises twenty-four number of flows which are classified under Amarkantak group. Based on the variation in lithological, textural and physical characteristics, the group is divided into formations such as Mandla, Dhuma, Pipardahi, Linga, Multai, Amarwara and Khamla formations. The thickness of individual flow varies from 5 m to 30 m. The basalt flows are traversed by basic dykes and are separated by wide spread persistent/impersistent fossiliferous to non-fossiliferous intertrappean. Extensive

laterite cappings of varied thickness between 10 to 40 m on flow tops are exposed over an area of 100 sq.km. around Batwri, Amarpur and Chhiriya. The laterite of Karelighar hill is a capping over biotite gneiss and extends in a NNE-SSW direction of about 3 km length and the width is around 300 m. The average thickness of laterite capping in this locality is about 70 m.

Table 3.1: Stratigraphic Sequence of the Study Area

Lithology	Stratigraphic status	Group	Age	Nature and characteristics
Alluvium			Quaternary	Soft and unconsolidated sediments
Laterite				Medium to hard, brick red to yellowish brown, ferruginous, consolidated rock
Basic Dykes			Cainozoic	Dark grey, fine to medium grained, hard, compact massive rock
Four basaltic lava flows, simple and compound pahoehoe flows with megacryst flow unit	Khamla Fm			Dark grey, fine to medium, hard, compact massive, non-porphyrinic to moderately porphyritic
Five to seven simple and compound pahoehoe flows with megacryst flow at base	Amarward Fm	Amarkantak (Deccan trap)	Upper Cretaceous to Palaeogene	Dark grey, fine grained hard, compact, massive, non-porphyrinic to porphyritic
Two basaltic flows, simple to compound pahoehoe type	Multai Fm			Dark grey, medium grained hard, compact, massive, mega porphyritic in nature
Four basaltic flows, simple to compound type	Linga Fm			Dark grey, fine to medium grained hard, compact, massive, moderately to highly porphyritic
Two simple basaltic flows	Pipardi Fm			Dark grey, fine grained hard, compact, massive, non-porphyrinic to sparsely porphyritic
Eight basaltic flows, simple and compound, pahoehoe flows with megacryst flow unit	Dhuma Fm		Upper Cretaceous to Palaeogene	Dark grey, fine to medium grained hard, compact, massive, porphyritic in nature
Four basaltic flows, simple to compound pahoehoe flows with megacryst flow unit	Mandla Fm			Dark grey, fine to medium grained hard, compact, massive, and moderately to sparsely porphyritic
Simple and compound basaltic flows	Unclassified	Amarkantak (Deccan trap)		Dark grey, fine grained hard, compact, massive and amygdaloidal
Chert, cherty limestone and shale	Intertrappean			
Chert, cherty nodular limestone, variegated clay and shale	Lameta group		Late Cretaceous (Maestrichian)	Hard, laminated and friable rocks
Granite	Intrusive		Late Meso Proterozoic	Hard, compact massive porphyritic rock
Foliated granite	Intrusive			Hard, Compact, Foliated rock
Crystalline limestone and dolomite	Bichua Fm			Hard and compact rocks
Muscovite-biotite schist and quartzitic biotite granite	Junewani Fm			Soft and flaky rocks, hard and compact rocks
Quartzite and quartz muscovite schist	Chorvati Fm			Hard and flaky rocks
Muscovite-biotite schist	Muzum Fm	Garuar group	Meso Proterozoic	Soft and flaky rocks
Calc-silicate rocks	Lohangi Fm			Hard and flaky rocks
Grey stromatolite and/or streaky gneiss with enclaves of high grade metamorphites/pink gneiss with magnetite/Amphibolites	Luroli biotite gneiss			Hard and compact, rounded and banded rocks/hard and compact banded, foliated to massive pink megacrystic K-feldspar bearing rocks, Hard and compact, dark greenish grey, massive to moderately foliated rocks

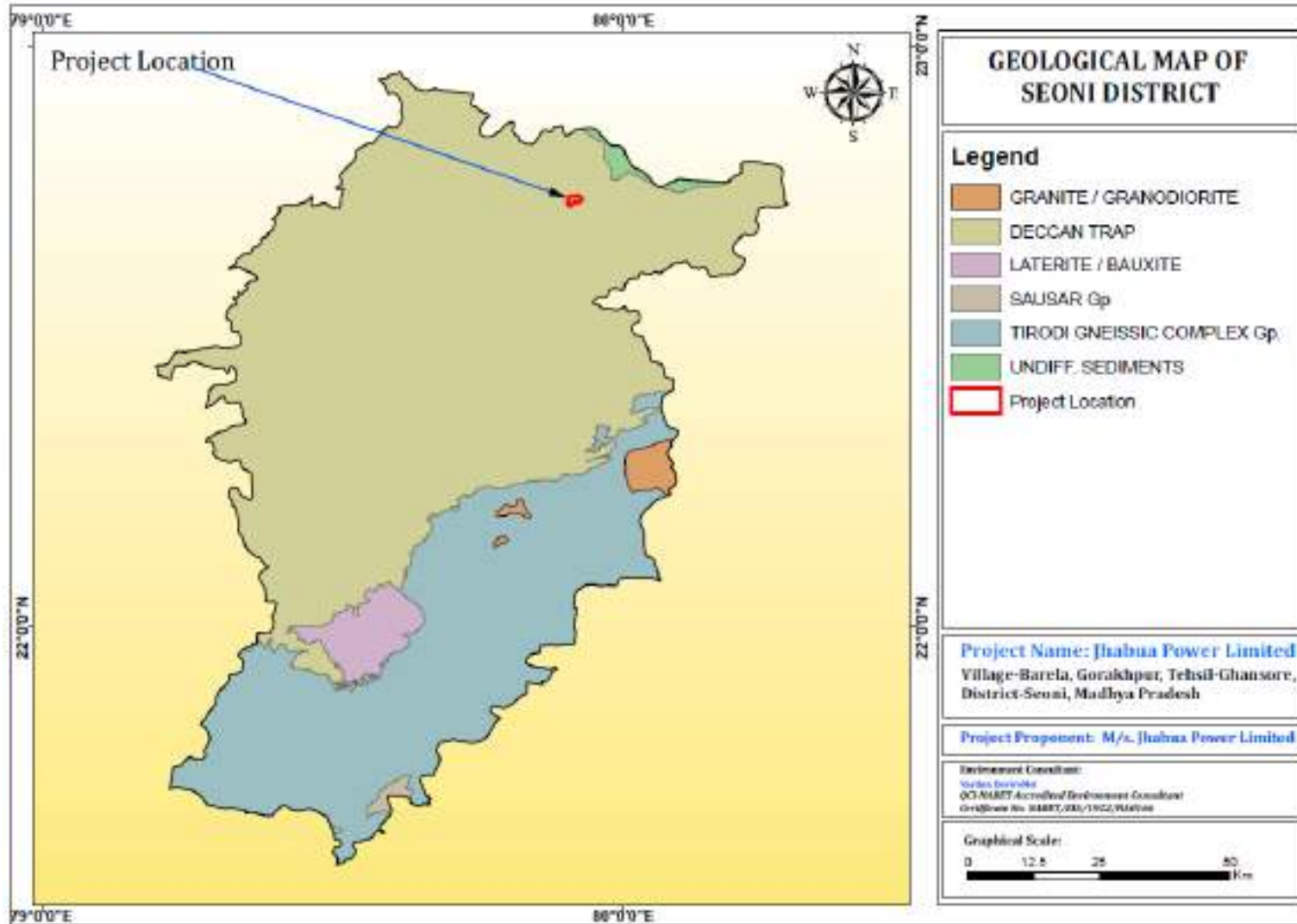


Fig 3.1: Geological map of Seoni district



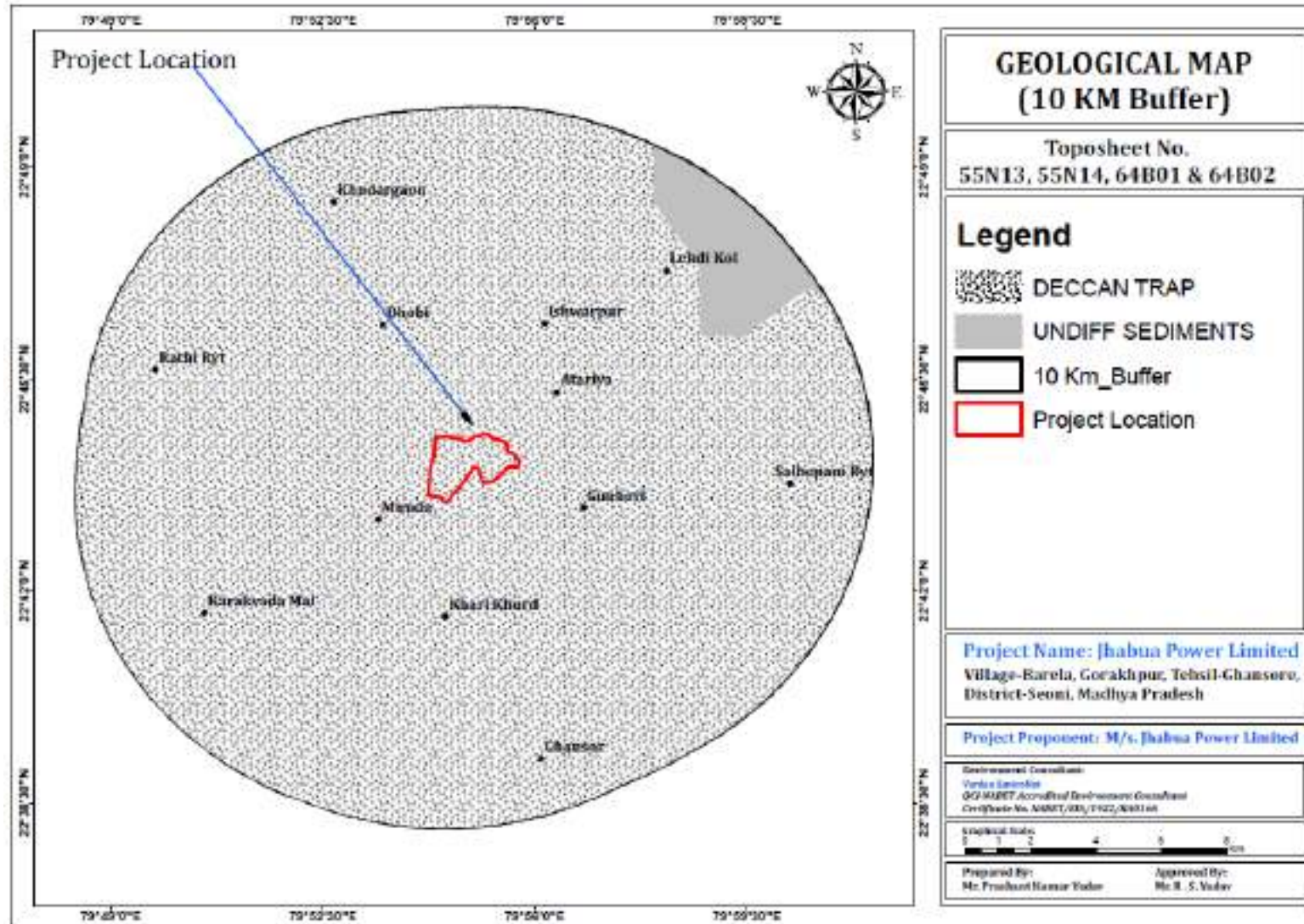


Figure 3.2: Geological Map of the Study Area



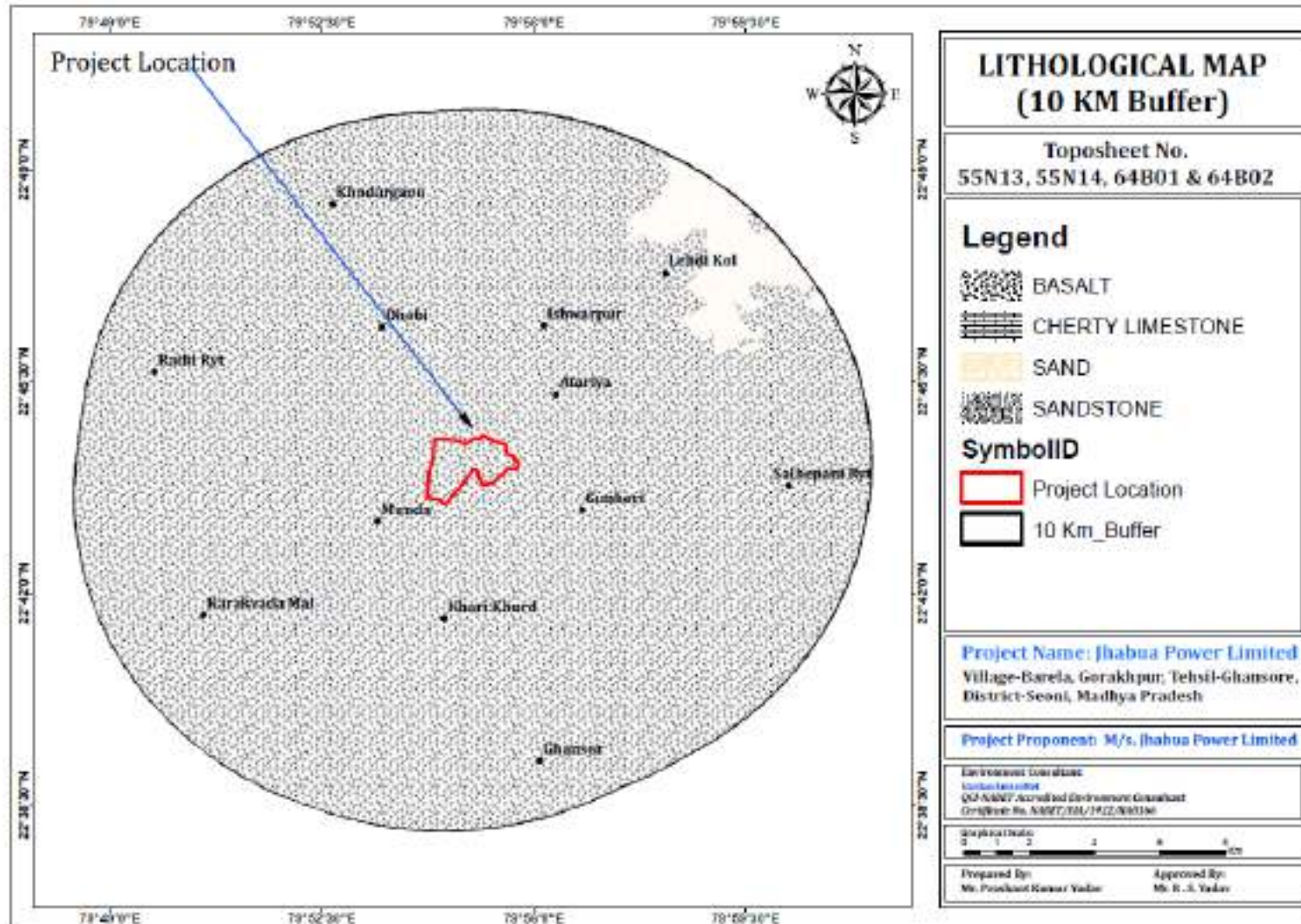


Figure 3.3: Lithological Map 5 Km Buffer 10km Buffer



3.2 HYDROGEOLOGY OF THE AREA

The occurrence and movement of ground water in hard rock areas is widely controlled by the secondary porosity present in them like joints, fractures, weathering and linearity etc. The district is mainly occupied by Archean rocks and Basaltic lava flows. The weathering of Archean rocks ranges from 0.50 mbgl to 10.00 mbgl. The weaker zones in Deccan traps are also developed at the contacts of two consecutive lava flows, which facilitate downward movement of ground water. In Vesicular basalts the voids provide more space for the accumulation of ground water. The Laterite is porous enough in nature and absorbs rain water very fast and loses it also. The water bearing properties of these formations varied widely depending upon their lithological properties and structural control.

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3.3 SITE SPECIFIC HYDROGEOLOGY

The Ground Water occurs in shallow aquifers under unconfined to semi-confined

conditions in Deccan trap areas whereas in granitic and Archean formations it is restricted to unconfined conditions. The Ground Water in deeper levels occurs under semi-confined to confined conditions. The discharge of tube wells varies from 0.5 lps to 12 lps. The extent of aquifer restricted to their regional extends. The recharge of the deeper aquifer takes place through deep joints, fractures and contact zones, whereas the shallow aquifer recharges through weathered portion of the formation. The wells yielding in range from 3 m³ /day to 182 m³ /day.

3.4 GROUNDWATER RESOURCES

Seoni district is underlain by Deccan trap basalts and Archaean granite-gneisses. Dynamic ground water resources of the district have been estimated. There are eight assessment units (block) in the district which fall under non command (95%) and command (5 % Barghat, Dhanora, Keolari and Seoni) sub units. All the blocks of the district are categorized as safe blocks. Seoni is with highest stage of ground water development is computed as 46%. The net ground water availability in the district is 79239 ham and ground water draft for all uses is 20,456 ham, making stage of ground water development 26 % as a whole for district. After making allocation for future domestic and industrial supply for next 25 years, balance available ground water for future irrigation would be 57784 ham at 50% stage of ground water development's safe limits in the district.

Table 3.2: Ground Water Resource and Development Potential of Seoni District, M.P.

Assessment Unit/Block	Sub-unit Command/Non-Command	Net Ground Water Availability (Ham)	Existing Gross Ground Water Draft	Net Ground Water Availability for Future Irrigation Development	Stage Of Ground Water Development (%)	Category of Block
SEONI	Command	1636	324	1280	20	Safe
	Non-Command	12389	6023	6181	49	Safe
	Total-Block	14025	6348	7461	45	Safe

As per the Dynamic Ground Water Resources of India, 2017 the study area falls under SAFE category.

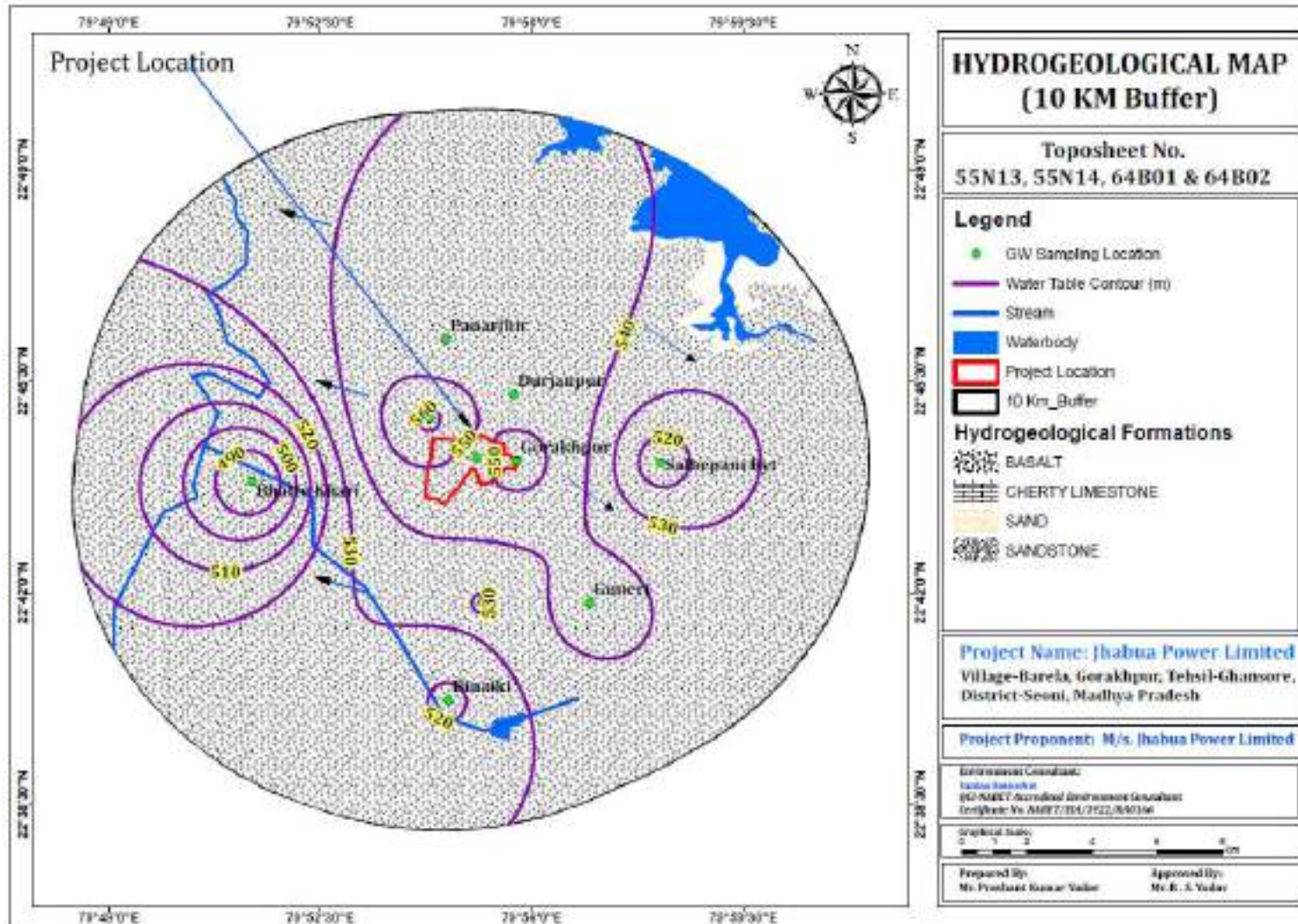


Figure 3.4: Hydrogeological Map of the Study Area



3.5 GROUNDWATER LEVEL MONITORING

Ground water occurs within sand formation gravels. Groundwater is one of the Earth's widely distributed and most important natural resource. The largest source of fresh water in the world lies underground. At the same time, development of groundwater is very old. Increased demand of groundwater for various purposes has stipulated development of groundwater resources. Aquifers are formed as alluvium which constitute good aquifers form locales for storage of ground water.

3.5.1 Observation and Interpretation of Ground water level Monitoring

A detailed groundwater level monitoring has been carried during pre and post monsoon season at about 8 different places within buffer zone from existing dug wells and bore wells. Ground water monitoring locations along with their hydro geological details is given in **Table: 3.3**

Pre monsoon depth to water level - On the basis of the depth to water level of the pre monsoon depth to water level was monitored between 8.2 to 10.6 mbgl.

Post monsoon depth to water level- On the basis of the depth to water level of the post monsoon depth to water level ranges between 2.1 to 3.6 mbgl.

Based on the field investigation, contour map for depth to water level (mbgl) of pre and post monsoon of the study area is represented in **Figure 3.5 & 3.6**.

Table: 3.3: Depth to Ground Water Level of inventory well of the Study Area

Location	LAT_DEG	LONG_DEG	Pre-Monsoonal Ground Water Level (mbgl)	Post-Monsoonal Ground Water Level(mbgl)	Fluctuation
Project Site	22.73744	79.91783	3.52	2.98	0.54
Ghansora	22.6542	79.952	4.30	3.10	1.2
Panarjhir	22.76984	79.90949	3.90	3.21	0.69
Binaiki	22.67042	79.91016	5.19	3.4	1.79
Durjanpur	22.75478	79.92813	4.12	3.54	0.58
Guneri	22.69733	79.94919	4.05	3.92	0.13
Dola	22.69744	79.919	3.25	2.47	0.78
Gorakhpur	22.73636	79.92905	1.48	1.03	0.45
Ghansori	22.6542	79.9525	3.32	3.05	0.27
Mehta	22.6306	79.8661	8.56	7.95	0.61

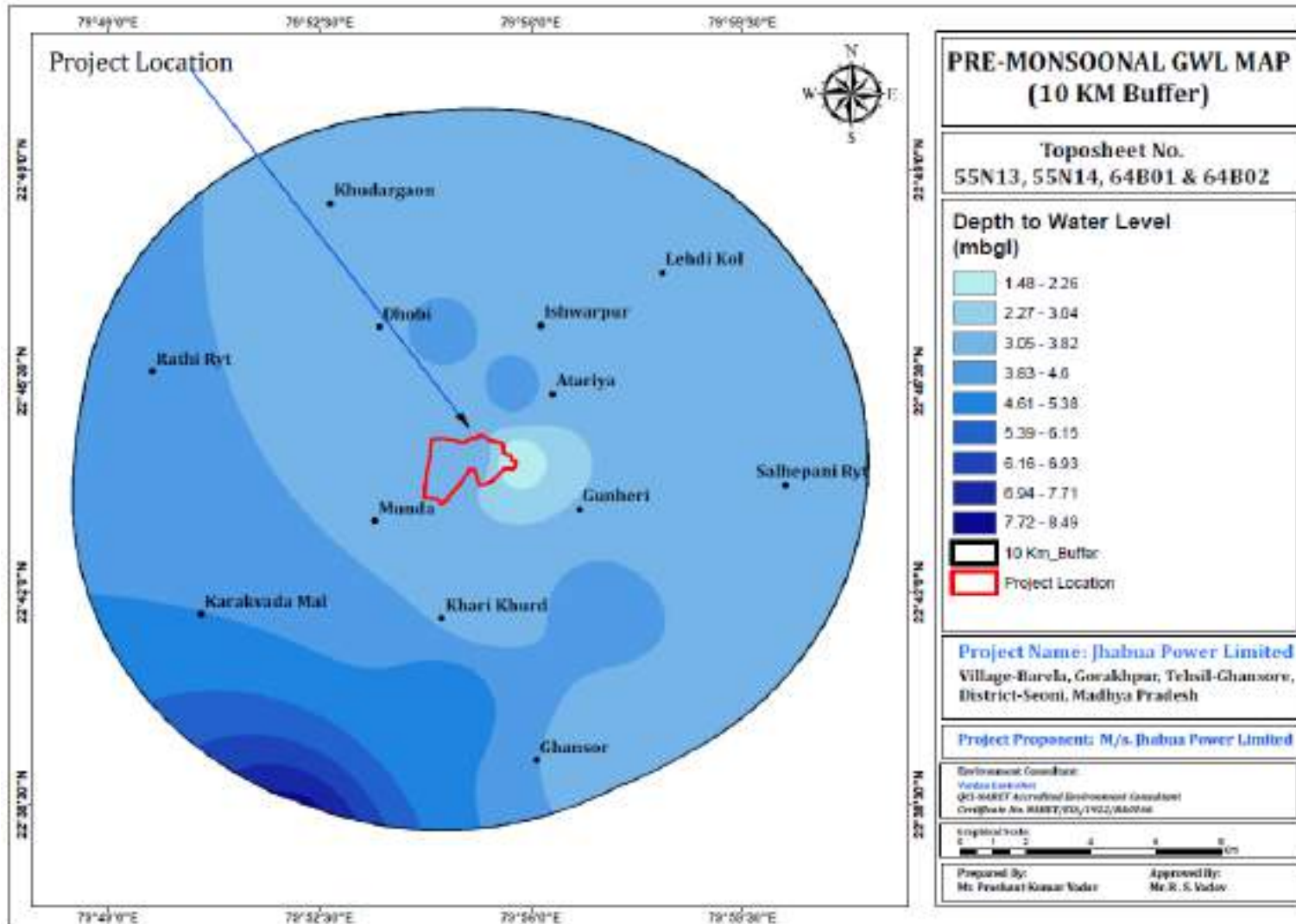


Figure 3.5: Depth to Pre- Monsoon Water Level Pattern of the study area (mbgl)

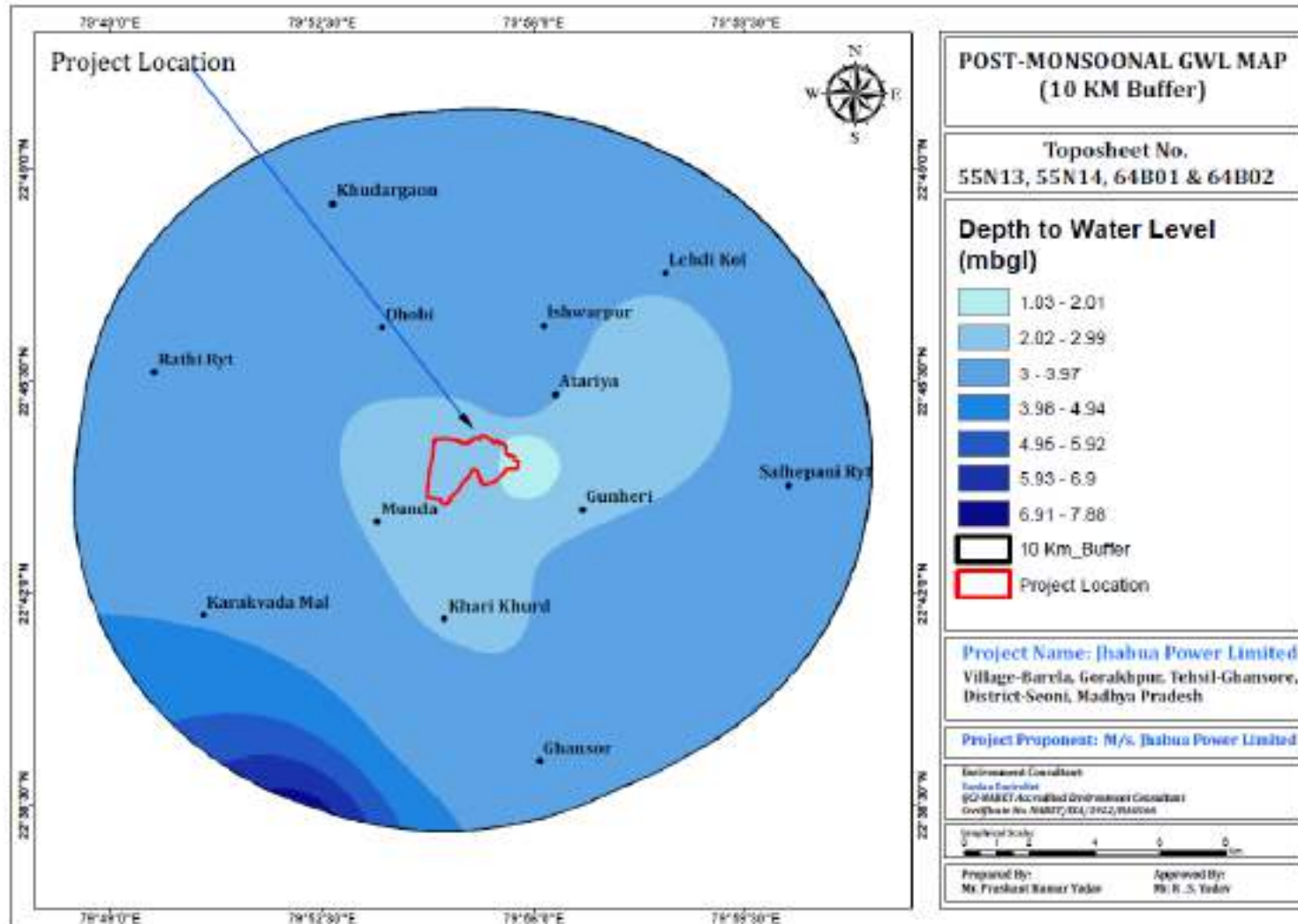


Figure 3.6: Depth to Post- Monsoon Water Level Pattern of the study area (mbgl)



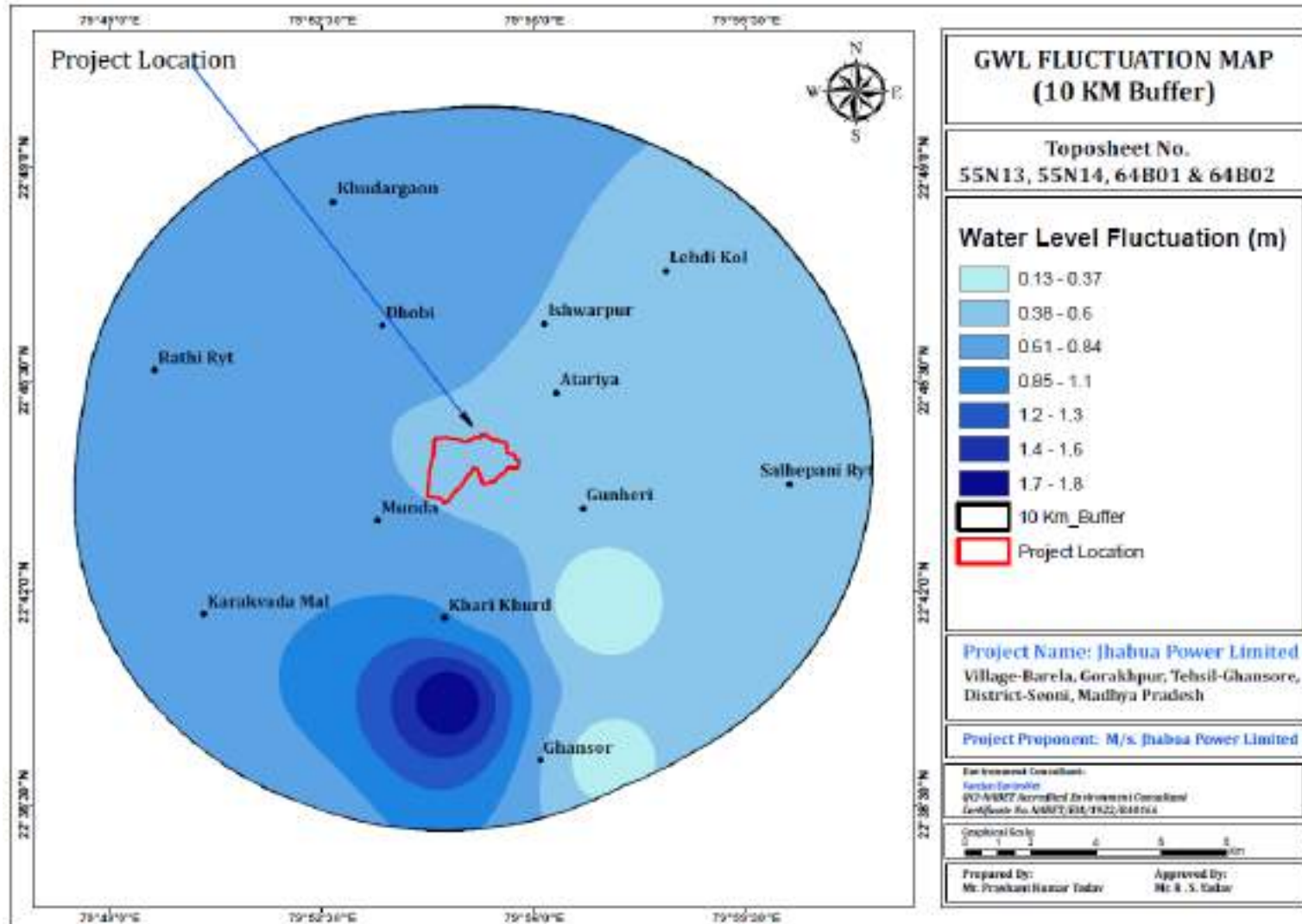


Figure 3.7: Ground Water Level Fluctuation Map



3.6 WATER LEVEL TREND ANALYSIS & QUALITY ISSUES

3.6.1 Depth to water level pre and post monsoon (10 years)

On the basis of the depth to water level of the study area, the pre monsoon depth to water level ranges between 4.09 mbgl to 7.76 mbgl and post-monsoonal water level ranges between 2.71 mbgl to 4.84 mbgl. Pre and Post monsoon depth to water level graph is prepared and enclosed below:

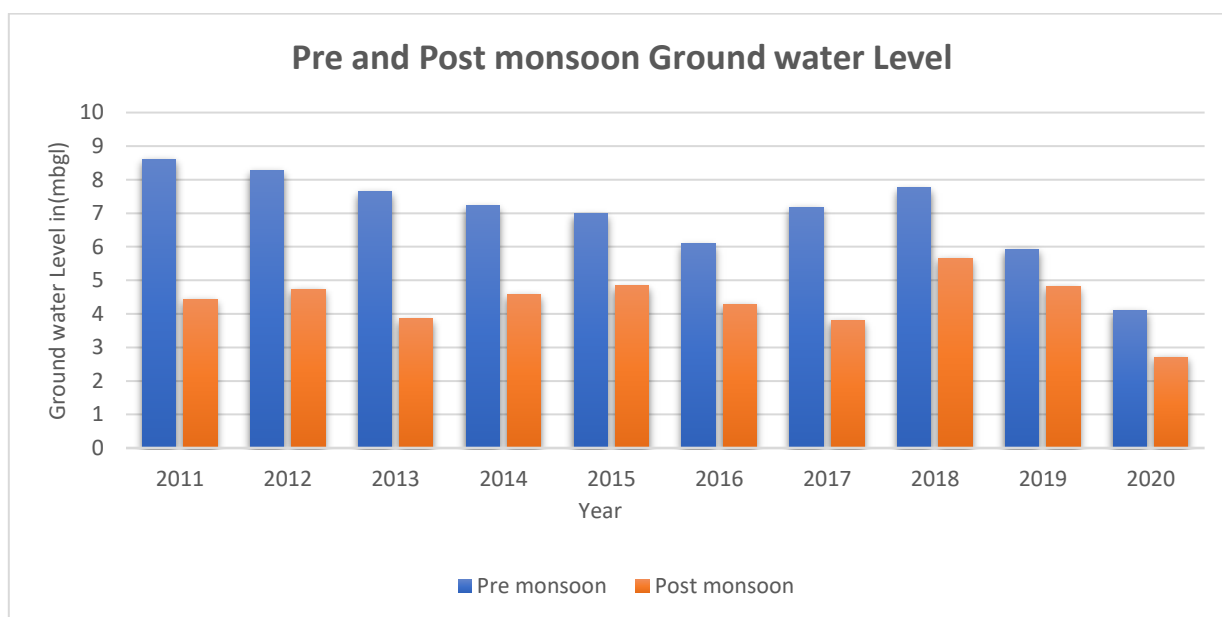


Figure 3.8: Graph showing trend in water level in last 10 years in Pre and Post Monsoon

3.6.2 GROUND WATER TREND ANALYSIS (10 YEARS)

The ground water levels observed over a period provides valuable information on the behaviour of the ground water regime, which is constantly subjected to changes due to recharge and discharge phenomenon. When the recharge exceeds discharge, there will be a rise in the ground water storage and vice versa. The decline in water level may be due to increase in draft (for different purposes) or decrease in precipitation (less recharge to ground water). On the other hand, a rise in water level may be due to an increase in rainfall and/or due to changes in irrigation practices.

3.6.3 HYDROGRAPH OF THE WATER LEVEL (10 YEARS)

A hydrograph is a graph showing stage discharge volume of runoff, or other properties of water flow with respect to time. Water Level data of the study area for pre monsoon, post

monsoon, lean period and monsoon for last 10 years has been accumulated and plotted in graphical representations.

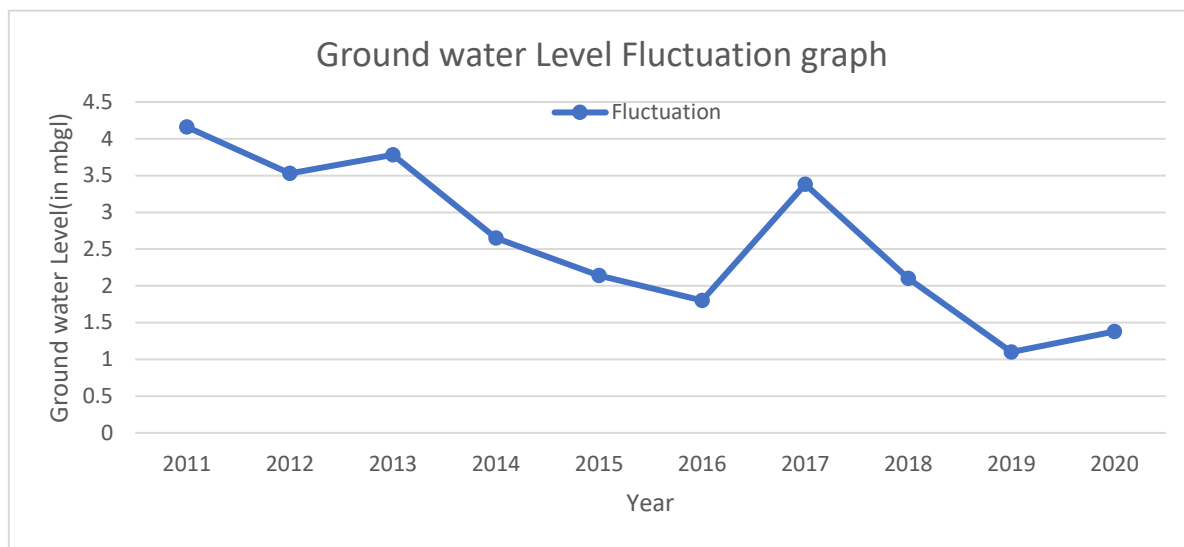


Figure: 3.9: Ground Water Level Fluctuation Graph in last 10 year

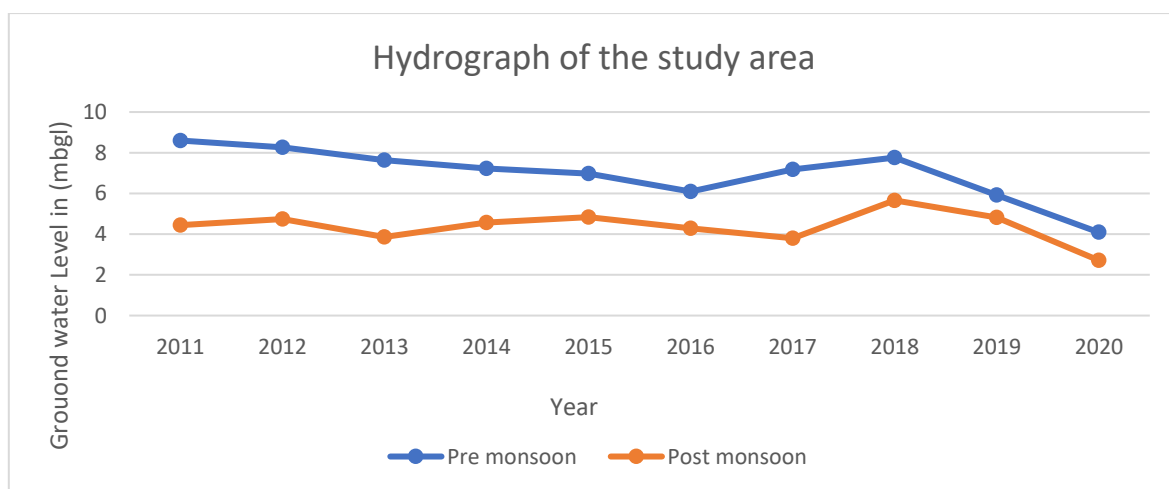


Figure 3.10: Hydrograph water level for Pre & post monsoon

3.7 GROUNDWATER QUALITY ANALYSIS

3.7.1 Ground water quality

Primary sources of potable water in the area are mainly tube wells. Groundwater samples were collected from nearby study area. The analysis of the samples has been

carried out in NABL certified approved lab. **M/s VARDAN ENVIRONET**, IMT Manesar, Gurugram, Haryana (122052)

Ground Water Quality Test Report has been attached as **Annexure-I**

3.7.2 Results of Ground Water Analysis

The chemical quality of underground water has been evaluated by chemically analyzing the water samples collected from existing borewells. The Physio-chemical quality of groundwater was compared with drinking water standard (IS: 10500- 2012). Analysis results of ground water reveal the following:

The physio-chemical quality of groundwater was compared with drinking water standard (IS: 10500- 2012). The results of chemical analysis of all the parameters of the groundwater samples show under permissible value.

3.7.3 Conclusion of Chemical test Result: -

The chemical data report show that all the parameters are under the permissible limits and can be used as drinking purpose.

CHAPTER-4

Summary and Conclusion

SUMMARY AND CONCLUSION

- Jhabua Power Limited (JPL) is a power generation company based at Seoni district in the State of Madhya Pradesh. The site is located near village Barela - Gorakhpur, Tehsil Ghansore of Seoni District. JPL currently has 600MW thermal capacity fully operational and 660MW under implementation. The plant is generating power on commercial basis.
- The Climate of the study area characterized by a hot summer and general dryness except during the southwest monsoon season.
- The average annual rainfall of the district is 1145.13 mm, and is unevenly distributed over the area. The highest rainfall recorded is 1748.34mm in the year 2013 and the lowest rainfall is recorded is 504.55 mm in the year 2007.
- The area has undulating topography comprising hills of Satpura plateau from South to North. While the North Eastern part covered by Deccan plateau and falls at the altitude in between 325 to 740 m above MSL.
- The area North of Barghat is plane and Rice producing belt has covered by Bori Canal system. The Keolari block has plateau like appearance and covered by good network of canals under Sanjay Sarovar Pariyojna.
- The Wainganga is the main river flowing in the area having perennial flow.
- The black cotton soil, sandy loam, loams soil and moland soils are main soils in the area.
- Water bearing formations are mainly Alluvium and Deccan Trap.
- Plant uses the surface water for the operation, process & domestic use from Bargi Dam (Rani Avanti bai dam)".

- A detailed groundwater level monitoring has been carried during pre and post monsoon season at about 8 different places within buffer zone from existing dug wells and bore wells.
- Pre monsoon depth to water level was observed between 8.2 to 10.6 mbgl.
- Post monsoon depth to water level ranges between 2.1 to 3.6 mbgl.
- The net ground water availability in the district is 79239 ham and ground water draft for all uses is 20,456 ham, making stage of ground water development 26 % as a whole for district. After making allocation for future domestic and industrial supply for next 25 years, balance available ground water for future irrigation would be 57784 ham at 50 % stage of ground water development's safe limits in the district.
- The predictable pattern of progress in water level from pre storm to post rainstorm of checking wells shows that there is no antagonistic effect in the ground water table in the venture region and bordering towns in view of the project site. In spite of the fact that Rain Water Harvesting designs ought to be fused in the project site to limit the intense variance in water level.
- Water level fluctuation is also very low in the study area.
- As per the Dynamic Ground Water Resources of India, 2017 the study area falls under Safe category.





Test Report

Sample Number : VEL/JHABUA/GW/01
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorekpur District-Seoni MP

Report No. : VELW/210213003/A
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 MI
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Project Site
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.27	-	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5)	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	342.0	mg/l	500	2000
4	Total Alkalinity (as CaCO ₃)	IS: 3025 (Part 23): 1986, Reaff. 2019	155.2	mg/l	200	600
5	Total Hardness (as CaCO ₃)	IS: 3025 (Part 21): 2009, Reaff. 2019	184.3	mg/l	200	600
6	Nitrate (as NO ₃)	IS: 3025 (Part 34): 1988, Reaff. 2019	8.0	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	57.43	mg/l	250	1000
8	Sulphate (as SO ₄)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	35.71	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 40): 1991 Reaff. 2019	82.20	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	7.07	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.6	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-53): 2003 Reaffirm 2019	0.24	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation

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Note: Terms & conditions refer on backside of test report.

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Test Report

Sample Number : VEL/JHABUA/GW/01

Report No. : VEL/W/2102130003/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l)			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1994, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Boron (as B)	APHA 23rd Edition Year 2017 Method No. 4500B	*BDL(**DL-0.2 mg/l)	mg/l	0.5	1.0
25	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
26	Free Residual Chlorine	IS: 3025 (Part 26): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH K. SANSANIYA
(Checked By)
BY TECHNICAL MANAGER

RAJ KUMAR YADAV
(Authorized Signatory)
G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/01
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Sesni MP

Report No. : VELAW/2102130003/B
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 09/02/2021
Sampling Quantity : 2 Ltr. +300 MI
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Project Site
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA. 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA. 2018	Agreeable	Qualitat Ivo	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA. 2017	Agreeable	Qualitat Ivo	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 5540C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

(Checked By)
TECHNICAL MANAGER

RAJ KUMAR JADAV
(Authorized Signatory)

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Test Report

Sample Number : VEL/JHABUA/GW/02
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130004/A
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ML
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Barela
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS-10500-2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.07	--	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5)	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	278.0	mg/l	500	2000
4	Total Alkalinity (as CaCO ₃)	IS: 3025 (Part 23): 1986, Reaff. 2019	106.7	mg/l	200	600
5	Total Hardness (as CaCO ₃)	IS: 3025 (Part 21): 2009, Reaff. 2019	126.1	mg/l	200	600
6	Nitrate (as NO ₃)	IS: 3025 (Part 34): 1988, Reaff. 2019	3.01	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	52.64	mg/l	250	1000
8	Sulphate (as SO ₄)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	28.72	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 40): 1991 Reaff. 2019	31.10	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	11.79	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.54	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-53): 2003 Reaffirm 2019	0.21	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation

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Test Report

Sample Number : VEL/JHABUA/GW/02


Report No. : VELW/2102130004/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l)			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1994, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Boron (as B)	APHA 23rd Edition Year 2017 Method No. 4500B	*BDL(**DL-0.2 mg/l)	mg/l	0.5	1.0
25	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
26	Free Residual Chlorine	IS: 3025 (Part 25): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

Checked By:  MANAGER


 (Authorized Signatory)
 RAJ KUMAR YADAV

G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/02
Name & Address of the Party : M/s Jhabus Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130004/B
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Barela
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA. 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA. 2018	Agreeable	Qualitative	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA. 2017	Agreeable	Qualitative	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 5640C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA
(Checked By)
TECHNICAL MANAGER

RAJ KUNAR YADAV
(Authorized Signatory)
G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/03
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130005/A
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ML
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Parajhir
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.22	--	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5)	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	297.0	mg/l	500	2000
4	Total Alkalinity (as CaCO ₃)	IS: 3025 (Part 23): 1986, Reaff. 2019	126.1	mg/l	200	600
5	Total Hardness (as CaCO ₃)	IS: 3025 (Part 21): 2009, Reaff. 2019	135.8	mg/l	200	600
6	Nitrate (as NO ₃)	IS: 3025 (Part 34): 1988, Reaff. 2019	3.43	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	71.79	mg/l	250	1000
8	Sulphate (as SO ₄)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	41.08	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 40): 1991 Reaff. 2019	38.9	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	9.41	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.51	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-53): 2003 Reaffirm 2019	0.23	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.0005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation

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Test Report

Sample Number : VEL/JHABUA/GW/03

Report No. : VEL/W/2102130005/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l)			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1994, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Boron (as B)	APHA 23rd Edition Year 2017 Method No. 4500B	*BDL(**DL-0.2 mg/l)	mg/l	0.5	1.0
25	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
26	Free Residual Chlorine	IS: 3025 (Part 26): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA
Checked By: *Mil*
MANAGER

RAJ KUMAR YADAV
R
(Authorized Signatory)
G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/03
Name & Address of the Party : M/s Jhabua Power Limited
Village-Bareila, Gorakpur District-Seoni MP

Report No. : VELAW/2102130005/B
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Panrajhir
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS-10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA. 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA. 2018	Agreeable	Qualitative	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA. 2017	Agreeable	Qualitative	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 5640C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH RALSANIYA
(Checked By)
TECHNICAL MANAGER

RAJ KUMAR YADAV
(Authorized Signatory)
G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/04
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130006/A
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Binaiki
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.49	--	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5)	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	318.0	mg/l	500	2000
4	Total Alkalinity (as CaCO ₃)	IS: 3025 (Part 23): 1986, Reaff, 2019	164.9	mg/l	200	600
5	Total Hardness (as CaCO ₃)	IS: 3025 (Part 21): 2009, Reaff. 2019	174.6	mg/l	200	600
6	Nitrate (as NO ₃)	IS: 3025 (Part 34): 1988, Reaff. 2019	8.0	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	62.21	mg/l	250	1000
8	Sulphate (as SO ₄)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	35.71	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 40): 1991 Reaff. 2019	50.54	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	11.79	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.64	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-53): 2003 Reaffirm 2019	0.24	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.0005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation



Test Report

Sample Number : VEL/JHABUA/GW/04

Report No. : VEL/W/2102130006/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1994, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
25	Free Residual Chlorine	IS: 3025 (Part 26): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA
MANAGER
(Checked By)

RAJ KUMAR YADAV
(Authorized Signatory)
O M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/04
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakhpur District-Seoni MP

Report No. : VEL/W/2102130005/B
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Binaki
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA. 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA. 2018	Agreeable	Qualitative	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA. 2017	Agreeable	Qualitative	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 5540C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA
Checked-By: *[Signature]*
MANAGER

RAJ KUMAR YADAV

[Signature]
Authorized Signature



Test Report

Sample Number : VEL/JHABUA/GW/05
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130007/A
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ML
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Durjunpur
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.66	--	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5)	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	360.0	mg/l	500	2000
4	Total Alkalinity (as CaCO ₃)	IS: 3025 (Part 23): 1986, Reaff. 2019	155.6	mg/l	200	600
5	Total Hardness (as CaCO ₃)	IS: 3025 (Part 21): 2009, Reaff. 2019	194.0	mg/l	200	600
6	Nitrate (as NO ₃)	IS: 3025 (Part 34): 1988, Reaff. 2019	8.54	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	67.0	mg/l	250	1000
8	Sulphate (as SO ₄)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	39.2	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 40): 1991 Reaff. 2019	62.20	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	9.43	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.89	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-63): 2003 Reaffirm 2019	0.38	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.0005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation



Test Report

Sample Number : VEL/JHABUA/GW/05

Report No. : VEL/W/2102130007/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l)			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1994, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Boron (as B)	APHA 23rd Edition Year 2017 Method No. 4500B	*BDL(**DL-0.2 mg/l)	mg/l	0.5	1.0
25	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
26	Free Residual Chlorine	IS: 3025 (Part 26): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

DINESH PALSANIYA

End of Report

RAJ KUMAR YADAV

(Authorized Signatory)

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(Checked By) MANAGER



Test Report

Sample Number : VEL/JHABUA/GW/05
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130007/B
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Durjunpur
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA. 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA. 2018	Agreeable	Qualitative	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA. 2017	Agreeable	Qualitative	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 5540C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

(Checked By)

BY TECHNICAL MANAGER

RAJ KUMAR YADAV
(Authorized Signatory)

G.M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/06
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130008/A
Format No : 7.6 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ML
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Guneri
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500:2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.40	--	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	353.0	mg/l	500	2000
4	Total Alkalinity (as CaCO3)	IS: 3025 (Part 23): 1986, Reaff. 2019	155.6	mg/l	200	600
5	Total Hardness (as CaCO3)	IS: 3025 (Part 21): 2009, Reaff. 2019	174.6	mg/l	200	600
6	Nitrate (as NO3)	IS: 3025 (Part 34): 1988, Reaff. 2019	7.31	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	76.57	mg/l	250	1000
8	Sulphate (as SO4)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	38.11	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 40): 1991 Reaff. 2019	62.20	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	4.72	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.82	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-53): 2003 Reaffirm 2019	0.26	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.0005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation



Test Report

Sample Number : VEL/JHABUA/GW/06

Report No. : VELAW/2102130008/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l)			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1994, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Boron (as B)	APHA 23rd Edition Year 2017 Method No. 4500B	*BDL(**DL-0.2 mg/l)	mg/l	0.5	1.0
25	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
26	Free Residual Chlorine	IS: 3025 (Part 26): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

(Checked By)
DY TECHNICAL MANAGER

RAJ KUMAR BADAU

(Authorized Signatory)

C M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/08
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130008/B
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Generi
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA. 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA. 2018	Agreeable	Qualitative	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA. 2017	Agreeable	Qualitative	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 5540C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit. **DL-Detection Limit

End of Report

DINESH PALSANIYA

(Checked By)
RV TECHNICAL MANAGER

RAJ KUMAR YADAV

(Authorized Signatory)

G M. LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/07
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130009/A
Format No : 7.6 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ML
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Doia
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS-10500-2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.42	--	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5)	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	344.0	mg/l	500	2000
4	Total Alkalinity (as CaCO ₃)	IS: 3025 (Part 23): 1986, Reaff. 2019	174.6	mg/l	200	600
5	Total Hardness (as CaCO ₃)	IS: 3025 (Part 21): 2009, Reaff. 2019	194.0	mg/l	200	600
6	Nitrate (as NO ₃)	IS: 3025 (Part 34): 1988, Reaff. 2019	8.54	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	57.43	mg/l	250	1000
8	Sulphate (as SO ₄)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	41.98	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 49): 1991 Reaff. 2019	58.32	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	11.78	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.69	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-53): 2003 Reaffirm 2019	0.24	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.0005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation



Test Report

Sample Number : VEL/JHABUA/GW/07

Report No. : VEL/W/2102130009/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l)			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1994, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Boron (as B)	APHA 23rd Edition Year 2017 Method No. 4500B	*BDL(**DL-0.2 mg/l)	mg/l	0.5	1.0
25	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
26	Free Residual Chlorine	IS: 3025 (Part 26): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH KUMAR SANIYA
(Checked By)
TECHNICAL MANAGER

RAJ KUMAR YADAV
(Authorized Signatory)
G.M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/07
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakhpur District-Seoni MP

Report No. : VEL/W/2102130009/B
Format No : 7.6.F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 Ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Dola
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS-10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA. 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA. 2018	Agreeable	Qualitative	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA. 2017	Agreeable	Qualitative	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 6540C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

(Checked By) TECHNICAL MANAGER

RAJ KUMAR YADAV

(Authorized Signatory)

G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/08
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakhpur District-Seoni MP

Report No. : VEL/W/2102130010/A
Format No : 7.6 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ML
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Gorakhpur
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	pH	IS 3025 (P-11): 1983 Reaff. 2017	7.51	--	6.5 to 8.5	No Relaxation
2	Total Suspended Solids	IS: 3025 (Part 17): 1984, Reaff. 2017	*BDL(**DL- 5)	mg/l	NA	NA
3	Total Dissolved Solids	IS 3025 (P-16): 1984 Reaff 2017	336.0	mg/l	500	2000
4	Total Alkalinity (as CaCO ₃)	IS: 3025 (Part 23): 1986, Reaff. 2019	161.5	mg/l	200	500
5	Total Hardness (as CaCO ₃)	IS: 3025 (Part 21): 2009, Reaff. 2019	174.6	mg/l	200	500
6	Nitrate (as NO ₃)	IS: 3025 (Part 34): 1988, Reaff. 2019	8.33	mg/l	45	No Relaxation
7	Chloride (as Cl)	IS: 3025 (Part 32): 1988, Reaff. 2019	43.07	mg/l	250	1000
8	Sulphate (as SO ₄)	IS: 3025 (Part 24): 1986, Reaff. 2019 Turbidity Method	34.59	mg/l	200	400
9	Calcium (as Ca)	IS: 3025 (Part 40): 1991 Reaff. 2019	58.31	mg/l	75	200
10	Magnesium (as Mg)	IS: 3025 (Part 46): 1994, Reaff. 2009 (EDTA method)	7.07	mg/l	30	100
11	Fluorides (as F)	APHA 23rd Edition 2017, 4500 FD	0.66	mg/l	1.0	1.5
12	Total Iron (as Fe)	IS 3025(P-53): 2003 Reaffirm 2019	0.24	mg/l	0.3	No Relaxation
13	Arsenic (as As)	APHA (23rd edition-2017), 3114 C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	0.05
14	Mercury (as Hg)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.0005 mg/l)	mg/l	0.001	No Relaxation
15	Lead (as Pb)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation
16	Cadmium (as Cd)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.002 mg/l)	mg/l	0.003	No Relaxation
17	Chromium (as Cr)	APHA 23rd Edition Year 2017 Method No. 3113 B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	No Relaxation
18	Copper (as Cu)	APHA 23rd Edition Year 2017 Method No. 3111B	*BDL(**DL-0.02 mg/l)	mg/l	0.05	1.5
19	Zinc (as Zn)	APHA (23rd edition-2017), 3030D, 3113 B	*BDL(**DL-0.20 mg/l)	mg/l	5.0	15
20	Selenium (as Se)	APHA (23rd edition-2017), 3114C	*BDL(**DL-0.005 mg/l)	mg/l	0.01	No Relaxation



Test Report

Sample Number : VEL/JHABUA/GW/08

Report No. : VEL/W/2102130016/A

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
20			mg/l)			
21	Turbidity	IS 3025 (Part 10): 1984, Ref: 2017, (Nephelometric Method)	*BDL(**DL 1.0 NTU)	NTU	1	5
22	Aluminium	IS 3025 (Part-55): 2003, Reaff. 2019	*BDL(**DL-0.03 mg/l)	mg/l	0.03	0.2
23	Manganese (as Mn)	IS: 3025 (Part 46): 1984, Reaff. 2019 (EDTA method)	*BDL(**DL-0.05 mg/l)	mg/l	0.1	0.3
24	Boron (as B)	APHA 23rd Edition Year 2017 Method No. 4500B	*BDL(**DL-0.2 mg/l)	mg/l	0.5	1.0
25	Phenolic Compound	APHA 23rd Edition 2017, 5530C	*BDL(**DL-0.001 mg/l)	mg/l	0.001	0.002
26	Free Residual Chlorine	IS: 3025 (Part 26): 1986 RA 2019	*BDL(**DL-0.2 mg/l)	mg/l	0.2	1

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

(Checked By)

RV TECHNICAL MANAGER

RAJ KUMAR YADAV

(Authorized Signatory)

G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/GW/08
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gonsipur District-Seoni MP

Report No. : VEL/W/2102130010/B
Format No : 7.6 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml
Sampling Type : Grab

Sample Description : GROUND WATER
Location : Village- Gerakhpur
Sample Collected by : Vardan EnviroLab Team
Preservation : Suitable Preservation
Sampling and Analysis Protocol : IS 10500 -2012

S.No.	Parameters	Protocols	Results	Units	IS:10500-2012	
					Acceptable Limits	Permissible Limits
1	Total Coliform (By MPN Method)	IS:1622	Absent	MPN/100 ml	Shall not be Detectable in any 100 ml sample	NA
2	E-Coli	IS:1622	Absent	per 100 ml	Absent/100 ml	Absent/100 ml
3	Cyanide (as CN)	APHA 23rd Edition 2017, 4500CN D	*BDL(**DL-0.05 mg/l)	mg/l	0.05	No Relaxation
4	Colour	IS 3025: 1983 (P-4) RA, 2017	*BDL(**DL 1.0 Hazen)	Hazen Unit	5	15
5	Odour	IS 3025 (P-5): RA, 2018	Agreeable	Qualitative	Agreeable	Agreeable
6	Taste	IS 3025(P-8):1984 RA, 2017	Agreeable	Qualitative	Agreeable	Agreeable
7	Anionic Surface Active Agent	APHA 23rd Edition 2017, 5540C	*BDL(**DL-0.05 mg/l)	mg/l	0.2	1.0

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIY
(Checked By)
DY TECHNICAL MANAGER

RAJ KUMAR YADAV
(Authorized Signatory)
G.M. LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/SW/05
 Name & Address of the Party : M/s Jhabua Power Limited
 Village-Barela, Gorakpur District-Seoni MP
 Name of the Project :
 Sample Description : GROUND WATER
 Location : Near Ash Pond (Up Stream)
 Sample Collected by : Vardan EnviroLab Team
 Parameter Required : As Per Work Order
 Sampling and Analysis Protocol : IS 2296

Report No. : VEL/W/2102130015/A
 Format No : 7.5 F-01
 Party Reference No : NIL
 Report Date : 23/02/2021
 Period of Analysis : 13/02/2021-23/02/2021
 Receipt Date : 13/02/2021
 Sampling Date : 08/02/2021
 Sampling Quantity : 2 Ltr. +300 Ml +200 ml
 Sampling Type : Grab
 Preservation : Suitable Preservation

S.No.	Test Parameters	Test Method	Results	Units
1	Lead as Pb	APHA (23rd edition), 3030D,3113B, 2017	*BDL(**DL0.005)	mg/l
2	Arsenic as As	APHA (23rd edition), 3030D,3114C, 2017	*BDL(**DL0.005)	mg/l
3	Chromium as Cr	APHA (23rd edition), 3030D,3113B, 2017	*BDL(**DL0.02)	mg/l
4	Mercury as Hg	APHA (23rd edition),3114C, 2017	*BDL(**DL0.0005)	mg/l

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

RAJ KUMAR YADAV

(Checked By)

(Authorized Signatory)

TECHNICAL MANAGER

G M LAB OPERATION



Test Report

Sample Number : VEL/JHABUA/SW/06
Name & Address of the Party : M/s Jhabua Power Limited
Village-Barela, Gorakpur District-Seoni MP

Report No. : VEL/W/2102130016/A
Format No : 7.8 F-01
Party Reference No : NIL
Report Date : 23/02/2021
Period of Analysis : 13/02/2021-23/02/2021
Receipt Date : 13/02/2021
Sampling Date : 08/02/2021
Sampling Quantity : 2 Ltr. +300 ml +200 ml
Sampling Type : Grab
Preservation : Suitable Preservation

Name of the Project :
Sample Description : GROUND WATER
Location : Near Ash Pond (Down Stream)
Sample Collected by : Vardan EnviroLab Team
Parameter Required : As Per Work Order
Sampling and Analysis Protocol : IS 2296

S.No.	Test Parameters	Test Method	Results	Units
1	Lead as Pb	APHA (23rd edition), 3030D,3113B, 2017	*BDL(**DL0.005)	mg/l
2	Arsenic as As	APHA (23rd edition), 3030D,3114C, 2017	*BDL(**DL0.005)	mg/l
3	Chromium as Cr	APHA (23rd edition), 3030D,3113B, 2017	*BDL(**DL0.02)	mg/l
4	Mercury as Hg	APHA (23rd edition),3114C, 2017	*BDL(**DL0.0005)	mg/l

*BDL-Below Detection Limit, **DL-Detection Limit

End of Report

DINESH PALSANIYA

RAJ KUMAR YADAV

(Checked By)
QUALITY MANAGER

GM (Authorized Signatory)

Annexure -2

Ash Pond Effluent Report




Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /WW/09	Report No.:	VEL/WW/2202150010
Name & Address of Party:	M/s Jhabua Power Limited Village- Barela, Gorakpur Dist- Seoni, MP	Format No.:	7.8 F-01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Waste Water	Receipt Date:	15/02/2022
Sampling Location :	Ash Pond Effluent	Sampling Date:	12/02/2022
Sample Collected by:	Vardan EnviroLab Representative	Sample Quantity:	1 Ltr
		Parameter Required:	As per Work Order

S.No.	Test Parameters	Test Method	Result	Unit
1	pH	APHA, 23 rd edition 4500H+ B Electrometric Method: 2017	7.25	----
2	Total Suspended Solids	APHA 2540 D Gravimetric Method	27.4	mg/l
3	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	*BDL(DL-0.5)	mg/l
4	Lead (as Pb)	APHA, 23 rd edition, 3111 B Direct Air- Acetylene Flame Method:2017	0.09	mg/l
5	Chromium (as Cr)	APHA, 23 rd edition, 3111 B Direct Air- Acetylene Flame Method:2017	0.15	mg/l
6	Arsenic (as As)	APHA, 23 rd edition, 3111 B Direct Method:2017	*BDL(DL-0.002)	mg/l
7	Mercury (as Hg)	APHA, 23 rd edition, 3111 B Direct Method:2017	*BDL(DL-0.002)	mg/l


(Checked By)


(Authorized Signatory)



Annexure -3

**Structural Adequacy report of Ash Dyke certified
by IIT, Roorkee**



Dr. P.K. GARG

Ph.D (Bristol U.K)
FIE, FIWRS, FIS, HG5, FINCA, FSIS
MIUT, MIAH, MISG, ISTE, MISRS, MISET

Professor

भारतीय प्रौद्योगिकी संस्थान रुड़की

(पूर्व रुड़की विश्वविद्यालय)

जनपद अभियांत्रिकी विभाग

रुड़की – 247 667 उत्तराखण्ड भारत

INDIAN INSTITUTE OF TECHNOLOGY , ROORKEE

(Formerly University of Roorkee)

DEPARTMENT OF CIVIL ENGINEERING

ROORKEE – 247667 , UTTARAKHAND , ROORKEE

Fax : +91-1332-273560,285462, Tel : +91-1332-285462 O),275080,285026(R)

Email : gargpce@iitr.ernet.in

Date: 04.03.2020

Certification of Report

Ref-No. SGPL/NOC/19-20/020

Corresponding to the Site: Jhabua Power Limited

Address:

Village -Barela, Tehsil-Ghansore

District –Seoni,

Madhya Pradesh

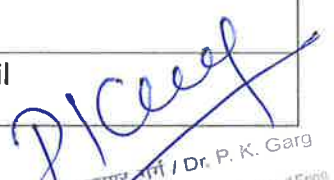
PIN - 480997

A team of M/s Spatial Geotech Pvt. Ltd. under my coordination and supervision, has inspected and gone through the factory premises of Jhabua Power Ltd. located at the above mentioned address physically and has verified the structure, its design and durability as well as strength of the structure with reference to the established norms. We have found, on completion of the due verification and inspection, that the ash dykes are stable, healthy and accordingly possibilities of any breach is negligible.

Ash Dyke Design Standards

A comparative statement of design standards of ash pond and its dyke and status of the same at site is given in table below.

CEA Standards	Site Status	Remarks
Ash dyke		
Starter dyke have a capacity to	Dyke have the capacity to store ash	Nil


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प्राध्यापक / Professor
जनपद अभियांत्रिकी विभाग / Dept. of Civil Engg
भारतीय प्रौद्योगिकी संस्थान रुड़की
Indian Institute of Technology Roorkee
रुड़की-247667 / Roorkee-247667

Store ash for 5 years	for the operation period of the plant	
Raising will be in stage of 3m	Initial height is 5m, raising plan is on 3m stages	5m height enabling more volume handling
Starter dyke is with earthen embankment extracted from ash pond	Starter dyke is made out of earthen embankment	Fly ash is not utilized for construction
Ultimate capacity is for 25 years	Capacity planned for entire life span of plant	Nil
Top surface of the dyke is with earth 0.3m	Top surface is with earth and small diameter rock which enable movement of vehicle	Fly ash is not utilized for construction
FRL is 1.5m below dyke top at all stages	1.5m free space is planned at all stages of filling	Nil
Top width 6.0m	Width is 6m maintained of which 4m occupied by road	Nil
Dyke upstream slope		
11.5cm brick layer	Stone pitching	This will be structurally more stable
5cm sand cushion	Engineering sand material is used	Nil
750 micro m HDPE	250 micron HDPE used, along with stone pitching	This will give more stability and prevent leaching
Slope 2H : 1V	Slope 2H : 1V	Nil
Bottom of the pond		
30 cm sand	Sand cushion is given	Nil
500 micro m HDPE	250 micron HDPE used	Supported with additional engineering soil layer
Downstream slope		

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 प्राध्यापक / Professor
 जलसंधारण अभियांत्रिकी विभाग / Dept. of Civil Engrg.
 भारतीय प्रौद्योगिकी संस्थान रुड़की
 Indian Institute of Technology Roorkee
 रुड़की-247667 / Roorkee-247667

5 cm concrete panels of 1.5 m x 1.2 m	Stone pitching is more stable	Nil
A rock toe of 75cm using graded stones of 100 to 400mm over 15cm sand graded filter	Rock toe provided	Facilitate water recharge and prevent inundation of outside area
Slope 2.25H : 1V with berm 1.5m with 2H : 1V	1.5H : 1V provided	Nil
50 m wide green belt	50 to 100m thick vegetation cover provided	Native trees used for vegetating the area
Steel bridge	Provided	Nil
Ash pond stability		
Horizontal seismic coefficient 1.5	Designs are made in accordance with seismic coefficient 1.5	Nil

Thanking You,
Yours Sincerely,

P.K. Garg
 डॉ. पी.के. गार्ग / Dr. P. K. Garg
 प्राध्यापक / Professor
 जलसंचयन अभियांत्रिकी विभाग / Dept. of Civil Engg
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 Indian Institute of Technology Raourkela
 राउरकेह-769008 / Raourkela-769008

(Dr. P.K. Garg)

Annexure -4

Treated Sewage Water Report



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /WW/03	Report No.:	VEL/WW/2203100003
Name & Address of Party:	M/s Jhabua Power Limited	Format No.:	7.8 F-01
	Village- Barela, Gorakpur Dist- Seoni,	Party Reference No.:	4300005298
	MP	Reporting Date:	14/03/2022
Sample Description:	Waste Water	Receipt Date:	10/03/2022
Sampling Location :	Treated Sewage Water	Sampling Date:	05/03/2022
Sample Collected by:	Vardan EnviroLab Representative	Sample Quantity:	2 Ltr
		Parameter Required:	As per Work Order

S.No.	Test Parameters	Test Method	Result	Unit	Prescribed Limit
1	pH	APHA, 23 rd edition 4500H+ B Electrometric Method: 2017	7.29	----	5.5-9.0
2	Total Suspended Solids	APHA 2540 D Gravimetric Method	10.0	mg/l	100.0
3	Ammonical Nitrogen	IS 14684:RA 2006	4.08	mg/l	50
4	COD	APHA 5220 B Open Reflux Method:2017	61.0	mg/l	250
5	BOD (3 Days @27°C)	APHA 5210 C Ultimate BOD Test:2017	15.8	mg/l	30
6	Phosphate as PO4	APHA,23 rd edition,4500PC: 2017	BDL(**DL 0.20)	mg/l	5
7	Total Kjeldahl Nitrogen	IS 14684,1999	1.39	mg/l	100
8	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample

** BDL(Below Detection Limit)

(Checked By)

(Authorized Signatory)



VEL/E/I/TR/PN27333

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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in

Annexure -5

Ground Water Report



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /GW/01	Report No.:	VEL/W/2202150001
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela,Gorakhpur, District- Seoni,MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Ground Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Project Operation Gate	Receipt Date:	15/02/2022
Sample Collected by	Vardan EnviroLab Representative	Sampling Date:	12/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.34	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	318.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	141.8	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	178.48	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	7.47	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	59.44	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	30.95	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	54.43	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	10.31	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F- D	0.58	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.21	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition)3030D,3114B,2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition)3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition2017,3030D,3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15

(Checked By)

(Authorized Signatory)



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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/GW/01				Report No.: VEL/W/2202150001		
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E. Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition,2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed.,2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

(Checked By)

(Authorized Signatory)



www.vardan.co.in

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /GW/02	Report No.:	VEL/W/2202150002
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela,Gorakhpur, District- Seoni,MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Ground Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Village- Barela	Receipt Date:	15/02/2022
Sample Collected by	Vardan EnviroLab Representative	Sampling Date:	11/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.11	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	239.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	90.6	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	108.64	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	4.15	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	46.44	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	23.61	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	26.44	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	10.34	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F- D	0.52	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.17	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition)3030D,3114B,2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition)3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition2017,3030D,3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/GW/02				Report No.: VEL/W/2202150002		
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total.Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E.Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition,2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed.,2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL /GW/03
Name & Address of Party: M/s Jhabua Power Limited
Village-Barela,Gorakhpur, District-
Seoni,MP

Report No.: VEL/W/2202150003
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Reporting Date: 21/02/2022


Sample Description: Ground Water
Sampling Location: Village- Panarjhir
Sample Collected by: Vardan EnviroLab Representative
Preservation: Refrigerated
Sampling & Analysis Protocol: IS-10500-2012

Period of Analysis: 15-21/02/2022
Receipt Date: 15/02/2022
Sampling Date: 11/02/2022
Sampling Type: Grab
Sample Quantity: 2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.16	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	272.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	118.2	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	120.28	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	2.42	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	65.02	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	37.71	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	34.21	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	8.44	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F- D	0.50	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.21	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition)3030D,3114B,2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition)3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition2017,3030D,3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/GW/03				Report No.: VEL/W/2202150003		
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E. Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition,2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed.,2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL /GW/04
Name & Address of Party: M/s Jhabua Power Limited
 Village-Barela,Gorakpur, District-
 Seoni,MP

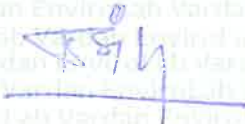
Sample Description: Ground Water
Sampling Location: Village- Binaiki
Sample Collected by: Vardan EnviroLab Representative
Preservation: Refrigerated
Sampling & Analysis Protocol: IS-10500-2012

Report No.: VEL/W/2202150004
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Reporting Date: 21/02/2022

Period of Analysis: 15-21/02/2022
Receipt Date: 15/02/2022
Sampling Date: 11/02/2022
Sampling Type: Grab
Sample Quantity: 2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.38	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	296.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	149.7	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	162.96	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	6.64	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	55.73	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	28.28	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	48.21	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	10.31	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F D	0.62	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.22	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition)3030D,3114B,2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition)3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition2017,3030D,3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/GW/04					Report No.: VEL/W/2202150004	
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E. Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition, 2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed., 2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL /GW/05
Name & Address of Party: M/s Jhabua Power Limited
Village-Barela, Gorakhpur, District-
Seoni, MP
Sample Description: Ground Water
Sampling Location: Village- Durjanpur
Sample Collected by: Vardan EnviroLab Representative
Preservation: Refrigerated
Sampling & Analysis Protocol: IS-10500-2012

Report No.: VEL/W/2202150005
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Reporting Date: 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date: 15/02/2022
Sampling Date: 11/02/2022
Sampling Type: Grab
Sample Quantity: 2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.48	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	337.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	137.9	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	182.36	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	6.64	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	59.44	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	33.8	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	54.43	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	11.25	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition, 2017, 4500-F D	0.64	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed., 2017, 3500 Fe- B	0.33	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition) 3030D, 3114B, 2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition) 3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition 2017, 3030D, 3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition 2017, 3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/GW/05				Report No.: VEL/W/2202150005		
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E. Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition, 2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed., 2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /GW/06	Report No.:	VEL/W/2202150006
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela,Gorakhpur, District- Seoni,MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Ground Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Village- Guneri	Receipt Date:	15/02/2022
Sample Collected by	Vardan EnviroLab Representative	Sampling Date:	11/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.34	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	327.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	134.0	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	162.96	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	6.72	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	66.87	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	35.61	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	55.98	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	5.59	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F- D	0.78	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.25	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition)3030D,3114B,2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition)3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition2017,3030D,3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/GW/06				Report No.: VEL/W/2202150006		
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E. Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition, 2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed., 2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.


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Vardan EnviroLab


Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /GW/07	Report No.:	VEL/W/2202150007
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela, Gorakhpur, District- Seoni, MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Ground Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Village- Dola	Receipt Date:	15/02/2022
Sample Collected by:	Vardan EnviroLab Representative	Sampling Date:	11/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H ⁺ B	7.33	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	318.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	157.6	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	182.36	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	7.4	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl ⁻ B	50.15	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	37.71	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	55.98	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	10.3	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition, 2017, 4500-F-D	0.65	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed., 2017, 3500 Fe- B	0.22	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition) 3030D, 3114B, 2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition) 3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition 2017, 3030D, 3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition 2017, 3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/GW/07				Report No.: VEL/W/2202150007		
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E. Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition, 2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed., 2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

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Test Report

Sample Number:	VEL /GW/08	Report No.:	VEL/W/2202150008
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela,Gorakhpur, District- Seoni,MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Ground Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Village- Gorakhpur	Receipt Date:	15/02/2022
Sample Collected by:	Vardan EnviroLab Representative	Sampling Date:	11/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H ⁺ B	7.46	--	6.5 to 8.5	No Relaxation
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	311.0	mg/l	500	2000
3.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	145.8	mg/l	200	600
4.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	166.84	mg/l	200	600
5.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	5.89	mg/l	45	No Relaxation
6.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl ⁻ B	39.01	mg/l	250	1000
7.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	30.47	mg/l	200	400
8.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	52.87	mg/l	75	200
9.	Magnesium as Mg	APHA 23 rd Edition, 3500Mg B:2017	8.42	mg/l	30	100
10.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F· D	0.64	mg/l	1.0	1.5
11.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.22	mg/l	0.3	No relaxation
12.	Arsenic as As	APHA (23 rd Edition)3030D,3114B,2017	BDL(DL 0.002)	mg/l	0.01	0.05
13.	Mercury as Hg	APHA (23 rd Edition)3112B:2018	BDL(DL 0.0005)	mg/l	0.001	No relaxation
14.	Lead as Pb	APHA 23 rd Edition2017,3030D,3111B	BDL(DL 0.002)	mg/l	0.01	No relaxation
15.	Cadmium (as Cd)	APHA (23 rd Edition) 3111 B	BDL(DL 0.002)	mg/l	0.003	No relaxation
16.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l	0.05	1.5
17.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l	5	15


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Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051. (Haryana)
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Test Report

Sample No.: VEL/GW/08				Report No.: VEL/W/2202150008		
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
18.	Selenium as Se	APHA (23 rd Edition)3114B:2018	BDL(DL 0.001)	mg/l	0.01	No relaxation
19.	Turbidity	APHA 23 rd Edition, 2130 B	BDL(DL 1.0)	NTU	1	5
20.	Aluminium as Al	APHA 23 rd Edition, 3111 D	BDL(DL 0.002)	mg/l	0.03	0.2
21.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l	0.1	0.3
22.	Residual Free Chlorine	APHA (23 rd Edition 2017)3500 Cl B	BDL(DL 0.15)	mg/l	0.2	1
23.	Total. Coliform	IS:1622:2009	Absent	MPN/ 100ml	Shall Not Be detectable in 100 ml Sample	NA
24.	E. Coli	IS:1622:2009	Absent	Per 100ml	Shall Not Be detectable in 100 ml Sample	NA
25.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l	0.05	No relaxation
26.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen	5	15
27.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--	Agreeable	Agreeable
28.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--	Agreeable	Agreeable
29.	Anionic Detergents as MBAS	APHA 23 rd Edition, 2017, 5540 C	BDL(DL 0.05)	mg/l	0.2	1.0
30.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l	0.001	0.002
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l	0.5	1
32.	Chromium as Cr	APHA 23 rd Ed., 2017, 3111 B	BDL(DL 0.002)	mg/l	0.05	No relaxation

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.


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Annexure -6

Surface Water Report



Vardan EnviroLab

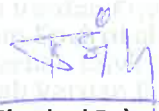
Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL/SW/01	Report No.:	VEL/W/2202150011
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela, Gorakhpur, District- Seoni, MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Surface Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Pariyat River	Receipt Date:	15/02/2022
Sample Collected by:	Vardan EnviroLab Representative	Sampling Date:	12/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.39	--
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	253.0	mg/l
3.	Total Suspended Solids	APHA 23 rd Edition, 2540 D	6.8	mg/l
4.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	141.8	mg/l
5.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	182.36	mg/l
6.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	2.42	mg/l
7.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	24.15	mg/l
8.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	6.67	mg/l
9.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	32.66	mg/l
10.	Magnesium as Mg	APHA 23 rd Edition, 2340 B	24.47	mg/l
11.	Fluoride as F	APHA 23 rd Edition, 2017, 4500-F- D	0.58	mg/l
12.	Iron as Fe	APHA 23 rd Ed., 2017, 3500 Fe- B	0.12	mg/l
13.	Cadmium (as Cd)	APHA (23 rd Edition) 3030D, 3113B	BDL(DL 0.002)	mg/l
14.	Copper as Cu	APHA 23 rd Edition 2017, 3111B	BDL(DL 0.002)	mg/l
15.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
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Test Report

Sample No.: VEL/SW/01			Report No.: VEL/W/2202150011	
S. No.	Parameter	Test-Method	Result	Unit
16.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l
17.	Arsenic (as As)	APHA 23 rd Edition, 3030 D,3114 C.2017	BDL(DL 0.002)	mg/l
18.	Selenium (as Se)	APHA 23 rd Edition, 3114 C.2017	BDL(DL 0.001)	mg/l
19.	Mercury (as Hg)	APHA 23 rd Edition, 3114 C.2017	BDL(DL 0.0005)	mg/l
20.	Lead(as Pb)	APHA 23 rd Edition, 3030 D,3113 B.2017	BDL(DL 0.002)	mg/l
21.	Turbidity	APHA 23 rd Edition, 2130 B	5.0	NTU
22.	Residual Free Chlorine	APHA 23 rd Edition, 3500 Cl B	BDL(DL 0.15)	mg/l
23.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l
24.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen
25.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--
26.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--
27.	Anionic Detergents as MBAS	APHA 23 rd Edition,2017, 5540 C	BDL(DL 0.05)	mg/l
28.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l
29.	BOD(3 days at 27°C)	APHA 23 rd Edition, 2017, 5210 C	5.23	mg/l
30.	COD	APHA 23 rd Edition, 2017, 5220 B	22.55	mg/l
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l
32.	Chromium as Cr	APHA 23 rd Ed.,2017, 3111 B	BDL(DL 0.002)	mg/l

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

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Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /SW/02	Report No.:	VEL/W/2202150012
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela,Gorakhpur, District- Seoni,MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Surface Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Tomar River Nr. Village - Pati	Receipt Date:	15/02/2022
Sample Collected by	Vardan EnviroLab Representative	Sampling Date:	12/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H ⁺ B	7.46	--
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	208.0	mg/l
3.	Total Suspended Solids	APHA 23 rd Edition, 2540 D	6.0	mg/l
4.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	145.8	mg/l
5.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	116.4	mg/l
6.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	6.87	mg/l
7.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	27.86	mg/l
8.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	7.52	mg/l
9.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	26.44	mg/l
10.	Magnesium as Mg	APHA 23 rd Edition, 2340 B	8.45	mg/l
11.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F- D	0.51	mg/l
12.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.11	mg/l
13.	Cadmium (as Cd)	APHA (23 rd Edition)3030D,3113B	BDL(DL 0.002)	mg/l
14.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l
15.	Zinc as Zn	APHA 23 rd Ed. 2017,	BDL(DL 0.01)	mg/l


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Test Report

Sample No.: VEL/SW/02			Report No.: VEL/W/2202150012	
S. No.	Parameter	Test-Method	Result	Unit
16.	Manganese as Mn	APHA 23 rd Edition, 3111 B	BDL(DL 0.01)	mg/l
17.	Arsenic (as As)	APHA 23 rd Edition, 3030 D,3114 C.2017	BDL(DL 0.002)	mg/l
18.	Selenium (as Se)	APHA 23 rd Edition, 3114 C.2017	BDL(DL 0.001)	mg/l
19.	Mercury (as Hg)	APHA 23 rd Edition, 3114 C.2017	BDL(DL 0.0005)	mg/l
20.	Lead(as Pb)	APHA 23 rd Edition, 3030 D,3113 B.2017	BDL(DL 0.002)	mg/l
21.	Turbidity	APHA 23 rd Edition, 2130 B	2.0	NTU
22.	Residual Free Chlorine	APHA 23 rd Edition, 3500 Cl B	BDL(DL 0.15)	mg/l
23.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l
24.	Colour	APHA 23 rd Edition, 2120 B	BDL(DL 1.0)	Hazen
25.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--
26.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--
27.	Anionic Detergents as MBAS	APHA 23 rd Edition,2017, 5540 C	BDL(DL 0.05)	mg/l
28.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l
29.	BOD(3 days at 27°C)	APHA 23 rd Edition, 2017, 5210 C	4.32	mg/l
30.	COD	APHA 23 rd Edition, 2017, 5220 B	24.6	mg/l
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l
32.	Chromium as Cr	APHA 23 rd Ed.,2017, 3111 B	BDL(DL 0.002)	mg/l

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

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Vardan EnviroLab


Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /SW/03	Report No.:	VEL/W/2202150013
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela,Gorakhpur, District- Seoni,MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Surface Water	Period of Analysis:	15-21/02/2022
Sampling Location:	Nala Nr. Village - Binaiki	Receipt Date:	15/02/2022
Sample Collected by:	Vardan EnviroLab Representative	Sampling Date:	11/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.32	--
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	355.0	mg/l
3.	Total Suspended Solids	APHA 23 rd Edition, 2540 D	20.5	mg/l
4.	Alkalinity as CaCO ₃	APHA 23 rd Edition, 2320 B	193.1	mg/l
5.	Total Hardness as CaCO ₃	APHA 23 rd Edition, 2340 C	209.52	mg/l
6.	Nitrate as NO ₃	IS 3025 (P-34) 1988:RA.2019	7.17	mg/l
7.	Chloride as Cl	APHA 23 rd Edition, 4500-Cl- B	39.01	mg/l
8.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	8.28	mg/l
9.	Calcium as Ca	APHA 23 rd Edition, 3500 Ca B	62.2	mg/l
10.	Magnesium as Mg	APHA 23 rd Edition, 2340 B	13.12	mg/l
11.	Fluoride as F	APHA 23 rd Edition,2017, 4500-F- D	0.63	mg/l
12.	Iron as Fe	APHA 23 rd Ed.,2017, 3500 Fe- B	0.13	mg/l
13.	Cadmium (as Cd)	APHA (23 rd Edition)3030D,3113B	BDL(DL 0.002)	mg/l
14.	Copper as Cu	APHA 23 rd Edition2017,3111B	BDL(DL 0.002)	mg/l
15.	Zinc as Zn	APHA 23 rd Ed. 2017,	0.24	mg/l


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)

ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample No.: VEL/SW/03			Report No.: VEL/W/2202150013	
S. No.	Parameter	Test-Method	Result	Unit
16.	Manganese as Mn	APHA 23 rd Edition, 3111 B	0.12	mg/l
17.	Arsenic (as As)	APHA 23 rd Edition, 3030 D,3114 C.2017	BDL(DL 0.002)	mg/l
18.	Selenium (as Se)	APHA 23 rd Edition, 3114 C.2017	BDL(DL 0.001)	mg/l
19.	Mercury (as Hg)	APHA 23 rd Edition, 3114 C.2017	BDL(DL 0.0005)	mg/l
20.	Lead(as Pb)	APHA 23 rd Edition, 3030 D,3113 B.2017	BDL(DL 0.002)	mg/l
21.	Turbidity	APHA 23 rd Edition, 2130 B	8.0	NTU
22.	Residual Free Chlorine	APHA 23 rd Edition, 3500 Cl B	BDL(DL 0.15)	mg/l
23.	Cyanide as CN	APHA 4500CN-D	BDL(DL 0.02)	mg/l
24.	Colour	APHA 23 rd Edition, 2120 B	5.0	Hazen
25.	Odour	APHA 23 rd Edition, 2150 B	Agreeable	--
26.	Taste	APHA 23 rd Edition, 2160 B	Agreeable	--
27.	Anionic Detergents as MBAS	APHA 23 rd Edition,2017, 5540 C	BDL(DL 0.05)	mg/l
28.	Phenolic Compounds	APHA 23 rd Edition, 5530 C	BDL(DL 0.0004)	mg/l
29.	BOD(3 days at 27°C)	APHA 23 rd Edition, 2017, 5210 C	7.14	mg/l
30.	COD	APHA 23 rd Edition, 2017, 5220 B	42.64	mg/l
31.	Boron	APHA 23 rd Edition, 4500 C	BDL(DL 0.01)	mg/l
32.	Chromium as Cr	APHA 23 rd Ed.,2017, 3111 B	BDL(DL 0.002)	mg/l

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.


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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL /SW/04	Report No.:	VEL/W/2202150014
Name & Address of Party:	M/s Jhabua Power Limited Village-Barela,Gorakhpur, District- Seoni,MP	Format No.:	7.8 F 01
		Party Reference No.:	4300005298
		Reporting Date:	21/02/2022
Sample Description:	Surface Water	Period of Analysis:	15-21/02/2022
Sampling Location:	100 Mtr. From confluence point/Down Stream River	Receipt Date:	15/02/2022
Sample Collected by	Vardan EnviroLab Representative	Sampling Date:	12/02/2022
Preservation:	Refrigerated	Sampling Type:	Grab
Sampling & Analysis Protocol:	IS-10500-2012	Sample Quantity:	2.0 Ltr.

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	APHA 23 rd Edition, 4500-H+ B	7.26	--
2.	Total Dissolved Solids	APHA 23 rd Edition, 2540 C	395.0	mg/l
3.	Total Suspended Solids	APHA 23 rd Edition, 2540 D	29.6	mg/l
4.	BOD(3 days at 27°C)	APHA 23 rd Edition, 2017, 5210 C	13.5	mg/l
5.	COD	APHA 23 rd Edition, 2017, 5220 B	50.84	mg/l
6.	Sulphate as SO ₄	APHA 23 rd Edition, 4500 E	7.81	mg/l
7.	Lead(as Pb)	APHA 23 rd Edition, 3030 D,3113 B.2017	BDL(DL 0.002)	mg/l
8.	Arsenic (as As)	APHA 23 rd Edition, 3030 D,3114 C.2017	BDL(DL 0.002)	mg/l
9.	Chromium as Cr	APHA 23 rd Ed.,2017, 3111 B	BDL(DL 0.002)	mg/l
10.	Cadmium (as Cd)	APHA (23 rd Edition)3030D,3113B	BDL(DL 0.002)	mg/l
11.	Mercury (as Hg)	APHA 23 rd Edition, 3114 C.2017	BDL(DL 0.0005)	mg/l
12.	Oil & Grease	APHA 23 rd Ed.,2017, 5520 B	2.2	mg/l

Note:- *BDL-Below Detection Limit, *DL- Detection Limit.

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VEL/E/1/TR/PN26120

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Annexure -7

Greenbelt development Report

Green Belt Development

Plantation on 33% land of 406 acres	134 acres
Density of plantation	2500 plants/Hectare
Area required per plant	4.0 SQM
Total plantation required on 134 acres (542164 SQM) of land	135541 Nos
No of plantation completed	181082
Survival rate maintained	>70%

Photographs of Plantations



Photographs of Plantations



Photographs of Plantations



Photographs of Plantations



Photographs of Plantations



Annexure -8

COD Letter for Jhabua Power Ltd



भारत सरकार
Government of India
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
पश्चिम क्षेत्रीय विद्युत समिति



आई एस ओ : 9001 : 2008
ISO : 9001:2008

Western Regional Power Committee

एफ -3, एमआयडीसी क्षेत्र, अंधेरी (पूर्व), मुंबई - 93
F-3, MIDC Area, Andheri (East), Mumbai -93
दूरभाष Phone: 022- 28221636; 28200195; 28200194 ; फैक्स Fax : 022 -28370193
Website : www.wrpc.gov.in E-mail : ms-wrpc@nic.in

NO.WRPC/OPN/MBPMPL-COD/2016/ 83 9 = = = Date: 05.05.2016

To,
Chief Engineer (OM Division),
Central Electricity Authority
Sewa Bhavan, R.K.Puram,
New Delhi – 110066.

Sub:- Confirmation of Commercial Date of Operation in respect of Unit No 1(600 MW) of 1260 MW Jhabua Power Limited in Distt Seoni of Madhya Pradesh.

Sir,

M/s. Jhabua Power Limited. vide letter No.JPL/BD/WRPC/16/1, dated 03.05.2016 have intimated the date of Commercial Operation (COD) of Unit No.1 (600 MW) of 1260 MW Jhabua Power Limited in Distt Seoni of Madhya Pradesh with effect from 00:00 hrs of 03.05.2016. In support of this M/s. Jhabua Power Limited in Distt Seoni of Madhya Pradesh. have submitted certificate from Director in prescribed format (Appendix –VI.) as per Regulation – 4 of CERC (Terms & Conditions of Tariff Regulation 2014) also certificate for COD from Independent Engineer viz. Lahmeyer International(India) Pvt Ltd, Gurgaon,, certifying the demonstration of installed capacity through successful trial run of the said unit between 20:00 Hrs of 29th April, 2016 to 20:00 Hrs of 2nd May, 2016 at 95% and above of its rated capacity.

WRLDC Mumbai has furnished the verified data for continuous 72 hrs running of the unit No.1(600 MW) between 20:00 Hrs of 29th April, 2016 to 20:00 Hrs of 2nd May, 2016 at 95% and above of its rated capacity.

In view of the above supporting document, all the formalities requisite for declaration of COD have been fulfilled. Therefore it is to confirm that COD of Unit No.1 (600 MW) of 1260 MW Jhabua Power Limited in Distt Seoni of Madhya Pradesh may be taken from 00:00 hrs of 03/05/2016.

Thanking you,

Yours faithfully,

(S.D.TAKSANDE)
Member Secretary

Copy to:- 1.

1. Member (GO&D), CEA, New Delhi.
2. Chief Engineer (GM),CEA, New Delhi.
3. Secretary, CEA, New Delhi
4. Director, Jhabua Power Limited in Distt Seoni of Madhya Pradesh.
5. Shri Gattu Rambhaya, COO, Avantha Power Ltd. Gurgaon.

Annexure -9

Amenities

First Aid Center



First Aid Center



First Aid Center



Urinals



Urinals



Toilet attached bath rooms



Annexure -10

Noise Level Monitoring Report



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL/JHABUA/AN/01	Report No.:	VEL /N/2202150004
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Project Operation Gate
Instrument Code	: VEL/SLM/08
Meteorological condition during monitoring	: Clear sky
Date of Monitoring	: 10/02/2022 to 11/02/2022
Time of Monitoring	: 06:00 AM to 06:00AM
Ambient Temperature (°C)	: Min. 18°C, Max. 29 °C
Surrounding Activity	: Human, Vehicular & Other Activities
Parameter Required	: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	58.17	46.22

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
2. Night Time is reckoned between 10.00 PM to 6.00 AM.
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

(Checked By)

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL/JHABUA/AN/02	Report No.:	VEL /N/2202150005
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakhpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location : Village: Gorakhpur
Instrument Code : VEL/SLM/07
Meteorological condition during monitoring : Clear sky
Date of Monitoring : 10/02/2022 to 11/02/2022
Time of Monitoring : 06:00 AM to 06:00AM
Ambient Temperature (°C) : Min. 18°C, Max. 29 °C
Surrounding Activity : Human, Vehicular & Other Activities
Parameter Required : As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	54.76	39.60

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
2. Night Time is reckoned between 10.00 PM to 6.00 AM.
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Test Report

Sample Number:	VEL/JHABUA/AN/03	Report No.:	VEL /N/2202150006
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Village: Binaki
Instrument Code	: VEL/SLM/11
Meteorological condition during monitoring	: Clear sky
Date of Monitoring	: 10/02/2022 to 11/02/2022
Time of Monitoring	: 06:00 AM to 06:00AM
Ambient Temperature (°C)	: Min. 18°C, Max. 29 °C
Surrounding Activity	: Human, Vehicular & Other Activities
Parameter Required	: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	52.81	42.67

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
 2. Night Time is reckoned between 10.00 PM to 6.00 AM.
 3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
- Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL/JHABUA/AN/04	Report No.:	VEL /N/2202150007
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Village: Barela
Instrument Code	: VEL/SLM/08
Meteorological condition during monitoring	: Clear sky
Date of Monitoring	: 11/02/2022 to 12/02/2022
Time of Monitoring	: 06:00 AM to 06:00AM
Ambient Temperature (°C)	: Min. 14°C, Max.28 °C
Surrounding Activity	: Human, Vehicular & Other Activities
Parameter Required	: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	52.90	40.68

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

- Day Time is from 6.00 AM to 10.00 PM.
- Night Time is reckoned between 10.00 PM to 6.00 AM.
- Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Test Report

Sample Number:	VEL/JHABUA/AN/05	Report No.:	VEL /N/2202150008
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Village: Panarjhir
Instrument Code	: VEL/SLM/07
Meteorological condition during monitoring	: Clear sky
Date of Monitoring	: 11/02/2022 to 12/02/2022
Time of Monitoring	: 06:00 AM to 06:00AM
Ambient Temperature (°C)	: Min. 14°C, Max.28 °C
Surrounding Activity	: Human, Vehicular & Other Activities
Parameter Required	: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	51.90	39.68

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

- Day Time is from 6.00 AM to 10.00 PM.
 - Night Time is reckoned between 10.00 PM to 6.00 AM.
 - Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
- Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Test Report

Sample Number:	VEL/JHABUA/AN/07	Report No.:	VEL /N/2202150010
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Guneri
Instrument Code	: VEL/SLM/08
Meteorological condition during monitoring	: Clear sky
Date of Monitoring	: 12/02/2022 to 13/02/2022
Time of Monitoring	: 06:00 AM to 06:00AM
Ambient Temperature (°C)	: Min. 10°C, Max.29 °C
Surrounding Activity	: Human, Vehicular & Other Activities
Parameter Required	: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	50.40	40.68

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
 2. Night Time is reckoned between 10.00 PM to 6.00 AM.
 3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
- Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number:	VEL/JHABUA/AN/08	Report No.:	VEL /N/2202150011
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Village: Dola
Instrument Code	: VEL/SLM/07
Meteorological condition during monitoring	: Clear sky
Date of Monitoring	: 12/02/2022 to 13/02/2022
Time of Monitoring	: 06:00 AM to 06:00AM
Ambient Temperature (°C)	: Min. 10°C, Max.29 °C
Surrounding Activity	: Human, Vehicular & Other Activities
Parameter Required	: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	54.30	42.08

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
2. Night Time is reckoned between 10.00 PM to 6.00 AM.
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in



Test Report

Sample Number:	VEL/JHABUA/AN/09	Report No.:	VEL/N/2202150012
Name & Address of the Party:	M/S Jhabua Power Limited Village- Barela, Gorakpur District- Seoni, MP	Format No.:	7.8 F 01
Sample Description:	Ambient Noise Level Monitoring	Party Reference No.:	4300005298
Scope of Monitoring	Regulatory Requirement	Reporting Date:	21/02/2022
Protocol Used:	IS 9989: IS 9876	Receipt Date:	15/02/2022
Instrument Used	SLM	Sampling Duration	24 Hrs.
		Sample Collected by	VEL Team
		Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Village: Durjanpur
Instrument Code	: VEL/SLM/11
Meteorological condition during monitoring	: Clear sky
Date of Monitoring	: 12/02/2022 to 13/02/2022
Time of Monitoring	: 06:00 AM to 06:00AM
Ambient Temperature (°C)	: Min. 10°C, Max.29 °C
Surrounding Activity	: Human, Vehicular & Other Activities
Parameter Required	: As per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989,IS9876:1981	53.00	40.68

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
2. Night Time is reckoned between 10.00 PM to 6.00 AM.
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.
Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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Annexure -11

Ambient Air Quality Monitoring Report



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/01
Name & Address of the Party M/s Jhabua Power Limited
Village- Barela, Gorakhpur, District- Seoni,
MP

Report No.: VEL/A/2202150005
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Report Date: 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date 15/02/2022

Sample Description : Ambient Air Quality Monitoring

General Information:-

Sampling Location : Project Operation Gate
Sample collected by : VEL Team
Sampling Equipment used : RDS &FPS
Instrument Code : VEL/RDS/FPS/41/10
Latitude : 22°44'14"
Longitude : 79°55'03"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 10/02/2022 to 11/02/2022
Time of Sampling : 16:10 to 16:10 Hrs.
Ambient Temperature (°C) : Min. 18°C, Max. 29 °C
Surrounding Activity : Human, & Plant Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	32.07	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	67.41	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	18.38	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	10.45	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL>(*DL1.0)	ng/ m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)

(Checked By)

(Authorized Signatory)



www.vardan.co.in

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/02
Name & Address of the Party: M/s Jhabua Power Limited
Village- Barela, Gorakhpur, District- Seoni, MP

Report No.: VEL/A/2202150006
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Report Date: 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date: 15/02/2022


Sample Description : Ambient Air Quality Monitoring


General Information:-

Sampling Location : Village – Gorakhpur
Sample collected by : VEL Team
Sampling Equipment used : Combo RDS &FPS
Instrument Code : VEL/Combo RDS/FPS/42
Latitude : 22°44'15"
Longitude : 79°55'44"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 10/02/2022 to 11/02/2022
Time of Sampling : 15:30 to 15:30 Hrs.
Ambient Temperature (°C) : Min. 18°C, Max. 29 °C
Surrounding Activity : Human, Vehicular & Other Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	25.79	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	62.45	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	14.41	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	9.20	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL(*DL1.0)	ng/m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)


(Checked By)


(Authorized Signatory)



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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/03 **Report No.:** VEL/A/2202150007
Name & Address of the Party: M/s Jhabua Power Limited
Village- Barela, Gorakhpur, District- Seoni, MP **Format No.:** 7.8 F 01
Party Reference No.: 4300005298
Sample Description : Ambient Air Quality Monitoring **Report Date:** 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date: 15/02/2022

General Information:-

Sampling Location : Village - Binaiki
Sample collected by : VEL Team
Sampling Equipment used : RDS &FPS
Instrument Code : VEL/RDS/FPS/05/05
Latitude : 22°43'16"
Longitude : 79°54'14"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 10/02/2022 to 11/02/2022
Time of Sampling : 14:30 to 14:30 Hrs.
Ambient Temperature (°C) : Min. 18°C, Max. 29 °C
Surrounding Activity : Human, Vehicular & Other Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	26.64	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	63.25	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	15.94	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	7.79	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL*(DL1.0)	ng/m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)

(Checked By)

(Authorized Signatory)



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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/04
Name & Address of the Party M/s Jhabua Power Limited
Village- Barela, Gorakhpur, District- Seoni,
MP

Report No.: VEL/A/2202150008
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Report Date: 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date 15/02/2022

Sample Description : Ambient Air Quality Monitoring

General Information:-

Sampling Location : Village- Barela
Sample collected by : VEL Team
Sampling Equipment used : RDS &FPS
Instrument Code : VEL/RDS/FPS/41/10
Latitude : 22°44'53"
Longitude : 79°54'27"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 11/02/2022 to 12/02/2022
Time of Sampling : 16:40 to 16:40 Hrs.
Ambient Temperature (°C) : Min. 14°C, Max.28 °C
Surrounding Activity : Human, Vehicular & Other Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	28.82	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	67.45	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	13.89	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	9.52	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL>(*DL1.0)	ng/m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)

(Checked By)

(Authorized Signatory)



VEL/E/I/TR/PN26079

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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/05
Name & Address of the Party M/s Jhabua Power Limited
Village- Barela, Gorakhpur, District- Seoni,
MP
Sample Description : Ambient Air Quality Monitoring

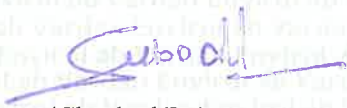
Report No.: VEL/A/2202150009
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Report Date: 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date 15/02/2022


General Information:-

Sampling Location : Village- Panarjhir
Sample collected by : VEL Team
Sampling Equipment used : Combo Sampler
Instrument Code : VEL/Combo/42
Latitude : 22°46'14"
Longitude : 79°55'03"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 11/02/2022 to 12/02/2022
Time of Sampling : 16:20 to 16:20 Hrs.
Ambient Temperature (°C) : Min. 14°C, Max.28 °C
Surrounding Activity : Human, Vehicular & Other Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	26.22	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	65.45	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	17.20	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	7.46	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL>(*DL1.0)	ng/m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)


(Checked By)


(Authorized Signatory)



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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/07 **Report No.:** VEL/A/2202150011
Name & Address of the Party: M/s Jhabua Power Limited
Village- Barela, Gorakhpur, District- Seoni, MP **Format No.:** 7.8 F 01
Party Reference No.: 4300005298
Report Date: 21/02/2022
Sample Description : Ambient Air Quality Monitoring **Period of Analysis:** 15-21/02/2022
Receipt Date: 15/02/2022

General Information:-

Sampling Location : Village - Durjanpur
Sample collected by : VEL Team
Sampling Equipment used : RDS & FPS
Instrument Code : VEL/RDS/FPS/41/10
Latitude : 22°45'16"
Longitude : 79°55'41"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 12/02/2022 to 13/02/2022
Time of Sampling : 17:30 to 17:30 Hrs.
Ambient Temperature (°C) : Min. 10°C, Max.29 °C
Surrounding Activity : Human, Vehicular & Other Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	28.76	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	68.41	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	13.55	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	9.21	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL>(*DL1.0)	ng/m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)

(Checked By)

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Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/08
Name & Address of the Party M/s Jhabua Power Limited
Village- Barela, Gorakhpur ,District- Seoni,
MP

Report No.: VEL/A/2202150012
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Report Date: 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date 15/02/2022

Sample Description : Ambient Air Quality Monitoring

General Information:-

Sampling Location : Village- Dola
Sample collected by : VEL Team
Sampling Equipment used : Combo Sampler
Instrument Code : VEL/Combo/42
Latitude : 22°42'08"
Longitude : 79°54'37"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 12/02/2022 to 13/02/2022
Time of Sampling : 16:50 to 16:50 Hrs.
Ambient Temperature (°C) : Min. 10°C, Max.29 °C
Surrounding Activity : Human, Vehicular & Other Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	26.34	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	67.45	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	16.23	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	7.49	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL>(*DL1.0)	ng/m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)

(Checked By)

(Authorized Signatory)



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Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardan.co.in, bd@vardan.co.in



Vardan EnviroLab

Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number: VEL/JPL/AA/09
Name & Address of the Party M/s Jhabua Power Limited
Village- Barela, Gorakhpur, District- Seoni,
MP

Report No.: VEL/A/2202150013
Format No.: 7.8 F 01
Party Reference No.: 4300005298
Report Date: 21/02/2022
Period of Analysis: 15-21/02/2022
Receipt Date 15/02/2022

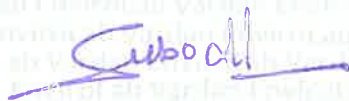
Sample Description : Ambient Air Quality Monitoring

General Information:-

Sampling Location : Village- Guneri
Sample collected by : VEL Team
Sampling Equipment used : RDS &FPS
Instrument Code : VEL/RDS/FPS/07/07
Latitude : 22°42'11"
Longitude : 79°57'08"
Meteorological condition during monitoring : Clear sky
Date of Sampling : 12/02/2022 to 13/02/2022
Time of Sampling : 17:00 to 17:00 Hrs.
Ambient Temperature (°C) : Min. 10°C, Max.29 °C
Surrounding Activity : Human, Vehicular & Other Activities
Scope of Monitoring : Regulatory Requirement
Sampling & Analysis Protocol : IS-5182 & CPCB Guidelines
Sampling Duration : 24 hrs.
Parameter Required : As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter (PM _{2.5})	SOP No. VEL/SOP/01,Section No.SP 63:2013	28.57	µg/m ³	60
2.	Particulate Matter (PM ₁₀)	IS 5182 (P 23) ,Gravimetic Method, 2006,RA : 2017	69.11	µg/m ³	100
3.	Nitrogen Dioxide (NO ₂)	IS 5182 (P 6) ,Jacob & Hochheiser,2006,RA: 2017	14.20	µg/m ³	80
4.	Sulphur Dioxide (SO ₂)	IS 5182 (P 2) ,Modified West and Gaeke, 2001,RA: 2017	10.18	µg/m ³	80
5.	Mercury (Hg)	Methods Of air sampling and analysis 3 rd ed,1988,method No.317	BDL>(*DL1.0)	ng/m ³	--

BDL*(Below Detection Limit) ** (DL Detection Limit)



(Checked By)



(Authorized Signatory)



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Annexure -12

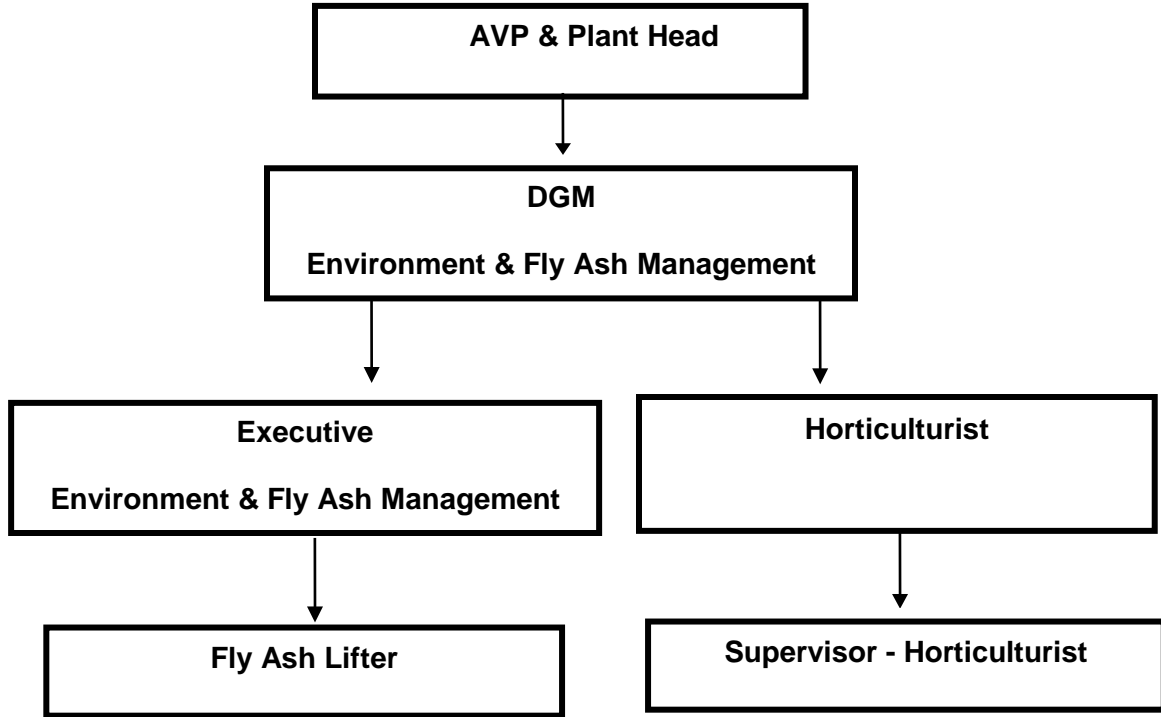
CSR Expenditure Details

Annexure -13

Environment Management Cell

ENVIRONMENT MANAGEMENT CELL

Annexure -13



Sr. No	NAME	QUALIFICATION	DESIGNATION
1	Mr. Ashok Singh Yadav	B.Tech. Mechanical	AVP & Plant Head
2	Mr. Anoop Kumar Srivastava	M.Sc. Environment P.G. Diploma Industrial Safety	DGM (Environment & Ash Management)
3	Mr. Vivek Tiwari	M. Tech. (Communication System)	Executive (Environment & Ash Management)
4	Mr. Rabi Nayak	M.A.	Executive (Horticulture)
5	Mr. Prakash Tiwari	Higher Secondary	Supervisor (Horticulture)
6	Mr. Jaikishan Verma	BCA	Executive (Ash Management)

Annexure -14

Receipt of Last compliance Report

JPL/ECC/Phase-I/FHY/2021-2022/November/26

November 09, 2021

To,

The Director,

Ministry of Environment, Forests & Climate Change
3rd Floor, Vayu Block,
Indira Paryavaran Bhawan, Jor Bagh Road,
Aliganj, New Delhi-110003

Sub.: Submission of Six Monthly Compliance Report - 1x600 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.

Ref.: EC Letter No.: J-13012/105/2008-IA-II (T) dated 17th February, 2010 & Corrigendum dated 22nd December, 2010.

Dear Sir,

Please find attached the **Six Monthly Compliance Report (April' 2021 to September' 2021)** in fulfilment of conditions stipulated in the Environment Clearance (letter issued by MoEF, New Delhi and referenced above) for 1x600 MW Coal based Thermal Power Plant at Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.- Seoni, Madhya Pradesh of M/s Jhabua Power Ltd. Soft copy is uploaded on MoEF & CC web site-Parivesh.

Kindly acknowledge.

Regards,

For Jhabua Power Ltd.



[Handwritten Signature]
09/11/2021

Authorized Signatory

Enc.: Six Monthly Compliance Report (April' 2021 to September' 2021)

Jhabua Power Limited

(CIN : U40105WB1995PLC068616)

Village Barela, PO Attaria, Tehsil Ghansore, District Seoni-480997, Madhya Pradesh, India

Registered Office : Macmet House, 7th Floor, 10B, OC Ganguly Sarani, Kolkata-700 020, West Bengal, India

Corporate Office : Unit No.-307, 3rd Floor, ABW Tower, (Near IFFCO Chowk) M.G. Road, Gurugram - Pin-122002 (Haryana)

Tel.: +91-124-4392000/01 Fax: +91-124-4376496 E-mail : communications@avanthapower.com www.avanthapower.com



AVANTHA
GROUP COMPANY

Annexure -15

Receipt of Last Environmental Statement

Anoop srivastava

From: Anoop srivastava
Sent: 14 July 2021 14:57
To: ms-mppcb@mp.gov.in
Cc: 'RO Jabalpur Jabalpur'; 'romppcbjbp@rediffmail.com'
Subject: Submission of Environmental Statement Report for the year 2020-21 for 1 x 600 MW and 1 x 660 MW Thermal Power Plant at Village-Barela & Gorakhpur, Tehsil-Ghansore, Distt.- Seoni, Madhya Pradesh by M/s Jhabua Power Plant.
Attachments: ESR 1X600 MW.pdf; ESR 1X660 MW.pdf

Dear Sir,

Please find attached the **Environmental Statement** for the year 2020 - 2021 in fulfilment of conditions stipulated in the Environment Clearance for 1x600 MW and 1 x 660 MW Coal based Thermal Power Plant at Villages- Barela & Gorakhpur, Tehsil- Ghansore, Distt.- Seoni, Madhya Pradesh of M/s Jhabua Power Ltd.

We submit to you that Environmental Protection always remains in our top most agenda and all the efforts are being put for the effective compliance all the time.

Thanking You,

Yours Sincerely,

Anoop Kr. Srivastavams

Ref. No.: JPL/ENV/21-22/July/20

July 14, 2021

To,

The Member Secretary,

Madhya Pradesh Pollution Control Board,
E-5, Arera Colony,
Paryawaran Parisar,
Bhopal-16, Madhya Pradesh.

Subject: Submission of Environmental Statement Report for the year 2020-21 for 1 x 600 MW Thermal Power Plant at Village-Barela & Gorakhpur, Tehsil- Ghansore, Distt.- Seoni, Madhya Pradesh by M/s Jhabua Power Plant.

Ref.: MoEF Environmental Clearance No.: J-13012/105/2008-IA-II (T) dated 17th February 2010 & Corrigendum dated 22nd December 2010.

Dear Sir,

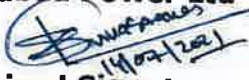
Please find attached the **Environmental Statement** for the year 2020 - 2021 in fulfilment of conditions stipulated in the Environment Clearance (letter issued by MoEF, New Delhi and referenced above) for 1x600 MW Coal based Thermal Power Plant at Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.- Seoni, Madhya Pradesh of M/s Jhabua Power Ltd.

We submit to you that Environmental Protection always remains in our top most agenda and all the efforts are being put for the effective compliance all the time.

Thanking You,

Yours Sincerely,

For Jhabua Power Ltd



[Signature]
14/07/2021

Authorized Signatory

Encl.: Environment Statement Report for the year 2020-21.

CC: Regional Office, MPPCB, Vijaynagar, Jabalpur, MP.

Jhabua Power Limited

(CIN : U40105WB1995PLC068616)

Village Barela, PO Attaria, Tehsil Ghansore, District Seoni-480997, Madhya Pradesh, India

Registered Office : Macmet House, 7th Floor, 10B, OC Ganguly Sarani, Kolkata-700 020, West Bengal, India

Corporate Office : Unit No.-307, 3rd Floor, ABW Tower, (Near IFFCO Chowk) M.G. Road, Gurugram - Pin-122002 (Haryana)

Tel.: +91-124-4392000/01 Fax: +91-124-4376496 E-mail : communications@avanthapower.com www.avanthapower.com



AVANTHA
GROUP COMPANY

Annexure -16

Expenses on Environment

ANNEXURE - 16	
EXPENDITURE DETAILS ON ENVIRONMENT FROM APRIL 2021 TO MARCH 2022	
DESCRIPTION	EXPENDITURE
A- ENVIRONMENT	
World Environment Day Celebration	25000
Third Party Environmental Quality monitoring	1947663
Hydrogeological study of the area	109858
Fly Ash disposal through Railway rake	4985854
Legacy Ash disposal in low lying area	100264000
Machineries hiring charge for fly ash loading to railway wagon	16673282
Payment to Railway for load adjustment while fly ash disposal	777577
Drone Shooting of low lying area for NOC	43188
Hazardous waste disposal to MP Waste management Pithampur	52453
AMC for online monitoring system-AAQMS	318600
AMC EQMS	64900
AMC CEMS	53500
AMC PTZ camera connectivity	35400
p H electrode for EQMS	90860
Renewal Fee of dispensing unit CTO	21793
Renewal Fee of 1 x 600 MW unit CTO	3000000
CTE Fee for low lying area NOC	30000
EC time extension for phase -II	118000
Display of Environmental awareness board	81774
Participation Fee for Golden Peacock Environmental Management Awards	51330
Participation Fee for Mission Energy foundation for effective Fly ash utilization Award 2022	81715
Publication of Notice in news paper to increase fly ash lifting	127638
Standard gas cylinder for calibration	26196
AAQMS spares	161028
Total "A"	129141609
B- GREEN BELT DEVELOPMENT	
Watering of plantation	352240
Purchase of 6000 nos plants for plantation	180000
Man power in green belt	1201034
Total "B"	1733274
Total "A + B" in lacs	130874883
Total "A + B" in Cr.	13.09