



JPL/ECC/Phase-II/FHY/2022-2023/OCT/42

October 29, 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 - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.**

**Ref.: MoEF letter no. J 13012/63/2010-IA.II (T) Dated 21th August'2014 & 6<sup>th</sup> August 2021**

Dear Sir,

Please find attached the **Six Monthly Compliance Report (April' 2022 to September' 2022)** in fulfilment of conditions stipulated in the Environment Clearance (letter issued by MoEF, New Delhi and referenced above) for 1x660 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.**

  
29/10/2022

**Authorized Signatory**

Enc.: Six Monthly Compliance Report (April' 2022 to September' 2022)

## **Jhabua Power Limited**

(A Joint Venture of NTPC Limited)

CIN : U40105WB1995PLC068616

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

Tel: 0124- 4392000/01 E- Mail : communications@jhabuapower.co.in Web : www.jhabuapower.co.in

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

**Site Office:** Village- Barela, Post Office- Attaria, Tehsil- Ghansore, District- Seoni- 480997, Madhya Pradesh, India

# **M/s JHABUA POWER LTD.**

## **COMPLIANCE REPORT**

**In respect of**

### **ENVIRONMENTAL CLEARANCE**

**“MoEF LETTER NO. J 13012/63/2010-IA.II (T) Dated 21th August’2014”**

**“MoEF LETTER NO. J 13012/63/2010-IA.II (T) Dated 6th August’2021” Extension of Validity**

**(COMPLIANCE PERIOD: APRIL 2022 to SEPTEMBER 2022)**

**FOR**

**Jhabua Power Limited**

**EXPANSION BY ADDITION OF**

**1 x 660 MW SUPERCRITICAL THERMAL POWER PLANT**

**AT**

**VILLAGE:- BARELA & GORAKHPUR**

**TEHSIL: - GHANSORE**

**DISTRICT: - SEONI**

**MADHYA PRADESH**

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## Compliance to conditions stipulated in Environmental Clearance

**Ref MoEF letter no. J 13012/63/2010-IA.II (T) dated 21<sup>st</sup> August'2014**

### **A. Specific Conditions**

| <b>Sr. No</b> | <b>Specific Conditions</b>  | <b>Compliance</b>  |
|---------------|---|--|
| i             | Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.  | Vision documents specified prospective plan is already submitted with 1 <sup>st</sup> half yearly compliance report in 2014.   |
| ii            | Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report. | <p>Harnessing of solar power within premises could not be implemented due to M/s Jhabua Power Ltd was under stressed asset. It was under resolution professionals, financial creditors and was under NCLT and financial authorities has been transfer to resolution professionals from JPL to them.</p> <p>However, Resolution plan submitted by NTPC Limited and approved by NCLT, Kolkata Bench vide its order dated 6<sup>th</sup> July 2022 for Jhabua Power Ltd has been implemented on 05.09.2022.</p> <p>We are committed to install it in the near future and the status of implementation will be submitted to the regional office of the Ministry.</p> |

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| iii | <p>A stack of 275 m height shall be provided with continuous online monitoring equipment's for SO<sub>x</sub>, NO<sub>x</sub> and PM<sub>2.5</sub> &amp; PM<sub>10</sub>. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.</p>   | <p>A bi-flue Stack of 275 height is already provided with continuous online monitoring equipment's for SO<sub>x</sub>, Nox &amp; PM for Phase -I. Continuous online monitoring equipment's for SO<sub>x</sub>, NO<sub>x</sub>, PM will also be provided for Phase -II. Exit velocity of flue gases will be maintained &gt;22 m/sec &amp; Mercury emissions from stack will be monitored periodically.</p>   |
| iv  | <p>Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.5 % and 8.0 % respectively at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to environmental clearance wherever necessary.</p>  | <p>Imported coal is not envisaged to be used with sulphur &amp; ash content more than 0.5% and 8.0 % respectively.</p>  |
| v   | <p>High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>. 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.</p> | <p>High Efficiency Electrostatic Precipitators (ESPs) will be provided to restrict the emission &lt; 50 mg/Nm<sup>3</sup>. Effective and adequate dust suppression system like water sprinkling system, Cyclone Separator &amp; Bag Filters will be 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 will be through high concentration slurry disposal system.</p> |

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| vi    | 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.  | Shall be complied.   |
| vii.  | COC of at least 5.0 shall be adopted.   | Optimization of cycle of concentration will be carried out to achieve the COC 5.0  |
| viii. | 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 direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report. | The ground water and surface water samples are regularly collected and records maintained effectively under the compliance of Environment Clearance granted for Phase -I. Ground water and surface water reports are also submitted on half yearly basis to statutory authority. Surface & Ground water report is enclosed as <b>Annexure -1</b> . |
| ix    | A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.   | A rain water harvesting & recharging system, designed in consultation with Central Groundwater Authority/ Board (Authentication letter is enclosed as <b>Annexure -2</b> ).  |
| x     | No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.   | Water bodies including natural drainage are not being disturbed due to any activity of our existing power plant.   |
| xi    | Hydrogeology of the area shall be reviewed  | Hydro-geological study of the area is  |

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|      | <p>annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case any deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.</p>                   | <p>being reviewed under the Phase -I. The hydrogeological report of the area reviewed is submitted under the E.C. compliance of Phase-I. 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.</p>   |
| xii  | <p>Wastewater generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB/CPCB.</p>  | <p>Waste water generated from the plant will be treated in ETP to confirm the SPCB/CPCB limits before its utilization.</p>  |
| xiii | <p>Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.</p>  | <p>The site is fairly levelled and there are no undulations. Soil if required for minor leveling shall be sourced from within the site so that natural drainage system of the area is protected and improved.</p>   |
| xiv  | <p>Fly ash shall be collected in dry form and storage facility (silos) shall be 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>Fly ash will be collected in dry form. Silo will be provided as a storage facility for storage of dry fly ash apart from the ash pond for the disposal of unutilized fly ash through high concentration slurry system. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as well as effluent of ash pond. Fly Ash will not be disposed off in low laying area without NOC from MPPCB. Ash pond effluent report is enclosed as <b>Annexure -3.</b></p> |

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| xv    | Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close coordination with the State Pollution Control Board. | Fly ash will not be used in agriculture and filling of mines without NOC from MPPCB.  |
| xvi   | Fugitive emission of fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.  | Effective measures like sprinkling will be adopted to control fugitive emission of fly ash so that no agricultural or non-agricultural land is affected.  |
| xvii  | Ash pond shall be lined with HDPE/LDPE 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.   | Ash pond will be lined with 500 µm liner to prevent the leachate. Besides, adequate safety measures will be taken to avoid any breach of the dyke.  |
| xviii | A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an   | Required Mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) will be put in place. The radioactivity content study carried out by Department of Atomic |



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|     | in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.   | Energy Board of Radiation & Isotope Technology in coal and fly ash for phase -I is enclosed as <b>Annexure -4.</b>   |
| xix | Green Belt consisting of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %.   | We are developing greenery in and around the plant and planted 181000 trees. Local plant species have been preferred for the plantation having following characteristics <ul style="list-style-type: none"> <li>• Fast growing with thick canopy cover</li> <li>• Adequate height with longer duration of foliage</li> <li>• Perennial and evergreen</li> </ul> Green belt development report is enclosed as <b>Annexure -5.</b> |
| xx  | The green belt development of the existing unit shall be expedited with the native species and for the proposed expansion, shall be initiated at the earliest and well before the start of construction.   | Native species is already being expedite for green belt development under existing unit. Green belt development is already initiated for proposed expansion.   |
| xxi | CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programs. | Assessment done. Shall be complied with.   |

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| xxii  | A minimum amount of Rs 14.0 Crores as one time capital investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be Rs 2.8 Crores per annum or as per CSR guidelines of Govt. of India, whichever is more till the life of the plant. | Shall be complied with.  |
| xxiii | The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages in and schools shall be undertaken a time bound manner.  | Being continuously implemented. Bore wells and hand pumps are being installed in the surrounding villages of Barela, Gorakhpur & Binaiki. Construction of new open dug well is done in village Binaiki. The new dedicated pipe line along with suitable electric motor is installed in the well for supply of drinking water to the village. |
| xxiv  | For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.   | MGSIRD - Mahatma Gandhi State Institute of Rural Development, (Govt. of MP) is appointed by JPL external agency for evaluation of CSR activities.  |
| xxv   | An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be   | A separate Environment Management Cell is in place headed by Mr. Anoop Kumar Srivastava, DGM. Environment.<br>Details of Environment Management cell including personnel involved, their designation, qualification and hierarchy is enclosed as <b>Annexure -6.</b>   |

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|                               | ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.  |   |
| <b>B. General Conditions:</b> |   |   |
| i                             | The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.   | Treated effluents conforming to the prescribed standards will only be recycled & reused. Zero Discharge condition will be maintained effectively except in monsoon season for which separate storm water system is constructed under phase-I to avoid the mixing of effluent.   |
| ii                            | A sewage treatment plant shall be provided (as applicable) 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.   |
| iii                           | 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. | Continuous and effective safety measures will be taken and provided for effective fire prevention & protection in the plant area to check/minimize the spontaneous fires in coal yard, especially during summer season. Besides above, a dedicated and well equipped Fire & Safety department is in place to avoid such type of incident in the plant area. |
| iv                            | Storage facilities for auxiliary liquid fuel such as LDO/ HFO/LSHS shall be made in   | <ul style="list-style-type: none"> <li>Storage facilities for LDO will be made in the plant area in consultation</li> </ul>   |

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|     | 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.  | with Department of Explosives, Nagpur after getting the NOC for the same. <ul style="list-style-type: none"> <li>Disaster management plan has been prepared and is in place to handle case of any accident taking place due to storage of oil for phase -I.</li> </ul>  |
| v   | First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.   | Adequate First aid and sanitation facility are being provided round the clock for phase -I and same will be maintained in Phase -II also.   |
| vi  | Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. 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. | <ul style="list-style-type: none"> <li>The noise level in the work zone area will be maintained below 85 dBA.</li> <li>Acoustic hood will be provided for the turbine.</li> <li>Earplugs /ear muffs being provided as personal protective equipment to the workers in phase -I.</li> </ul> Noise level monitoring report is enclosed as <b>Annexure 7</b> .   |
| vii | Regular monitoring of ambient air ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>2.5</sub> & PM <sub>10</sub> 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   | <ul style="list-style-type: none"> <li>Regular monitoring of ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, RSPM (PM<sub>2.5</sub> &amp; PM<sub>10</sub>) and Hg is being carried out in the impact zone and records are being maintained in phase-I and same will be continued for phase-II also. Ambient Air Quality monitoring report is enclosed as <b>Annexure- 8</b>.</li> </ul> |

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|      | <p>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"> <li>• The location of the monitoring stations has already been decided in consultation with Regional Office of MPPCB, Jabalpur.</li> <li>• Permanent Online Ambient Air Quality Monitoring Station has been installed and commissioned for the continuous monitoring of PM10, PM2.5, SOx, NOx &amp; CO along with meteorological study like % Humidity, Rainfall, Wind Velocity, Wind Velocity, Solar Radiation, Atmospheric Pressure, temperature.</li> <li>• Other than permanent AAQMS, Mobile Van for monitoring of PM10, PM2.5, SOx, NOx &amp; CO has also been installed &amp; commissioned.</li> </ul> |
| viii | <p>Provision shall be made for the housing of construction labour (as applicable) 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 will be provided.</p> <p>After completion of the project activities and start of O&amp;M phase, temporary structure will be either used for O&amp;M personnel or will be removed.</p>  |
| ix   | <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</p>   | <p>We had published in two newspaper" Dainik Bhaskar &amp; Nai Duniya on 27.08.2014" in local language which are widely circulated in the area.</p>  |

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|     | <p>from the 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 <a href="http://envfor.nic.in">http://envfor.nic.in</a>.</p>   |   |
| x   | <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, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.</p>  | <p>Copy of clearance has also been sent to concerned Panchayat, Zila Parisad and the Local NGO. Environmental Clearance has already been web hosted on company web site.</p>  |
| xi  | <p>The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM<sub>2.5</sub> &amp; PM<sub>10</sub>), SO<sub>2</sub>, NO<sub>x</sub> (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>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, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) is displayed at the plant operation gate.</p> |
| xii | <p>The environment statement for each financial year ending 31<sup>st</sup> March in Form-V</p>  | <p>The environment Statement report for the year 2021 - 2022 has been submitted to</p>  |

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|      | <p>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 environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.</p>  | <p>Madhya Pradesh State Pollution Control Board before 30<sup>th</sup> September 2022. Submission receipt is enclosed as <b>Annexure -9.</b></p>  |
| xiii | <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 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 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 <b>Annexure-13.</b></p> <p>Status of compliance of the stipulated EC conditions, including results of monitored data is hosted on company web site.</p> |
| xiv  | <p>Regional Office of the Ministry of Environment &amp; 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</p>  | <p>The same is being complied with.</p>   |

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|      | <p>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 levels including NO<sub>x</sub> (from stack &amp; ambient air) shall be displayed at the main gate of the power plant.</p>   |   |
| xv   | <p>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.</p> | <p>Complied with and are being followed.</p>  |
| xvi  | <p>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.</p>   | <p>Same will be complied.</p>   |
| xvii | <p>Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry / CPCB/ SPCB who would be monitoring the compliance of environmental status.</p>  | <p>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.</p> |
| 7    | <p>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</p>   | <p>Agreed for the same.</p>   |



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|    | may also impose additional environmental conditions or modify the existing ones, if necessary.  |                                      |
| 8  | The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.   | Agreed                               |
| 9  | 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                               |
| 10 | 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                               |
| 11 | The above stipulations would be enforced among others under the Water (Prevention and Control of 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. | Noted & same shall be complied with. |

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| 12 | 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. | Agreed |
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**Ref MoEF letter no. J 13012/63/2010-IA.II (T) dated 6<sup>th</sup> August'2021**

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| i   | PP shall implement all the condition of E.C dated 21 <sup>st</sup> August, 2014 within certain time line.  | All the Conditions under E.C. grated for 1 x 660 supercritical coal based power plant are under implementation.  |
| ii  | 100% Fly ash and Bottom ash utilization plan shall be prepared and to be implemented in stipulated time period. PP shall comply with Ministry's notification dated 22 <sup>nd</sup> April, 2021 regarding Fly ash utilization from first year of commissioning. Bottom ash should be treated as a resource not as a waste. | Fly ash utilization plan for 1 x 660 MW power plant is enclosed as <b>Annexure -11</b> . Fly ash utilization notification of MoEF & CC dated 31 <sup>st</sup> December will be complied effectively. Bottom ash will be used as a filler in low lying are for waste land reclamation as per CPCB guideline March 2019. |
| iii | Latest emission standard (after January 2017 onwards) shall be complied with.  | We will adhere with the prescribed norms of Emission applicable for thermal power stations commissioned after January 2017.  |
| iv  | PP shall implement silo loading facility for fly ash storage.  | Similar to Phase-I, Silo will also be constructed for Phase-II for fly ash storage.  |
| V   | PP shall submit plan for the implementation of 33% peripheral green belt (only trees of local species) with fund allocated and time line to Ministry's Regional office within six  | We have already submitted green belt development plan to CCF, Seoni with Phase -I project and more than 181000 plantations has been completed out of   |

|      |   |  |
|------|---|--|
|      | months.   | which 45541 plantations are planted under phase-II. Submission receipt along with plot plan highlighting green belt area is enclosed as <b>Annexure -10.</b>   |
| Vi   | PP shall submit the timeline for fulfillment of commitments during Public Hearing with allotted fund to Ministry's Regional Office.   | All the commitments during public hearing has been fulfilled.  |
| Vii  | PP shall increase the fund allocation for Environment Management plan since the overall project cost has been increase.   | Details of fund allocation for Environment Management plan is given below;<br><br>1. Capital cost, Phase -II: 193 Cr.<br><br>2. Recurring cost, Phase-II: 9.5 CR.  |
| Viii | PP shall submit the fund allocation for Wildlife conservation plan to Forest Department within six months from the issues of this letter and submit the action taken to Ministry's Regional Office.   | Wildlife Management plan along with flora & Fauna details and allocated fund is submitted to Forest officer during EIA study for Phase-I for approval. Approved copy of Wildlife Conservation plan is enclosed as <b>Annexure -12.</b> |
| ix   | PP shall develop tree plantation all along the raw material/ coal storage yard with in six month of issue of this letter and shall maintain survival rate over 90%. The status of compliance will be submitted to the regional office of the Ministry along with six monthly compliance report. | Plantation all along the raw material/ coal storage yard has already been developed under Phase-I project with survival rate >90%. We are doing more plantation in these area to increase the plantation density.                      |



## **Annexure -1**

**Surface & Ground water report.**



## Test Report

Sample Number : VEL/SW/01

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/SW/2209261002

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 01/10/2022

Period of Analysis : 26/09/2022-01/10/2022

Receipt Date : 26/09/2022

Sampling Date : 16/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Type : Grab

Sample Description : Surface Water

Location : Pariyat River

Sample Collected By : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : IS : 3025 & APHA

| S.No. | Test Parameters               | Test Method   | Results         | Units |
|-------|-------------------------------|---|-----------------|-------|
| 1     | pH (at 25°C)                  | APHA 4500 H+B Electrometric Method<br>RA:2012         | 7.45            | --    |
| 2     | Colour                        | APHA 2120 (B) Visual Comparison Method<br>RA:2012     | BLQ(LOQ-1.0)    | Hazen |
| 3     | Odour                         | APHA 2150 B, Threshold Odour Method                   | Unobjectionable | --    |
| 4     | Total Hardness                | APHA 2340 C, EDTA Titrimetric Method                  | 192.60          | mg/l  |
| 5     | Chloride (as Cl)              | APHA 4500 Cl-B Argentometric Method:2017              | 26.71           | mg/l  |
| 6     | Cyanide (as CN)               | APHA 4500 CN-E:2017                                   | BLQ(LOQ-0.02)   | mg/l  |
| 7     | Total Dissolved Solids        | APHA 2540 C Gravimetric Method RA:2012                | 262.00          | mg/l  |
| 8     | Sulphate (as SO4)             | APHA 4500 SO4 E Turbidimetric Method<br>RA:2009       | 7.65            | mg/l  |
| 9     | Fluoride (as F)               | APHA 4500 F D Spands Method :2017                     | 0.60            | mg/l  |
| 10    | COD                           | APHA 5220 B Open Reflux Method                        | 24.48           | mg/l  |
| 11    | BOD (3 Days at 27°C)          | APHA 5210 C Ultimate BOD Test:2017                    | 6.0             | mg/l  |
| 12    | Nitrate (as NO3)              | IS 3025 (P-34) Ref. 2003 Chromotropic<br>Method :2017 | 3.0             | mg/l  |
| 13    | Lead (as Pb)                  | APHA 3111 B Direct Air Acetylene Flame<br>Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 14    | Selenium (Se)                 | APHA 3114 B:2017                                      | BLQ(LOQ-0.001)  | mg/l  |
| 15    | Iron (as Fe)                  | APHA 3500 Fe B 1,10 Phenanthroline<br>Method:2017     | BLQ(LOQ-0.01)   | mg/l  |
| 16    | Arsenic (as As)               | APHA 3114 B:2017                                      | BLQ(LOQ-0.005)  | mg/l  |
| 17    | Total Chromium (Cr)           | APHA 3111 B Direct Air Acetylene Flame<br>Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 18    | Phenolic Compound (as C6H5OH) | APHA 5530 C Chloroform Extraction<br>Method:2017      | BLQ(LOQ-0.0004) | mg/l  |
| 19    | Anionic Detergent (as MBAS)   | APHA 5540 C MBAS Method                               | BLQ(LOQ-0.05)   | mg/l  |
| 20    | Zinc (as Zn)                  | APHA 3111 B Direct Air Acetylene Flame                | BLQ(LOQ-0.01)   | mg/l  |



VEL/EX/03/1/17/10/2022





## Test Report

Sample Number : VEL/SW/01

Report No. : VEL/SW/2209261002

| S.No. | Test Parameters                 | Test Method  | Results         | Units |
|-------|---------------------------------|--|-----------------|-------|
| 20    |                                 | Method:2017  |                 |       |
| 21    | Copper (as Cu)                  | APHA 3111 B Direct Air Acetylene Flame Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 22    | Cadmium (as Cd)                 | APHA 3111 B Direct Air Acetylene Flame Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 23    | Turbidity                       | APHA 23rd Edition, 2130 B                          | BLQ(LOQ-1.0)    | NTU   |
| 24    | Calcium as Ca                   | APHA 23rd Edition, 3500 Ca B                       | 34.31           | mg/l  |
| 25    | Alkalinity as CaCO <sub>3</sub> | APHA 23rd Edition, 2320 B                          | 27.80           | mg/l  |
| 26    | Magnesium as Mg                 | APHA 23rd Edition, 3500 Mg B                       | 26.96           | mg/l  |
| 27    | Aluminium as Al                 | APHA 23rd Edition, 3111 B                          | BLQ(LOQ-0.002)  | mg/l  |
| 28    | Boron                           | APHA 23rd Edition, 4500 B C                        | BLQ(LOQ-0.01)   | mg/l  |
| 29    | Residual Free Chlorine          | APHA 3500 Cl B Iodometric Method:2017              | BLQ(LOQ-0.15)   | mg/l  |
| 30    | Total Suspended Solids          | APHA 2540 D Gravimetric Method                     | 8.0             | mg/l  |
| 31    | Manganese as Mn                 | APHA 3111 B:2017                                   | BLQ(LOQ-0.002)  | mg/l  |
| 32    | Mercury (as Hg)                 | APHA 3112 B Cold Vapor AAS Method : 2017           | BLQ(LOQ-0.0005) | mg/l  |





## Test Report

Sample Number : VEL/SW/01

Report No. : VEL/SW/2209261002

| S.No. | Test Parameters | Test Method  | Results | Units      |
|-------|-----------------|--------------|---------|------------|
| 33    | Total Coliform  | IS 1622:1981 | <2      | MPN/100 ml |
| 34    | E.coli          | IS 1622:1981 | <2      | MPN/100 ml |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

*S/D*  
*01/10/2022*

**SATYA DEV**  
Dy. Technical Manager-Micro



*[Signature]*  
*01.10.2022*  
(Approved By)





## Test Report

Sample Number : VEL/SW/03  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/SW/2209261003  
Format No : 7.8 F-03  
Party Reference No : 4300005298  
Reporting Date : 01/10/2022  
Period of Analysis : 26/09/2022-01/10/2022  
Receipt Date : 26/09/2022  
Sampling Date : 16/09/2022  
Sampling Quantity : 2 Ltr. + 2 Ltr. +1 Ltr.+250 ml  
Sampling Type : Grab

Sample Description : Surface Water  
Location : Temor River Near village-Pati  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Environmental Condition : OK  
Sampling and Analysis Protocol : IS : 3025 & APHA

| S.No. | Test Parameters                | Test Method   | Results         | Units |
|-------|--------------------------------|---|-----------------|-------|
| 1     | pH (at 25°C)                   | APHA 4500 H+B Electrometric Method<br>RA:2012         | 7.50            | --    |
| 2     | Colour                         | APHA 2120 (B) Visual Comparison Method<br>RA:2012     | BLQ(LOQ-1.0)    | Hazen |
| 3     | Odour                          | APHA 2150 B, Threshold Odour Method                   | Unobjectionable | --    |
| 4     | Total Hardness                 | APHA 2340 C, EDTA Titrimetric Method                  | 123.05          | mg/l  |
| 5     | Chloride (as Cl)               | APHA 4500 Cl-B Argentometric Method:2017              | 31.57           | mg/l  |
| 6     | Cyanide (as CN)                | APHA 4500 CN-E:2017                                   | BLQ(LOQ-0.02)   | mg/l  |
| 7     | Total Dissolved Solids         | APHA 2540 C Gravimetric Method RA:2012                | 220.00          | mg/l  |
| 8     | Sulphate (as SO4)              | APHA 4500 SO4 E Turbidimetric Method<br>RA:2009       | 8.50            | mg/l  |
| 9     | Fluoride (as F)                | APHA 4500 F D Spands Method :2017                     | 0.52            | mg/l  |
| 10    | COD                            | APHA 5220 B Open Reflux Method                        | 28.56           | mg/l  |
| 11    | BOD (3 Days at 27°C)           | APHA 6210 C Ultimate BOD Test:2017                    | 6.0             | mg/l  |
| 12    | Nitrate (as NO3)               | IS 3025 (P-34) Ref. 2003 Chromotropic<br>Method :2017 | 7.15            | mg/l  |
| 13    | Lead (as Pb)                   | APHA 3111 B Direct Air Acetylene Flame<br>Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 14    | Selenium (Se)                  | APHA 3114 B:2017                                      | BLQ(LOQ-0.001)  | mg/l  |
| 15    | Iron (as Fe)                   | APHA 3500 Fe B 1,10 Phenanthroline<br>Method:2017     | BLQ(LOQ-0.01)   | mg/l  |
| 16    | Arsenic (as As)                | APHA 3114 B:2017                                      | BLQ(LOQ-0.005)  | mg/l  |
| 17    | Total Chromium (Cr)            | APHA 3111 B Direct Air Acetylene Flame<br>Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 18    | Phenolic Compounde (as C6H5OH) | APHA 5530 C Chloroform Extraction<br>Method:2017      | BLQ(LOQ-0.0004) | mg/l  |
| 19    | Anionic Datergents (as MBAS)   | APHA 5540 C MBAS Method                               | BLQ(LOQ-0.05)   | mg/l  |
| 20    | Zinc (as Zn)                   | APHA 3111 B Direct Air Acetylene Flame                | BLQ(LOQ-0.01)   | mg/l  |





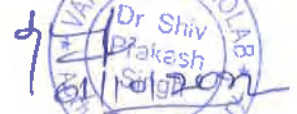


## Test Report

Sample Number : VEL/SW/03

Report No. : VEL/SW/2209261003

| S.No. | Test Parameters                 | Test Method  | Results         | Units |
|-------|---------------------------------|--|-----------------|-------|
| 20    |                                 | Method:2017  |                 |       |
| 21    | Copper (as Cu)                  | APHA 3111 B Direct Air Acetylene Flame Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 22    | Cadmium (as Cd)                 | APHA 3111 B Direct Air Acetylene Flame Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 23    | Turbidity                       | APHA 23rd Edition, 2130 B                          | 2.5             | NTU   |
| 24    | Calcium as Ca                   | APHA 23rd Edition, 3500 Ca B                       | 27.88           | mg/l  |
| 25    | Alkalinity as CaCO <sub>3</sub> | APHA 23rd Edition, 2320 B                          | 148.0           | mg/l  |
| 26    | Magnesium as Mg                 | APHA 23rd Edition, 3500 Mg B                       | 12.97           | mg/l  |
| 27    | Aluminium as Al                 | APHA 23rd Edition, 3111 B                          | BLQ(LOQ-0.002)  | mg/l  |
| 28    | Boron                           | APHA 23rd Edition, 4500 B C                        | BLQ(LOQ-0.01)   | mg/l  |
| 29    | Residual Free Chlorine          | APHA 3500 Cl B Iodometric Method:2017              | BLQ(LOQ-0.15)   | mg/l  |
| 30    | Total Suspended Solids          | APHA 2540 D Gravimetric Method                     | 7.0             | mg/l  |
| 31    | Manganese as Mn                 | APHA 3111 B:2017                                   | BLQ(LOQ-0.01)   | mg/l  |
| 32    | Mercury (as Hg)                 | APHA 3112 B Cold Vapor AAS Method : 2017           | BLQ(LOQ-0.0005) | mg/l  |

  
Dr. Shiv Prakash  
Authorised Signatory





## Test Report

Sample Number : VEL/SW/03

Report No. : VEL/SW/2209261003

| S.No. | Test Parameters | Test Method  | Results | Units      |
|-------|-----------------|--------------|---------|------------|
| 33    | Total Coliform  | IS 1622:1981 | <2      | MPN/100 ml |
| 34    | E.coli          | IS 1622:1981 | <2      | MPN/100 ml |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

*SD*  
01/10/2022

**SATYA DEV**  
Dy. Technical Manager-Micrc



(Approved By)





## Test Report

Sample Number : VEL/SW/04

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attarla, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/SW/2209261004

Format No : 7.8 F-03

Farty Reference No : 4300005298

Reporting Date : 01/10/2022

Period of Analysis : 26/09/2022-01/10/2022

Receipt Date : 26/09/2022

Sampling Date : 16/09/2022

Sampling Quantity : 2Ltr.+2 Ltr.+1Ltr.+250 ml

Sampling Type : Grab

Sample Description : Surface Water

Location : Nala Near Village Binaiki

Sample Collected By : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : IS : 3025 & APHA

| S.No. | Test Parameters                | Test Method   | Results         | Units |
|-------|--------------------------------|---|-----------------|-------|
| 1     | pH (at 25°C)                   | APHA 4500 H+B Electrometric Method<br>RA:2012         | 7.38            | --    |
| 2     | Colour                         | APHA 2120 (B) Visual Comparison Method<br>RA:2012     | BLQ(LOQ-1.0)    | Hazen |
| 3     | Odour                          | APHA 2150 B, Threshold Odour Method                   | Unobjectionable | --    |
| 4     | Total Hardness                 | APHA 2340 C, EDTA Titrimetric Method                  | 208.85          | mg/l  |
| 5     | Chloride (as Cl)               | APHA 4500 Cl-B Argentometric Method:2017              | 43.71           | mg/l  |
| 8     | Cyanide (as CN)                | APHA 4500 CN-E:2017                                   | BLQ(LOQ-0.02)   | mg/l  |
| 7     | Total Dissolved Solids         | APHA 2540 C Gravimetric Method RA:2012                | 360.00          | mg/l  |
| 8     | Sulphate (as SO4)              | APHA 4500 SO4 E Turbidimetric Method<br>RA:2000       | 10.65           | mg/l  |
| 9     | Fluoride (as F)                | APHA 4500 F D Spands Method :2017                     | 0.65            | mg/l  |
| 10    | COD                            | APHA 5220 B Open Reflux Method                        | 44.88           | mg/l  |
| 11    | BOD (3 Days at 27°C)           | APHA 5210 C Ultimate BOD Test:2017                    | 8.0             | mg/l  |
| 12    | Nitrate (as NO3)               | IS 3025 (P-34) Ref. 2003 Chromotropic<br>Method :2017 | 9.01            | mg/l  |
| 13    | Lead (as Pb)                   | APHA 3111 B Direct Air Acetylene Flame<br>Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 14    | Selenium (Sa)                  | APHA 3114 B:2017                                      | BLQ(LOQ-0.001)  | mg/l  |
| 15    | Iron (as Fe)                   | APHA 3500 Fe B 1,10 Phenanthroline<br>Method:2017     | BLQ(LOQ-0.01)   | mg/l  |
| 16    | Arsenic (as As)                | APHA 3114 B:2017                                      | BLQ(LOQ-0.005)  | mg/l  |
| 17    | Total Chromium (Cr)            | APHA 3111 B Direct Air Acetylene Flame<br>Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 18    | Phenolic Compounds (as C6H5OH) | APHA 5530 C Chloroform Extraction<br>Method:2017      | BLQ(LOQ-0.0004) | mg/l  |
| 19    | Anionic Detergents (as MBAS)   | APHA 5540 C MBAS Method                               | BLQ(LOQ-0.05)   | mg/l  |
| 20    | Zinc (as Zn)                   | APHA 3111 B Direct Air Acetylene Flame                | BLQ(LOQ-0.01)   | mg/l  |





## Test Report

Sample Number : VEL/SW/04

Report No. : VEL/SW/2209261004

| S.No. | Test Parameters                 | Test Method  | Results         | Units |
|-------|---------------------------------|--|-----------------|-------|
| 20    |                                 | Method:2017  |                 |       |
| 21    | Copper (as Cu)                  | APHA 3111 B Direct Air Acetylene Flame Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 22    | Cadmium (as Cd)                 | APHA 3111 B Direct Air Acetylene Flame Method:2017 | BLQ(LOQ-0.002)  | mg/l  |
| 23    | Turbidity                       | APHA 23rd Edition, 2130 B                          | 10.2            | NTU   |
| 24    | Calcium as Ca                   | APHA 23rd Edition, 3500 Ca B                       | 68.62           | mg/l  |
| 25    | Alkalinity as CaCO <sub>3</sub> | APHA 23rd Edition, 2320 B                          | 198.90          | mg/l  |
| 26    | Magnesium as Mg                 | APHA 23rd Edition, 3500 Mg B                       | 9.02            | mg/l  |
| 27    | Aluminium as Al                 | APHA 23rd Edition, 3111 B                          | BLQ(LOQ-0.002)  | mg/l  |
| 28    | Boron                           | APHA 23rd Edition, 4500 B C                        | BLQ(LOQ-0.01)   | mg/l  |
| 29    | Residual Free Chlorine          | APHA 3500 Cl B Iodometric Method:2017              | BLQ(LOQ-0.15)   | mg/l  |
| 30    | Total Suspended Solids          | APHA 2540 D Gravimetric Method                     | 22.0            | mg/l  |
| 31    | Manganese as Mn                 | APHA 3111 B:2017                                   | BLQ(LOQ-0.01)   | mg/l  |
| 32    | Mercury (as Hg)                 | APHA 3112 B Cold Vapor AAS Method : 2017           | BLQ(LOQ-0.0005) | mg/l  |





## Test Report

Sample Number : VEL/SW/04

Report No. : VEL/SW/2209261004

| S.No. | Test Parameters | Test Method  | Results | Units      |
|-------|-----------------|--------------|---------|------------|
| 33    | Total Coliform  | IS 1622:1981 | <2      | MPN/100 ml |
| 34    | E.coli          | IS 1622:1981 | <2      | MPN/100 ml |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

*S.D.*  
*01/10/2022*

**SATYA DEV**  
Dy. Technical Manager-Micro

(Approved By)



*S.D.*  
*01.10.2022*





## Test Report

Sample Number : VEL/GW/01

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261010

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 29/09/2022

Period of Analysis : 26/09/2022-29/09/2022

Recelpt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Type : Grab

Sample Description : Ground Water

Location : Project Site

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

| S.No. | Parameter                    | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|------------------------------|---|---------------|------------|----------------------------------|--------------------|
|       |                              |   |               |            | Acceptable Limit                 | Formissible Limits |
| 1     | pH (at 25 °C)                | APHA 4500 H+B Electrometric Method:2017       | 7.40          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                       | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                    | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                        | APHA 2150 B Threshold Odour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                        | APHA 2160 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO3)    | APHA 2340 C EDTA Titrimetric Method:2017      | 187.25        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)              | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 57.89         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO3)  | APHA 2320 B Titration Method:2017             | 143.37        | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)             | APHA 4500 Cl B Argentometric Method:2017      | 63.13         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC) | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)              | APHA 4500 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)            | APHA 3500 Mg B Calculation Method:2017        | 10.33         | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids       | APHA 2540 C Gravimetric Method:2017           | 325.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO4)            | APHA 4500 E Turbidimetric Method:2017         | 31.93         | mg/l       | 200                              | 400                |





## Test Report

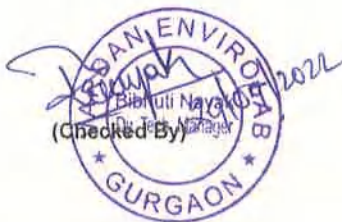
Sample Number : VEL/GW/01

Report No. : VEL/W/2209261010

| S.No. | Parameter  | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------------|------|----------------------------------|--------------------|
|       |  |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)  | APHA 4500 F D SPADNS Method:2017              | 0.58                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO <sub>3</sub> )                            | IS:3025 (P-34), Chromotropic Method           | 8.46                | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)  | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) | APHA 5530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)                             | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)                                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)   | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)                                    | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)  | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



Page No. 2/2



VEL/E-03/11/1R/PH10370



## Test Report

Sample Number : VEL/GW/01

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Project Site

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VEL/W/2209261010/N

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 29/09/2022

Period of Analysis : 26/09/2022-29/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Type : Grab

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limits |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

\*\*\*End of Report\*\*\*

(Checked By)

*S.D.*  
*29/09/2022*  
**SATYA DEV**  
Dy. Technical Manager-Micro



(Approved By)







# 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

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261011

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 29/09/2022

Period of Analysis : 26/09/2022-29/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Type : Grab

Sample Description : Ground Water

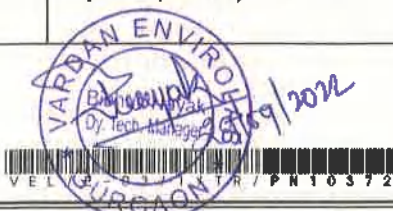
Location : Village- Barela

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

| S.No. | Parameter                    | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|------------------------------|---|---------------|------------|----------------------------------|--------------------|
|       |                              |   |               |            | Acceptable Limit                 | Permissible Limits |
| 1     | pH (at 25 °C)                | APHA 4500 H+B Electrometric Method:2017       | 7.15          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                       | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                    | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                        | APHA 2150 B Threshold Odour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                        | APHA 2160 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO3)    | APHA 2340 C EDTA Titrimetric Method:2017      | 112.35        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)              | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 25.73         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO3)  | APHA 2320 B Titration Method:2017             | 92.50         | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)             | APHA 4500 Cl B Argentometric Method:2017      | 48.56         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC) | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)              | APHA 4500 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)            | APHA 3500 Mg B Calculation Method:2017        | 11.67         | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids       | APHA 2540 C Gravimetric Method:2017           | 245.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO4)            | APHA 4500 E Turbidimetric Method:2017         | 25.57         | mg/l       | 200                              | 400                |





## Test Report

Sample Number : VEL/GW/02

Report No. : VELW/2209261011

| S.No. | Parameter  | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------------|------|----------------------------------|--------------------|
|       |  |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)  | APHA 4500 F D SPADNS Method:2017              | 0.53                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO <sub>3</sub> )                            | IS:3025 (P-34), Chromotropic Method           | 5.98                | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)  | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) | APHA 5530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)                             | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)                                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)   | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)                                    | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)  | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



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## Test Report

Sample Number : VEL/GW/02

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Village- Barela

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VEL/W/2209261011/N

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 29/09/2022

Period of Analysis : 26/09/2022-29/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Type : Grab

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limits |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

*SATYA DEV*  
29/09/2022

**SATYA DEV**  
Dy. Technical Manager-Micro



*[Signature]*  
29/09/2022  
(Approved By)





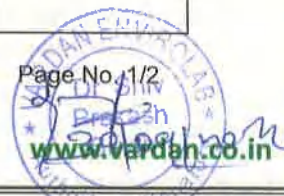
## Test Report

Sample Number : VEL/GW/05  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Disti-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261012  
Format No : 7.8 F 03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022  
Sampling Date : 15/09/2022  
Sampling Quantity : 2 Ltr.+2 Ltr. +1 Ltr.+ 250 ml  
Sampling Type : Grab

Sample Description : Ground Water  
Location : Village- Panarjihir  
Sample Collected by : VEL Representative (Mr. Rajesh)  
Environmental Condition : OK  
Sampling and Analysis Protocol : APHA & IS

| S.No. | Parameter                                | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------|------------|----------------------------------|--------------------|
|       |  |   |               |            | Acceptable Limit                 | Permissible Limits |
| 1     | pH (at 25 °C)                            | APHA 4500 H+B Electrometric Method:2017       | 7.20          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                                   | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                                | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                                    | APHA 2150 B Threshold Odour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                                    | APHA 2180 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO <sub>3</sub> )   | APHA 2340 C EDTA Titrimetric Method:2017      | 123.05        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)                          | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 38.59         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO <sub>3</sub> ) | APHA 2320 B Titration Method:2017             | 120.25        | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)                         | APHA 4500 Cl B Argentometric Method:2017      | 67.99         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC)             | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)                          | APHA 4500 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)                        | APHA 3500 Mg B Calculation Method:2017        | 6.44          | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids                   | APHA 2340 C Gravimetric Method:2017           | 282.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO <sub>4</sub> )           | APHA 4500 E Turbidimetric Method:2017         | 42.02         | mg/l       | 200                              | 400                |





## Test Report

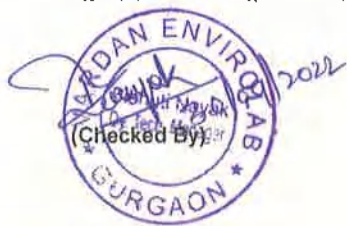
Sample Number : VEL/GW/05

Report No. : VEL/W/2209261012

| S.No. | Parameter  | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------------|------|----------------------------------|--------------------|
|       |  |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)  | APHA 4500 F D SPADNS Method:2017              | 0.51                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO <sub>3</sub> )                            | IS:3025 (P-34), Chromotropic Method           | 3.43                | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)  | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) | APHA 6530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)                             | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)                                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)   | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)                                    | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)  | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



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## Test Report

Sample Number : VEL/GW/05

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Village- Panarjhir

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VEL/W/2209261012/N

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr. +1 Ltr.+ 250 ml

Sampling Type : Grab

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limits |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15186: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15186: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

\*\*\*End of Report\*\*\*

(Checked By)

*S/D*  
*30/09/2022*

**SATYA DEV**  
Dy. Technical Manager-Micro

(Approved By)  
*[Signature]*  
*30/09/2022*





## Test Report

Sample Number : VEL/GW/06

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Village- Binaiki

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VELW/2209261013

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2Ltr.+2 Ltr.+1 Ltr. +250 ml

Sampling Type : Grab

| S.No. | Parameter                                | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------|------------|----------------------------------|--------------------|
|       |  |   |               |            | Acceptable Limit                 | Permissible Limits |
| 1     | pH (at 25 °C)                            | APHA 4500 H+B Electrometric Method:2017       | 7.45          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                                   | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                                | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                                    | APHA 2150 B Threshold Odour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                                    | APHA 2160 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO <sub>3</sub> )   | APHA 2340 C EDTA Titrimetric Method:2017      | 171.20        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)                          | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 53.60         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO <sub>3</sub> ) | APHA 2320 B Titration Method:2017             | 152.62        | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)                         | APHA 4500 Cl B Argentometric Method:2017      | 58.27         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC)             | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)                          | APHA 4500 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)                        | APHA 3500 Mg B Calculation Method:2017        | 9.03          | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids                   | APHA 2540 C Gravimetric Method:2017           | 302.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO <sub>4</sub> )           | APHA 4500 E Turbidimetric Method:2017         | 31.93         | mg/l       | 200                              | 400                |





## Test Report

Sample Number : VEL/GW/06

Report No. : VELW/2209281013

| S.No. | Parameter  | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------------|------|----------------------------------|--------------------|
|       |  |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)  | APHA 4500 F D SPADNS Method:2017              | 0.63                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO <sub>3</sub> )                            | IS:3025 (P-34), Chromotropic Method           | 7.82                | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)  | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) | APHA 5530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)                             | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)                                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)   | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)                                    | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)  | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



Page No. 2/2







## Test Report

Sample Number : VEL/GW/06

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Village- Binaiki

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VEL/W/2209261013/N

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2Ltr.+2 Ltr.+1 Ltr. +250 ml

Sampling Type : Grab

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limits |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

*S.D.*  
30/09/22

**SATYA DEV**  
Dy. Technical Manager-Micro



*S.D.*  
30/09/22  
(Approved By)





## Test Report

Sample Number : VEL/GW/07

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261014

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Typo : Grab

Sample Description : Ground Water

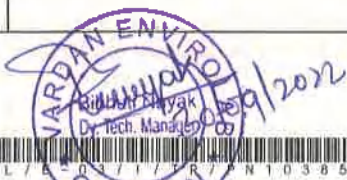
Location : Village- Durjanpur

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

| S.No. | Parameter                    | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|------------------------------|---|---------------|------------|----------------------------------|--------------------|
|       |                              |   |               |            | Acceptable Limit                 | Permissible Limits |
| 1     | pH (at 25 °C)                | APHA 4500 H+B Electrometric Method:2017       | 7.52          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                       | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                    | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                        | APHA 2150 B Threshold Qdour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                        | APHA 2160 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO3)    | APHA 2340 C EDTA Titrimetric Method:2017      | 187.25        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)              | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 55.75         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO3)  | APHA 2320 B Titration Method:2017             | 143.37        | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)             | APHA 4500 Cl B Argentometric Method:2017      | 63.13         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC) | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)              | APHA 4500 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)            | APHA 3500 Mg B Calculation Method:2017        | 11.63         | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids       | APHA 2540 C Gravimetric Method:2017           | 345.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO4)            | APHA 4500 E Turbidimetric Method:2017         | 34.56         | mg/l       | 200                              | 400                |





## Test Report

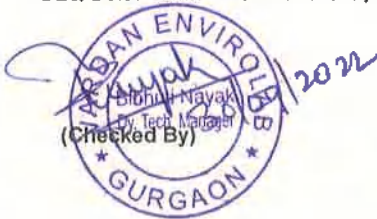
Sample Number : VEL/GW/07

Report No. : VELW/2209261014

| S.No. | Parameter                      | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--------------------------------|---|---------------------|------|----------------------------------|--------------------|
|       |                                |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)                | APHA 4500 F D SPADNS Method:2017              | 0.66                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO3)               | IS:3025 (P-34), Chromotropic Method           | 7.7641              | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)                   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)              | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)                   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C6H5OH) | APHA 5530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)   | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)         | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)                 | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)              | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)                | APHA, 3111 B                                  | BLO<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)               | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)          | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)                | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



VEL/E-03/1/1R/PN10386



## Test Report

Sample Number : VEL/GW/07

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Village- Durjanpur

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VEL/W/2209261014/N

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Type : Grab

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limits |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

\*\*\*End of Report\*\*\*

(Checked By)

*S.D.*  
30/09/2022

**SATYA DEV**  
Dy. Technical Manager-Micro

(Approved By)





## Test Report

Sample Number : VEL/GW/03  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261015  
Format No : 7.8 F 03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022  
Sampling Date : 15/09/2022  
Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml  
Sampling Typo : Grab

Sample Description : Ground Water  
Location : Village- Guneri  
Sample Collected by : VEL Representative (Mr. Rajesh)  
Environmental Condition : OK  
Sampling and Analysis Protocol : APHA & IS

| S.No. | Parameter                    | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|------------------------------|---|---------------|------------|----------------------------------|--------------------|
|       |                              |   |               |            | Acceptable Limit                 | Permissible Limite |
| 1     | pH (at 25 °C)                | APHA 4500 H+B Electrometric Method:2017       | 7.40          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                       | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                    | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                        | APHA 2150 B Threshold Odour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                        | APHA 2160 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO3)    | APHA 2340 C EDTA Titrimetric Method:2017      | 165.85        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)              | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 60.03         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO3)  | APHA 2320 B Titration Method:2017             | 138.75        | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)             | APHA 4500 Cl B Argentometric Method:2017      | 67.99         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC) | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)              | APHA 4500 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)            | APHA 3500 Mg B Calculation Method:2017        | 3.83          | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids       | APHA 2540 C Gravimetric Method:2017           | 335.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO4)            | APHA 4500 E Turbidimetric Method:2017         | 38.56         | mg/l       | 200                              | 400                |



VEL/E-07/7TR/0388





## Test Report

Sample Number : VEL/GW/03

Report No. : VEL/W/2209261015

| S.No. | Parameter                      | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--------------------------------|---|---------------------|------|----------------------------------|--------------------|
|       |                                |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)                | APHA 4500 F D SPADNS Method:2017              | 0.79                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO3)               | IS:3025 (P-34), Chromotropic Method           | 8.52                | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)                   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)              | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)                   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C6H5OH) | APHA 5530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)   | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)         | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)                 | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)              | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)                | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)                   | APHA, 3111 B                                  | BLO<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)               | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)          | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)                | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



Page No. 2/2



VEL/E-03/1/TR/PN10309

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## Test Report

Sample Number : VEL/GW/03

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attarla, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Village- Guneri

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VEL/W/2209261015/N

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml

Sampling Type : Grab

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limits |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

BLO-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

8103  
30/09/2022

**SATYA DEV**  
Dy. Technical Manager-Micro

(Approved By)  
30.09.2022





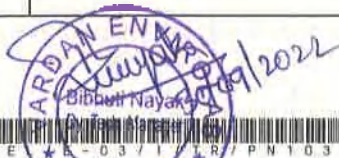
## Test Report

Sample Number : VEL/GW/04  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261016  
Format No : 7.8 F 03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022  
Sampling Date : 15/09/2022  
Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml  
Sampling Typo : Grab

Sample Description : Ground Water  
Location : Village- Dola  
Sample Collected by : VEL Representative (Mr. Rajesh)  
Environmental Condition : OK  
Sampling and Analysis Protocol : APHA & IS

| S.No. | Parameter                                | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------|------------|----------------------------------|--------------------|
|       |  |   |               |            | Acceptable Limit                 | Permissible Limits |
| 1     | pH (at 25 °C)                            | APHA 4500 H+B Electrometric Method:2017       | 7.42          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                                   | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                                | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                                    | APHA 2150 B Threshold Odour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                                    | APHA 2160 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO <sub>3</sub> )   | APHA 2340 C EDTA Titrimetric Method:2017      | 187.25        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)                          | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 57.89         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO <sub>3</sub> ) | APHA 2320 B Titration Method:2017             | 161.87        | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)                         | APHA 4500 Cl B Argentometric Method:2017      | 55.85         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC)             | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)                          | APHA 4500 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)                        | APHA 3500 Mg B Calculation Method:2017        | 10.33         | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids                   | APHA 2540 C Gravimetric Method:2017           | 326.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO <sub>4</sub> )           | APHA 4500 E Turbidimetric Method:2017         | 40.64         | mg/l       | 200                              | 400                |







## Test Report

Sample Number : VEL/GW/04

Report No. : VEL/W/2209261016

| S.No. | Parameter  | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------------|------|----------------------------------|--------------------|
|       |  |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)  | APHA 4500 F D SPADNS Method:2017              | 0.67                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO <sub>3</sub> )                            | IS:3025 (P-34), Chromotropic Method           | 8.52                | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)  | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) | APHA 5530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)                             | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)                                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)  | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)   | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)                                    | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)  | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



Page No. 2/2



VEL/E-03/1/TR/RE10392

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## Test Report

Sample Number : VEL/GW/04  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261016/N  
Format No : 7.8 F 03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022  
Sampling Date : 15/09/2022  
Sampling Quantity : 2 Ltr.+2 Ltr.+1 Ltr.+250 ml  
Sampling Type : Grab

Sample Description : Ground Water  
Location : Village- Dola  
Sample Collected by : VEL Representative (Mr. Rajesh)  
Environmental Condition : OK  
Sampling and Analysis Protocol : APHA & IS

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limite |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15185: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

*S.D.*  
30/09/2022

**SATYA DEV**  
Dy. Technical Manager-Micro

(Approved By)





## Test Report

Sample Number : VEL/GW/08  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/W/2209261017  
Format No : 7.8 F 03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022  
Sampling Date : 15/09/2022  
Sampling Quantity : 2 Ltr.+2 Ltr. +1 Ltr.+250 ml  
Sampling Type : Grab

Sample Description : Ground Water  
Location : Village- Gorakhpur  
Sample Collected by : VEL Representative (Mr. Rajesh)  
Environmental Condition : OK  
Sampling and Analysis Protocol : APHA & IS

| S.No. | Parameter                                | Test Method                                   | Result        | Unit       | Requirement as per IS:10500-2012 |                    |
|-------|--|---|---------------|------------|----------------------------------|--------------------|
|       |  |   |               |            | Acceptable Limit                 | Permissible Limits |
| 1     | pH (at 25 °C)                            | APHA 4500 H+B Electrometric Method:2017       | 7.50          | -          | 6.5-8.5                          | No relaxation      |
| 2     | Colour                                   | APHA 2120 B Visual Comparison Method:2017     | BLQ(LOQ-1.0)  | Hazen Unit | 5                                | 15                 |
| 3     | Turbidity                                | APHA 2130 B Nephelometric Method:2017         | BLQ(LOQ-1.0)  | NTU        | 1                                | 5                  |
| 4     | Odour                                    | APHA 2150 B Threshold Odour Method:2017       | Agreeable     | -          | Agreeable                        | Agreeable          |
| 5     | Taste                                    | APHA 2180 B Flavor Threshold Test Method:2017 | Agreeable     | -          | Agreeable                        | Agreeable          |
| 6     | Total Hardness (as CaCO <sub>3</sub> )   | APHA 2340 C EDTA Titrimetric Method:2017      | 171.20        | mg/l       | 200                              | 600                |
| 7     | Calcium (as Ca)                          | APHA 3500 Ca B EDTA Titrimetric Method:2017   | 55.75         | mg/l       | 75                               | 200                |
| 8     | Total Alkalinity (as CaCO <sub>3</sub> ) | APHA 2320 B Titration Method:2017             | 148.00        | mg/l       | 200                              | 600                |
| 9     | Chloride (as Cl)                         | APHA 4500 Cl B Argentometric Method:2017      | 42.62         | mg/l       | 250                              | 1000               |
| 10    | Residual Free Chlorine (RFC)             | APHA 3500 Cl B Iodometric Method:2017         | BLQ(LOQ-0.15) | mg/l       | 0.2                              | 1                  |
| 11    | Cyanide (as CN)                          | APHA 4600 CN E                                | BLQ(LOQ-0.02) | mg/l       | 0.05                             | No relaxation      |
| 12    | Magnesium (as Mg)                        | APHA 3500 Mg B Calculation Method:2017        | 7.73          | mg/l       | 30                               | 100                |
| 13    | Total Dissolved Solids                   | APHA 2540 C Gravimetric Method:2017           | 320.00        | mg/l       | 500                              | 2000               |
| 14    | Sulphate (as SO <sub>4</sub> )           | APHA 4500 E Turbidimetric Method:2017         | 32.48         | mg/l       | 200                              | 400                |





## Test Report

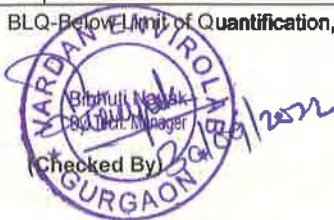
Sample Number : VEL/GW/08

Report No. : VEL/W/2209261017

| S.No. | Parameter                      | Test Method                                   | Result              | Unit | Requirement as per IS:10500-2012 |                    |
|-------|--------------------------------|---|---------------------|------|----------------------------------|--------------------|
|       |                                |   |                     |      | Acceptable Limit                 | Permissible Limits |
| 15    | Fluoride (as F)                | APHA 4500 F D SPADNS Method:2017              | 0.68                | mg/l | 1.0                              | 1.5                |
| 16    | Nitrate (as NO3)               | IS:3025 (P-34), Chromotropic Method           | 6.68                | mg/l | 45                               | No relaxation      |
| 17    | Iron (as Fe)                   | APHA, 4500 H                                  | BLQ<br>(LOQ-0.01)   | mg/l | 1.0                              | No relaxation      |
| 18    | Aluminium (as Al)              | APHA, 3111 D                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.03                             | 0.2                |
| 19    | Boron (as B)                   | APHA, 4500 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.5                              | 2.4                |
| 20    | Phenolic Compounds (as C6H5OH) | APHA 5530 C Chloroform Extraction Method:2017 | BLQ(LOQ-0.004)      | mg/l | 0.001                            | 0.002              |
| 21    | Anionic Detergents (as MBAS)   | APHA 5540 C MBAS Method                       | BLQ(LOQ-0.05)       | mg/l | 0.2                              | 1.0                |
| 22    | Zinc (as Zn)                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 5                                | 15                 |
| 23    | Total Chromium (as Cr)         | APHA, 3111 B                                  | BLO<br>(LOQ-0.002)  | mg/l | 0.05                             | No relaxation      |
| 24    | Copper (as Cu)                 | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.05                             | 1.5                |
| 25    | Manganese (as Mn)              | APHA, 3111 B                                  | BLQ<br>(LOQ-0.01)   | mg/l | 0.1                              | 0.3                |
| 26    | Cadmium (as Cd)                | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.003                            | No relaxation      |
| 27    | Lead (as Pb)                   | APHA, 3111 B                                  | BLQ<br>(LOQ-0.002)  | mg/l | 0.01                             | No relaxation      |
| 28    | Selenium (as Se)               | APHA, 3114 B                                  | BLQ<br>(LOQ-0.001)  | mg/l | 0.01                             | No relaxation      |
| 29    | Total Arsenic (as As)          | APHA, 3114 B                                  | BLQ<br>(LOQ-0.005)  | mg/l | 0.01                             | No relaxation      |
| 30    | Mercury (as Hg)                | APHA, 3112 B                                  | BLQ<br>(LOQ-0.0005) | mg/l | 0.001                            | No relaxation      |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



Page No. 2/2



VEL/E-03/1/17/RN10396



## Test Report

Sample Number : VEL/GW/08

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : Ground Water

Location : Village- Gorakhpur

Sample Collected by : VEL Representative (Mr. Rajesh)

Environmental Condition : OK

Sampling and Analysis Protocol : APHA & IS

Report No. : VEL/W/2209261017/N

Format No : 7.8 F 03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 20/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sampling Date : 15/09/2022

Sampling Quantity : 2 Ltr.+2 Ltr. +1 Ltr.+250 ml

Sampling Type : Grab

| S.No.                            | Parameter      | Test Method    | Result | Unit   | Requirement as per IS:10500-2012             |                    |
|----------------------------------|----------------|----------------|--------|--------|--|--------------------|
|                                  |                |                |        |        | Acceptable Limit                             | Permissible Limits |
| <b>Microbiological Analysis:</b> |                |                |        |        |  |                    |
| 1                                | E.coli         | IS:15186: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |
| 2                                | Total Coliform | IS:15186: 2016 | Absent | /100ml | Shall not be detectable in any 100 ml sample | -                  |

BLQ-Below Limit of Quantification, LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

*S.D.*  
30/09/2022

**SATYA DEV**  
Dy. Technical Manager-Micro



*[Signature]*  
D.O. P. Desh  
(Approved By)



## **Annexure -2**

**Authentication letter of CGWA/CGWB**

No.1-8/NCR/TS (CGWA)-  
Government of India  
Central Ground Water Board  
North Central Region  
Block-1, 4<sup>th</sup> Floor, Paryavas Bhawan  
38 Arera Hills, Jail Road  
Bhopal - 462 011  
Date 08-10-2014

To

✓ M/s Jhabua Power Ltd..  
6<sup>th</sup> & 6<sup>th</sup> Floor, Vatika City Point  
M.G.Road,  
Gurgaon- 122002

Sub: Rain Water Harvesting proposal for the proposed Jhabua Power Project at villages Barela & Gorakpur, Tehsil-Ghansora, District-Seoni.

Ref: Your letters dated 02/01/14, 24/04/2014 & 17/07/2014.

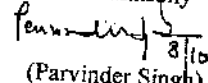
With reference to the above, the report on "Hydrogeological Investigation for Rainwater Harvesting and Artificial Recharge at Jhabua Power Ltd, Barela, District Seoni, Madhya Pradesh" for seeking guidelines on construction of Rainwater harvesting system as per item xvi of MOEF letter No.J-13012/105/2008-iA.ii(T) dated 17-02-2010, the report was examined. The following observations are made.

1. The implementation of rainwater harvesting structures at the Jhabua Power Project at villages Barela & Gorakpur, Tehsil-Ghansora, District-Seoni shall be carried out in accordance with the design mentioned in the report.
2. While implementation of the recharge structures, necessary intake capacity tests of the recharge structures may be carried out to ensure the efficacy of the constructed structures. The lithologs of the recharge wells and the data of intake capacity tests may be submitted to CGWB, NCR, Bhopal.
3. Firm at its own cost shall install piezometers at suitable locations for ground water monitoring in the project area on regular basis (once in a month). The ground water monitoring data may be submitted on quarterly basis to the office of CGWB, NCR, Bhopal.

4. The ground water quality in and around the project area should be monitored twice in each year both during pre-monsoon and post-monsoon period and the data submitted to this office regularly.
5. The compliance report and photographs of recharge structures after completion of the same are to be furnished to CGWB, NCR, Bhopal for verification.
6. If there is any abstraction of ground water for the project at any stage, it is mandatory to obtain NOC from CGWA.
7. The firm shall comply with all the directions of CGWA from time to time with respect to recharge of ground water in and around the project area.

Based on the report, construction of the proposed rain water harvesting and artificial recharge structures in the project area is recommended, subject to the above mentioned conditions.

Yours Faithfully

  
(Parvinder Singh)  
Regional Director

**Copy for information to:**

1. The Member Secretary, Central Ground Water Authority, West Block-2, Wing-3, Sector-1, R.K.Puram, New Delhi-110066.
2. The Director, Ministry of Environment & Forest, Government of India, Paryavaran Bhawan, CGO Complex, Lodi Road, New Delhi 110003.

(Parvinder Singh)  
Regional Director



## **Annexure -3**

### **Analysis Report of Ash pond effluent**



## Test Report

Sample Number : VEL/WW/04  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/WW/2209261004  
Format No : 7.8 F-03  
Party Reference No : 4300005298  
Reporting Date : 03/10/2022  
Period of Analysis : 26/09/2022-03/10/2022  
Receipt Date : 26/09/2022  
Sampling Date : 16/09/2022  
Sampling Quantity : 2.0 Ltrs.  
Sampling Type : Grab

Sample Description : Waste Water  
Location : Ash Pond Effluent  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Environmental Condition : OK  
Sampling and Analysis Protocol : APHA & IS

| S.No. | Test Parameters              | Test Method  | Result            | Unit |
|-------|------------------------------|--|-------------------|------|
| 1     | pH                           | APHA 4500 H+B Electrometric Method:2017            | 7.35              | --   |
| 2     | Total Suspended Solids, max. | APHA 2540 D Gravimetric Method                     | 32.00             | mg/l |
| 3     | Oil & Grease, Max.           | APHA 5520 B Partition Gravimetric Method:2017      | 0.40              | mg/l |
| 4     | Lead (as Pb)                 | APHA 3111 B Direct Air Acetylene Flame Method:2017 | *BLQ(**LOQ-0.002) | mg/l |
| 5     | Total Chromium (as Cr) max.  | APHA 3111 B Direct Air Acetylene Flame Method:2017 | *BLQ(**LOQ-0.002) | mg/l |
| 6     | Arsenic (as As)              | APHA 3114 B:2017                                   | *BLQ(**LOQ-0.005) | mg/l |
| 7     | Mercury (as Hg)              | APHA 3112 B:2017                                   | *BLQ(**LOQ-0.005) | mg/l |

\*BLQ-Below Limit of Quantification,\*\*LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*



## **Annexure -4**

**The radioactivity content study in coal & Fly ash**



**BOARD OF RADIATION AND ISOTOPE TECHNOLOGY**  
**GOVERNMENT OF INDIA - DEPARTMENT OF ATOMIC ENERGY**

TEL: 022-27887418  
 TELE-FAX: 022-27887413

E-mail: [ralvashi@britatom.gov.in](mailto:ralvashi@britatom.gov.in)  
 WEBSITE: [www.britatom.gov.in](http://www.britatom.gov.in)

**Radioanalytical Laboratory.**

**BRIT-BARC Vashi Complex**  
**Navi Mumbai - 400 703**

**INVOICE**

Invoice No. : RAL/106/19-20

12/04/2019

To

Sample Reg.No. : D-632-39

C-RAL/2782  
 M/S. JHABUA POWER LIMITED  
 VILLAGE-BARELA, GORAKHPUR,  
 POST OFFICE-ATTARIA, TEHSIL-GHANSORE  
 SEONI - 480997  
 Cust. GSTIN: 23AABCK3364R1Z7

BRIT GSTIN: 27AAAGB0360B1Z8

Order Ref: JPL/ENV/JAN/02 dated 10/01/2019

| Description   | No. of Tests per Sample | Rate per Test (Rs.) | No. of Samples | Amount (Rs.) |
|---|-------------------------|---------------------|----------------|--------------|
| Measurement and certification of Radioactivity content in commodities | 4                       | 3400.00             | 2              | 27200.00     |
| (SAC : 998346) IGST @ 18.00%  |                         |                     |                | 4896.00      |
| Total Amount  |                         |                     |                | 32096        |

**Bank Details for Electronic/DD Payments:**

|                          |  |
|--------------------------|--|
| Name of Account Holder : | Pay & Accounts Officer, Board of Radiation and Isotope Technology          |
| Email Id :               | pao@britatom.gov.in, aaocs@britatom.gov.in, ralvashi@britatom.gov.in       |
| Bank Name :              | State Bank of India  |
| Branch Name & Code :     | BARC Branch, Trombay, Mumbai - 85<br>Code: 0001268 (Tel No.: 022-25592781) |
| Account No. :            | 303 943 372 26   |
| IFSC Code :              | SBIN 0001268   |
| Account Type :           | BRIT Parking Account   |
| Bankers MICR Code :      | 400 002 006 (BARC Branch)  |
| Demand Draft :           | In favor of Accounts Officer, BRIT payable at Mumbai                       |

Note

1. No income tax is deductible under section 196 of IT act, 1961 on any payment made to Board of Radiation and Isotope Technology (BRIT), since BRIT is under Department of Atomic Energy, Government of India.
2. In case of Electronic payment, you are requested to provide invoice no. and customer name on the transaction slip for identification.

देविका. के / Devika. K.  
 वैज्ञानिक अधिकारी / Scientific Officer  
 रेडियो विश्लेषक प्रयोगशाला / Radioanalytical Laboratory, BRIT  
 विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड  
 Board of Radiation & Isotope Technology,  
 सेक्टर / Sector-20, वाशी संकुल / Vashi Complex  
 नवी मुंबई / Navi Mumbai - 400 703



क्रम सं. / SL. NO. : 372 A 37134

ब्रिट / बीएआरसी वाशी कॉम्प्लेक्स,  
BRIT/ BARC Vashi Complex,  
सेक्टर-20, वाशी / Sec-20, Vashi,  
नवी मुंबई / Navi Mumbai-400 703  
www.britatom.gov.in

भारत सरकार / GOVERNMENT OF INDIA

परमाणु ऊर्जा विभाग / DEPARTMENT OF ATOMIC ENERGY

विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड / BOARD OF RADIATION & ISOTOPE TECHNOLOGY

रेडियोसक्रियता परीक्षण प्रमाण-पत्र / RADIOACTIVITY TEST CERTIFICATE

PAGE 1 OF 1

RADIOANALYTICAL LABORATORY

Ref: BRIT/RAL/D/632-39/MISC/530-37/18-19  
TO,  
M/S. JHABUA POWER LIMITED  
VILLAGE -BARELA, POST-ATARIA,  
TEHSIL-GHANSORE, DIST-SEONI, PIN 480997  
MADHYA PRADESH

FEB 28, 2019

This is regarding the " LINKAGE COAL AND FLYASH " samples submitted by you vide letter ref no. JPL/ENV/JAN/02 dated 10.01.2019 for radioactivity analysis.

| SL.NO. | SAMPLE DESCRIPTION   | DATE OF SAMPLING | TOTAL BULK QUANTITY FROM WHICH SAMPLE IS DRAWN |
|--------|--|------------------|--|
| 1      | LINKAGE COAL FOR 1X600 MW COAL BASED THERMAL POWER PLANT M/S. JHABUA POWER LIMITED | 10.01.2019       | 25000 MT                                       |
| 2      | FLY ASH FROM 1X600 MW COAL BASED THERMAL POWER PLANT M/S. JHABUA POWER LIMITED     | 10.01.2019       | 2300 MT  |

Date of receipt of sample : 17.01.2019

Date of completion of test : 20.02.2019

The samples were analysed for U-238, Ra-226, Th-232, & K-40 radioactivity content and the values obtained are as follows:

| SR NO | SAMPLE DETAILS | U-238 (Bq/Kg) | Ra-226 (Bq/Kg) | Th-232 (Bq/Kg) | K-40 (Bq/Kg) |
|-------|----------------|---------------|----------------|----------------|--------------|
| 1     | LINKAGE COAL   | 44 ± 1.0      | 49.8 ± 2.6     | 60 ± 1.4       | 55.3 ± 1.7   |
| 2     | FLY ASH        | 160.6 ± 4.3   | 63.8 ± 5.8     | 175.2 ± 5.5    | 248.6 ± 14.7 |

The measurement values are below the clearance level for radionuclides of natural origin in bulk solid materials, as per AERB directive 01/2010 (table-3) dated 26/11/2010.

**Note:** (i)The report pertains to the given sample only. (ii)The sample will be retained in this laboratory for a period of one month from certificate date and thereafter it will be disposed off. (iii)This report shall not be reproduced except in full, without written approval of the laboratory. (iv) The sampling is not done by this laboratory.

checked by:

(AJAY N. THAMKE)

Authorized Signatory

28/02/2019  
एन. जयचंदन / N. Jayachandran  
प्रभारी अधिकारी / Officer-In-Charge  
रेडियोवैश्लेषक प्रयोगशाला / Radioanalytical Laboratory  
विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड  
Board of Radiation & Isotope Technology,  
सेक्टर / Sector-20, वाशी संकुल / Vashi Complex  
नवी मुंबई / Navi Mumbai - 400 703

\*\*\*\*End of Report\*\*\*\*

## **Annexure -5**

### **Green belt development report**

**Annexure 8**

|   |                     |
|---|---------------------|
| <b>Plantation on 33% land of 406 acres</b>                  | <b>134 acres</b>    |
| Density of plantation                                       | 2500 plants/Hectare |
| Area required per plant                                     | 4.0 SQM             |
| Total plantation required on 134 acres (542164 SQM) of land | 177102 Nos          |
| No of plantation completed                                  | 181000 Nos          |
| Survival rate maintained                                    | >70%                |

# PLANTATION PHOTOGRAPH







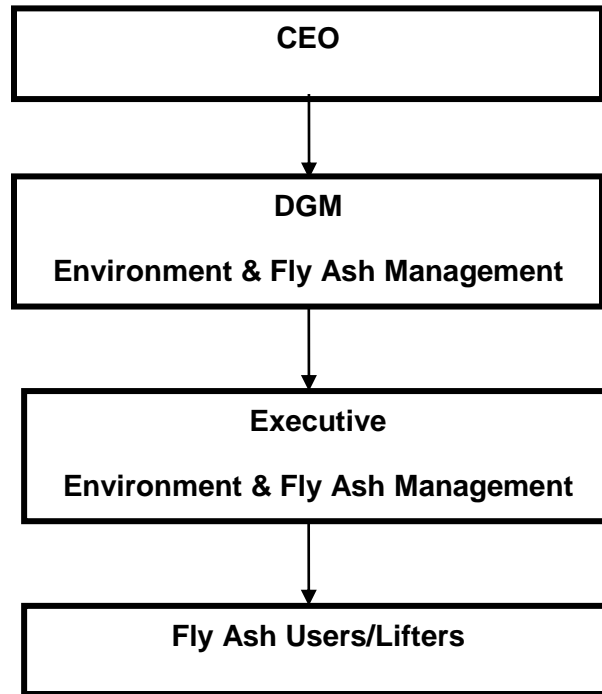




## **Annexure -6**

### **Details of Environment Management cell**

**ENVIRONMENT MANAGEMENT CELL**



| <b>Sr. No</b> | <b>NAME</b>                | <b>QUALIFICATION</b>                                   | <b>DESIGNATION</b>                 |
|---------------|----------------------------|--|------------------------------------|
| 1             | Mr. Anil Kumar Sharma      |  | Chief Executive Officer            |
| 2             | Mr. Anoop Kumar Srivastava | M.Sc. Environment<br>P.G. Diploma Industrial<br>Safety | DGM (Environment & Ash Management) |

## **Annexure -7**

### **Noise level monitoring report**



## Test Report

Sample Number : VEL/N/01

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/N/2209261001

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

### General Information

Sampling Location : Project Site (Jhabua Power Plant)  
 Sample Collected By : VEL Representative (Mr. Rajesh)  
 Sampling Equipment used : Sound Level Meter  
 Instrument Code : VEL/SLM/01  
 Instrument Calibration Status : Calibrated  
 Meteorological condition during monitoring : Clear Sky  
 Date of Monitoring : 15/09/2022 To 16/09/2022  
 Time of Monitoring : 06:00 AM to 06:00 AM  
 Ambient Temperature (°C) : Min.23°C, Max.28°C  
 Surrounding Activity : Human & Vehicular Activities  
 Scope of Monitoring : Regulatory Requirement  
 Sampling & Analysis Protocol : CPCB  
 Sampling Duration : 24.0 Hours  
 Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | IS-9989     | 62.11                          | 53.78                            | dB (A) |
| 2     | CPCB Limits in dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits in dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-"A" "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

*(Checked By)*  
 SUBODH SHEKHAWAT  
 DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/N/02

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/N/2209261002

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

### General Information

Sampling Location : Village-Barela  
 Sample Collected By : VEL Representative (Mr. Rajesh)  
 Sampling Equipment used : Sound Level Meter  
 Instrument Code : VEL/SLM/02  
 Instrument Calibration Status : Calibrated  
 Meteorological condition during monitoring : Clear Sky  
 Date of Monitoring : 15/09/2022 To 16/09/2022  
 Time of Monitoring : 06:00 AM to 06:00 AM  
 Ambient Temperature (°C) : Min.23°C, Max.28°C  
 Surrounding Activity : Human & Vehicular Activities  
 Scope of Monitoring : Regulatory Requirement  
 Sampling & Analysis Protocol : CPCB  
 Sampling Duration : 24.0 Hours  
 Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | I S-9989    | 51.26                          | 42.64                            | dB (A) |
| 2     | CPCB Limits in dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits in dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-"A" "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

*(Checked By)*  
**SG BODH SHEKHAWAT**  
 DY. TECHNICAL MANAGER

*(Approved By)*  
**Prakash Singh**  
 30/09/2022  
 Authorised Signatory







## Test Report

Sample Number : VEL/N/03  
Name & Address of the Party : M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/N/2209261003  
Format No : 7.8 F-03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

**General Information**  
Sampling Location : Village-Gorakhpur  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : Sound Level Meter  
Instrument Code : VEL/SLM/03  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 15/09/2022 To 16/09/2022  
Time of Monitoring : 06:00 AM to 06:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : CPCB  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | IS-9989     | 54.16                          | 43.82                            | dB (A) |
| 2     | CPCB Limits in dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits in dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-\*A "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/N/04  
Name & Address of the Party : M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/N/2209261004  
Format No : 7.8 F-03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

General Information  
Sampling Location : Village-Binaiki  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : Sound Level Meter  
Instrument Code : VEL/SLM/01  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 16/09/2022 To 17/09/2022  
Time of Monitoring : 06:00 AM to 06:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : CPCB  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | IS-9899     | 50.65                          | 41.22                            | dB (A) |
| 2     | CPCB Limite In dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits In dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits In dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits In dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-\*A "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER

(Approved By)  
  
Subodh Shekhawat  
Singh  
Authorised Signatory





## Test Report

Sample Number : VEL/N/05  
Name & Address of the Party : M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/N/2209261005  
Format No : 7.8 F-03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

General Information  
Sampling Location : Village-Panarjhir  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : Sound Level Meter  
Instrument Code : VEL/SLM/02  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 16/09/2022 To 17/09/2022  
Time of Monitoring : 06:00 AM to 06:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : CPCB  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | I S-9989    | 52.74                          | 41.28                            | dB (A) |
| 2     | CPCB Limits in dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits in dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-\*A "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

(Checked By)

**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER

(Approved By)  
Prakash Singh  
Authorised Signatory





## Test Report

Sample Number : VEL/N/06

Name & Address of the Party : M/s Jhabua Power Limited

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/N/2209261006

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

### General Information

Sampling Location : Coal Road  
 Sample Collected By : VEL Representative (Mr. Rajesh)  
 Sampling Equipment used : Sound Level Meter  
 Instrument Code : VEL/SLM/03  
 Instrument Calibration Status : Calibrated  
 Meteorological condition during monitoring : Clear Sky  
 Date of Monitoring : 17/09/2022 To 18/09/2022  
 Time of Monitoring : 06:00 AM to 06:00 AM  
 Ambient Temperature (°C) : Min.23°C, Max.28°C  
 Surrounding Activity : Human & Vehicular Activities  
 Scope of Monitoring : Regulatory Requirement  
 Sampling & Analysis Protocol : CPCB  
 Sampling Duration : 24.0 Hours  
 Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | IS-9989     | 60.32                          | 54.16                            | dB (A) |
| 2     | CPCB Limits in dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits in dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-\*A "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

(Checked By)

**SUBODH SHEKHAWAT**  
D.Y. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/N/07

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/N/2209261007

Format No : 7 8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

### General Information

Sampling Location : Village- Guneri  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : Sound Level Meter  
Instrument Code : VEL/SLM/01  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 17/09/2022 To 18/09/2022  
Time of Monitoring : 08:00 AM to 08:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.29°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : CPCB  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | IS-9989     | 52.48                          | 41.76                            | dB (A) |
| 2     | CPCB Limits in dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits in dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-\*A "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

(Checked By)

**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER

(Approved By)

**30/09/2022**  
Authorised Signatory





## Test Report

Sample Number : VEL/N/08  
Name & Address of the Party : M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh

Report No. : VEL/N/2209261008  
Format No : 7.8 F-03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

**General Information**  
Sampling Location : Village- Dola  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : Sound Level Meter  
Instrument Code : VEL/SLM/02  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 17/09/2022 To 18/09/2022  
Time of Monitoring : 06:00 AM to 06:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.29°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : CPCB  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | I S-9989    | 51.62                          | 40.89                            | dB (A) |
| 2     | CPCB Limits in dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits in dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-\*A "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER

(Approved By)  
**Prakash Singh**  
Authorised Signatory





## Test Report

Sample Number : VEL/N/09

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Saoni, Madhya Pradesh.

Report No. : VEL/N/2209261009

Format No : 7 8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT NOISE

### General Information

Sampling Location : Village-Durjanpur  
 Sample Collected By : VEL Representative (Mr. Rajesh)  
 Sampling Equipment used : Sound Level Meter  
 Instrument Code : VEL/SLM/03  
 Instrument Calibration Status : Calibrated  
 Meteorological condition during monitoring : Clear Sky  
 Date of Monitoring : 16/09/2022 To 17/09/2022  
 Time of Monitoring : 06:00 AM to 06:00 AM  
 Ambient Temperature (°C) : Min.23°C, Max.29°C  
 Surrounding Activity : Human & Vehicular Activities  
 Scope of Monitoring : Regulatory Requirement  
 Sampling & Analysis Protocol : CPCB  
 Sampling Duration : 24.0 Hours  
 Parameter Required : As per work order

| S.No. | Parameters                                   | Test Method | Test Results                   |                                  | Units  |
|-------|--|-------------|--------------------------------|----------------------------------|--------|
|       |  |             | Day Time (6:00 am to 10:00 pm) | Night Time (10:00 pm to 6:00 am) |        |
| 1     | Leq  | I S-9989    | 50.36                          | 39.48                            | dB (A) |
| 2     | CPCB Limits In dB(A*) Leq (Industrial Area)  | --          | 75                             | 70                               | dB (A) |
| 3     | CPCB Limits In dB(A*) Leq (Residential Area) | --          | 55                             | 45                               | dB (A) |
| 4     | CPCB Limits in dB(A*) Leq (Commercial Area)  | --          | 65                             | 55                               | dB (A) |
| 5     | CPCB Limits in dB(A*) Leq (Silent Zone)      | --          | 50                             | 40                               | dB (A) |

Note-\*A "decibel" is a unit in which noise is measured.

\*\*\*End of Report\*\*\*

*(Checked By)*  
**SUBODH SHEKHAWAT**  
 DY. TECHNICAL MANAGER

*(Approved By)*  
**Prabodh Singh**  
 Authorised Signatory



## **Annexure -8**

### **Ambient Air Quality monitoring report**





## Test Report

Sample Number : VEL/A/01

Name & Address of the Party : M/s Jhabua Power Limited

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261001

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipl Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Project Site (Jhabua Power Plant)  
 Sample Collected By : VEL Representative (Mr. Rajesh)  
 Sampling Equipment used : RDS/FPS  
 Instrument Code : VEL/RDS/01 & FPS/07  
 Instrument Calibration Status : Calibrated  
 Meteorological condition during monitoring : Clear Sky  
 Date of Monitoring : 15/09/2022 To 16/09/2022  
 Time of Monitoring : 10:00 AM to 10:00 AM  
 Ambient Temperature (°C) : Min.23°C, Max.28°C  
 Surrounding Activity : Human & Vehicular Activities  
 Scope of Monitoring : Regulatory Requirement  
 Sampling & Analysis Protocol : IS : 5182  
 Sampling Duration : 24.0 Hours  
 Parameter Required : As per work order

| S.No. | Parameters                              | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|---|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)          | IS:5182 (P-23), Gravimetric Method, RA:2006     | 64.55   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5)        | IS:5182 (P-24) : 2019                           | 35.34   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO <sub>2</sub> ) | IS:5182 (P-6), Jacob & Hochhelser, RA:2006      | 18.23   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO <sub>2</sub> )   | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 7.61    | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

*Subodh*  
 (Checked By)  
**SUBODH SHEKHAWAT**  
 DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/01

Name & Address of the Party : M/s Jhabua Power Limited

P O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261001/N

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Project Site (Jhabua Power Plant)  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/01 & FPS/07  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 15/09/2022 To 16/09/2022  
Time of Monitoring : 10:00 AM to 10:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results       | Units             | Limit as per CPCB |
|-------|--------------|---|---------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129,issue No.-01,issue Date-01/11/2021:2021 | *BLQ(LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/02

Name & Address of the Party : M/s Jhabua Power Limited

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261002

Format No : 7 8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Barela  
 Sample Collected By : VEL Representative (Mr. Rajesh)  
 Sampling Equipment used : RDS/FPS  
 Instrument Code : VEL/RDS/02 & FPS/04  
 Instrument Calibration Status : Calibrated  
 Meteorological condition during monitoring : Clear Sky  
 Date of Monitoring : 15/09/2022 To 16/09/2022  
 Time of Monitoring : 10:20 AM to 10:20 AM  
 Ambient Temperature (°C) : Min.23°C, Max.28°C  
 Surrounding Activity : Human & Vehicular Activities  
 Scopo of Monitoring : Regulatory Requirement  
 Sampling & Analysis Protocol : IS : 5182  
 Sampling Duration : 24.0 Hours  
 Parameter Required : As per work order

| S.No. | Parameters                       | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|----------------------------------|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)   | IS:5182 (P-23), Gravimetric Method, RA:2006     | 58.51   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5) | IS:5182 (P-24) : 2019                           | 32.43   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO2)       | IS:5182 (P-6), Jacob & Hochheiser, RA:2006      | 20.33   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO2)         | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 9.64    | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

*(Checked By)*  
**SUBODH SHEKHAWAT**  
 DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/02

Name & Address of the Party : M/s Jhabua Power Limited

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261002/N

Format No : 7.6 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

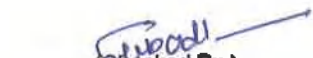
### General Information

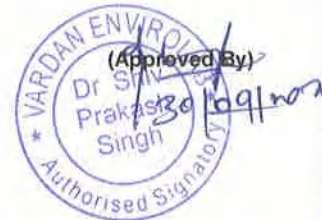
Sampling Location : Village-Barela  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/02 & FPS/04  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 15/09/2022 To 16/09/2022  
Time of Monitoring : 10:20 AM to 10:20 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results       | Units             | Limit as per CPCB |
|-------|--------------|---|---------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129, Issue No.-01, Issue Date-01/11/2021:2021 | *BLQ(LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**BODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

**Sample Number :** VEL/A/03  
**Name & Address of the Party :** M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

**Report No. :** VEL/A/2209261003  
**Format No :** 7.8 F-03  
**Party Reference No :** 4300005298  
**Reporting Date :** 30/09/2022  
**Period of Analysis :** 28/09/2022-30/09/2022  
**Receipt Date :** 26/09/2022

**Sample Description :** AMBIENT AIR

### General Information

**Sampling Location :** Village-Gorakhpur  
**Sample Collected By :** VEL Representative (Mr. Rajesh)  
**Sampling Equipment used :** Combo Sampler  
**Instrument Code :** VEL/Combo/42  
**Instrument Calibration Status :** Calibrated  
**Meteorological condition during monitoring :** Clear Sky  
**Date of Monitoring :** 15/09/2022 To 16/09/2022  
**Time of Monitoring :** 10:45 AM to 10:45 AM  
**Ambient Temperature (°C) :** Min.23°C, Max.28°C  
**Surrounding Activity :** Human & Vehicular Activities  
**Scope of Monitoring :** Regulatory Requirement  
**Sampling & Analysis Protocol :** IS : 5182  
**Sampling Duration :** 24.0 Hours  
**Parameter Required :** As per work order

| S.No. | Parameters                       | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|----------------------------------|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)   | IS:5182 (P-23), Gravimetric Method, RA:2006     | 55.48   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5) | IS:5182 (P-24) : 2019                           | 34.72   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO2)       | IS:5182 (P-6), Jacob & Hochheiser, RA:2006      | 16.82   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO2)         | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 6.09    | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification,\*\*LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

*Subodh*  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER

(Approved By)  
Dr. Prakash Singh  
Authorised Signatory





## Test Report

Sample Number : VEL/A/03  
Name & Address of the Party : M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261003/N  
Format No : 7.8 F-03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Gorakhpur  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : Combo Sampler  
Instrument Code : VEL/Combo/42  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 15/09/2022 To 16/09/2022  
Time of Monitoring : 10:45 AM to 10:45 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results         | Units             | Limit as per CPCB |
|-------|--------------|---|-----------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129, Issue No.-01, Issue Date-01/11/2021:2021 | *BLQ(**LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ-Limit of Quantification.

\*\*\*End of Report\*\*\*

*Subodh*  
(Checked By)  
SUBODH SHEKHAWAT  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/04

Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Dist-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261004

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/10/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Binaiki  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/01 & FPS/07  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 16/09/2022 To 17/09/2022  
Time of Monitoring : 10:30 AM to 10:30 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                       | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|----------------------------------|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)   | IS:5182 (P-23), Gravimetric Method, RA:2006     | 62.01   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5) | IS:5182 (P-24) : 2019                           | 38.25   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO2)       | IS:5182 (P-6), Jacob & Hochhelser, RA:2006      | 21.73   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO2)         | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 10.65   | µg/m <sup>3</sup> | 60                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**BODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/04

Name & Address of the Party : M/s Jhabua Power Limited.

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261004/N

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/10/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Binaiki  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/01 & FPS/07  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 16/09/2022 To 17/09/2022  
Time of Monitoring : 10:30 AM to 10:30 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results         | Units             | Limit as per CPCB |
|-------|--------------|---|-----------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129, Issue No.-01, Issue Date-01/11/2021:2021 | *BLQ(**LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER







## Test Report

Sample Number : VEL/A/05

Name & Address of the Party : M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261005

Format No : 7 8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Panarjhir  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/02 & FPS/04  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 16/09/2022 To 17/09/2022  
Time of Monitoring : 11:00 AM to 11:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                              | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|---|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)          | IS:5182 (P-23), Gravimetric Method, RA:2006     | 66.33   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5)        | IS:5182 (P-24) : 2019                           | 39.50   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO <sub>2</sub> ) | IS:5182 (P-6), Jacob & Hochheiser, RA:2006      | 22.43   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO <sub>2</sub> )   | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 10.15   | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

*Subodh*  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/05  
Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261005/N  
Format No : 7 8 F-03  
Party Reference No : 4300005298  
Reporting Date : 30/09/2022  
Period of Analysis : 26/09/2022-30/09/2022  
Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Panarjhir  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/02 & FPS/04  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 16/09/2022 To 17/09/2022  
Time of Monitoring : 11:00 AM to 11:00 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results         | Units             | Limit as per CPCB |
|-------|--------------|---|-----------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129,issue No.-01,issue Date-01/11/2021:2021 | *BLQ(**LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

**Sample Number :** VEL/A/06  
**Name & Address of the Party :** M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

**Report No. :** VEL/A/2209261006  
**Format No :** 7 8 F-03  
**Party Reference No :** 4300005298  
**Reporting Date :** 30/09/2022  
**Period of Analysis :** 26/09/2022-30/09/2022  
**Receipt Date :** 26/09/2022

**Sample Description :** AMBIENT AIR

### General Information

**Sampling Location :** Coal Road  
**Sample Collected By :** VEL Representative (Mr. Rajesh)  
**Sampling Equipment used :** RDS/FPS  
**Instrument Code :** VEL/RDS/02 & FPS/04  
**Instrument Calibration Status :** Calibrated  
**Meteorological condition during monitoring :** Clear Sky  
**Date of Monitoring :** 17/09/2022 To 18/09/2022  
**Time of Monitoring :** 11:40 AM to 11:40 AM  
**Ambient Temperature (°C) :** Min.23°C, Max.28°C  
**Surrounding Activity :** Human & Vehicular Activities  
**Scopo of Monitoring :** Regulatory Requirement  
**Sampling & Analysis Protocol :** IS : 5182  
**Sampling Duration :** 24.0 Hours  
**Parameter Required :** As per work order

| S.No. | Parameters                       | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|----------------------------------|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)   | IS:5182 (P-23), Gravimetric Method, RA:2006     | 63.66   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5) | IS:5182 (P-24) : 2019                           | 32.01   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO2)       | IS:5182 (P-6), Jacob & Hochheiser, RA:2008      | 17.53   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO2)         | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 6.59    | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER

  
(Approved By)  
Prakash Singh  
Authorized Signatory





## Test Report

Sample Number : VEL/A/06

Name & Address of the Party : M/s Jhabua Power Limited

P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2209261006/N

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

### General Information

Sampling Location : Coal Road  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/02 & FPS/04  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 17/09/2022 To 18/09/2022  
Time of Monitoring : 11:40 AM to 11:40 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results         | Units             | Limit as per CPCB |
|-------|--------------|---|-----------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129, Issue No.-01, Issue Date-01/11/2021:2021 | *BLQ(**LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)

**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/07

Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261007

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Guneri  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/01 & FPS/07  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 17/09/2022 To 18/09/2022  
Time of Monitoring : 11:15 AM to 11:15 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters                              | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|---|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)          | IS:5182 (P-23), Gravimetric Method, RA:2006     | 60.41   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5)        | IS:5182 (P-24) : 2019                           | 33.28   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO <sub>2</sub> ) | IS:5182 (P-6), Jacob & Hochheiser, RA:2006      | 18.23   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO <sub>2</sub> )   | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 9.13    | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

(Checked By)

SUBODH SHEKHAWAT  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/07

Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2209261007/N

Format No : 7.8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022

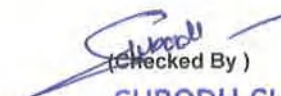
### General Information

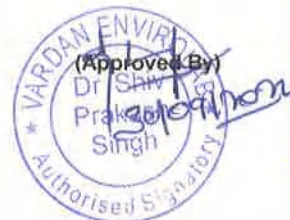
Sampling Location : Village-Guneri  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/01 & FPS/07  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 17/09/2022 To 18/09/2022  
Time of Monitoring : 11:15 AM to 11:15 AM  
Ambient Temperature (°C) : Min.23°C, Max 28°C  
Surrounding Activity : Human & Vehicular Activities  
Scopo of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results         | Units             | Limit as per CPCB |
|-------|--------------|---|-----------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129, Issue No.-01, Issue Date-01/11/2021:2021 | *BLQ(**LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

**Sample Number :** VEL/A/08  
**Name & Address of the Party :** M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.  
**Sample Description :** AMBIENT AIR

**Report No. :** VEL/A/2209261008  
**Format No :** 7.8 F-03  
**Party Reference No :** 4300005298  
**Reporting Date :** 30/09/2022  
**Period of Analysis :** 26/09/2022-30/09/2022  
**Receipt Date :** 26/09/2022

### General Information

**Sampling Location :** Village-Dola  
**Sample Collected By :** VEL Representative (Mr. Rajesh)  
**Sampling Equipment used :** Combo Sampler  
**Instrument Code :** VEL/Combo/42  
**Instrument Calibration Status :** Calibrated  
**Meteorological condition during monitoring :** Clear Sky  
**Date of Monitoring :** 17/09/2022 To 18/09/2022  
**Time of Monitoring :** 11:50 AM to 11:50 AM  
**Ambient Temperature (°C) :** Min.23°C, Max.28°C  
**Surrounding Activity :** Human & Vehicular Activities  
**Scope of Monitoring :** Regulatory Requirement  
**Sampling & Analysis Protocol :** IS : 5182  
**Sampling Duration :** 24.0 Hours  
**Parameter Required :** As per work order

| S.No. | Parameters                              | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|---|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)          | IS:5182 (P-23), Gravimetric Method, RA:2006     | 64.55   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5)        | IS:5182 (P-24) : 2019                           | 35.76   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO <sub>2</sub> ) | IS:5182 (P-6), Jacob & Hochheiser, RA:2006      | 23.14   | µg/m <sup>3</sup> | 80                |
| 4     | Sulphur Dioxide (as SO <sub>2</sub> )   | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 11.16   | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

*(Checked By)*  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER





## Test Report

Sample Number : VEL/A/08

Name & Address of the Party : M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Dist- Seoni, Madhya Pradesh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2209261008/N

Format No : 7 8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 26/09/2022


### General Information

Sampling Location : Village-Dola  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : Combo Sampler  
Instrument Code : VEL/Combo/42  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 17/09/2022 To 18/09/2022  
Time of Monitoring : 11:50 AM to 11:50 AM  
Ambient Temperature (°C) : Min.23°C, Max.28°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results         | Units             | Limit as per CPCB |
|-------|--------------|---|-----------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129, Issue No.-01, Issue Date-01/11/2021:2021 | *BLQ(**LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER







## Test Report

**Sample Number :** VEL/A/09  
**Name & Address of the Party :** M/s Jhabua Power Limited  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

**Report No. :** VEL/A/2209261009  
**Format No :** 7.8 F-03  
**Party Reference No :** 4300005298  
**Reporting Date :** 30/09/2022  
**Period of Analysis :** 26/09/2022-30/09/2022  
**Receipt Date :** 26/09/2022

**Sample Description :** AMBIENT AIR

**General Information**  
**Sampling Location :** Village-Durjanpur  
**Sample Collected By :** VEL Representative (Mr. Rajesh)  
**Sampling Equipment used :** RDS/FPS  
**Instrument Code :** VEL/RDS/FPS/02  
**Instrument Calibration Status :** Calibrated  
**Meteorological condition during monitoring :** Clear Sky  
**Date of Monitoring :** 17/09/2022 To 18/09/2022  
**Time of Monitoring :** 12:00 PM to 12:00 PM  
**Ambient Temperature (°C) :** Min.23°C, Max.29°C  
**Surrounding Activity :** Human & Vehicular Activities  
**Scope of Monitoring :** Regulatory Requirement  
**Sampling & Analysis Protocol :** IS : 5182  
**Sampling Duration :** 24.0 Hours  
**Parameter Required :** As per work order

| S.No. | Parameters                       | Test Method                                     | Results | Units             | Limit as per CPCB |
|-------|----------------------------------|---|---------|-------------------|-------------------|
| 1     | Particulate Matter (as PM -10)   | IS:5182 (P-23), Gravimetric Method, RA:2006     | 62.37   | µg/m <sup>3</sup> | 100               |
| 2     | Particulate Matter (as PM - 2.5) | IS:5182 (P-24) : 2019                           | 36.59   | µg/m <sup>3</sup> | 60                |
| 3     | Nitrogen Dioxides (as NO2)       | IS:5182 (P-6), Jacob & Hochheiser, RA:2006      | 21.73   | µg/m <sup>3</sup> | 60                |
| 4     | Sulphur Dioxide (as SO2)         | IS:5182 (P-2), Modified West and Gaeke, RA:2012 | 8.12    | µg/m <sup>3</sup> | 80                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

  
(Checked By)  
**SUBODH SHEKHAWAT**  
DY. TECHNICAL MANAGER

  
Approved By  
Prakash Singh  
Authorised Signatory





## Test Report

Sample Number : VEL/A/09

Name & Address of the Party : M/s Jhabua Power Limited.  
P.O- Attaria, Tehsil- Ghansore, Distt-Seoni, Madhya Pradesh.

Report No. : VEL/A/2209261009/N

Format No : 7 8 F-03

Party Reference No : 4300005298

Reporting Date : 30/09/2022

Period of Analysis : 26/09/2022-30/09/2022

Receipt Date : 28/09/2022

Sample Description : AMBIENT AIR

### General Information

Sampling Location : Village-Durjanpur  
Sample Collected By : VEL Representative (Mr. Rajesh)  
Sampling Equipment used : RDS/FPS  
Instrument Code : VEL/RDS/FPS/02  
Instrument Calibration Status : Calibrated  
Meteorological condition during monitoring : Clear Sky  
Date of Monitoring : 17/09/2022 To 18/09/2022  
Time of Monitoring : 12:00 PM to 12:00 PM  
Ambient Temperature (°C) : Min.23°C, Max.29°C  
Surrounding Activity : Human & Vehicular Activities  
Scope of Monitoring : Regulatory Requirement  
Sampling & Analysis Protocol : IS : 5182  
Sampling Duration : 24.0 Hours  
Parameter Required : As per work order

| S.No. | Parameters   | Test Method   | Results         | Units             | Limit as per CPCB |
|-------|--------------|---|-----------------|-------------------|-------------------|
| 1     | Mercury (Hg) | VEL/ENV/STP/129, Issue No.-01, Issue Date-01/11/2021:2021 | *BLQ(**LOQ-1.0) | ng/m <sup>3</sup> | --                |

\*BLQ-Below Limit of Quantification, \*\*LOQ - Limit of Quantification.

\*\*\*End of Report\*\*\*

*(Checked By)*  
BODH SHEKHAWAT  
DY. TECHNICAL MANAGER



## **Annexure -9**

### **Submission receipt of Environmental Statement**



Ref. No.: JPL/ENV/22-23/Sept/38

September 06, 2022

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 2021-22 for 1 x 660 MW Thermal Power Plant at Village-Bareila & Gorakhpur, Tehsil- Ghansore, Distt.- Seoni, Madhya Pradesh by M/s Jhabua Power Plant.

**Ref.:** MoEF Environmental Clearance No.: J-13012/63/2010-IA-II (T) dated 21st August 2014.

Dear Sir,

Please find attached the **Environmental Statement** for the year 2021 - 2022 in fulfillment of conditions stipulated in the Environment Clearance (letter issued by MoEF, New Delhi and referenced above) for 1x660 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**

**Authorized Signatory**

**Encl.:** Environment Statement Report for the year 2021-22.

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

**Jhabua Power Limited**

(CIN : U40105WB1995PLC068816)

Village Barela, PO Attaria, Tehsil Ghansore, District Seoni-480987, Madhya Pradesh, India

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

Corporate Office : Unit No.-307, 3<sup>rd</sup> 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



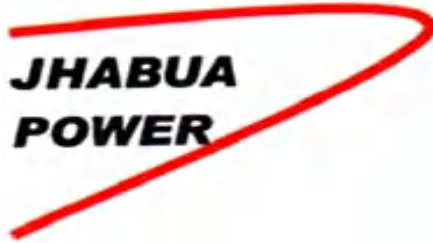
**AVANTHA**  
GROUP COMPANY

**POWER PLANT**

**ENVIRONMENTAL STATEMENT**

**OF**

**JHABUA POWER LTD.  
UNIT – BARELA & GOREKHPUR  
TEHSIL: GHANSORE  
DISTRICT – SEONI (M.P.)**



**CAPACITY: 1 X 660 MW (PHASE –II)**

**FINANCIAL YEAR ENDING THE 31<sup>ST</sup> MARCH, 2022**

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

## **ENVIRONMENTAL STATEMENT FORM-V**

### **(See rule 14)**

Environmental Statement for the financial year ending with 31<sup>st</sup> March, 2022 as per condition stipulated under clause no. xii of general Conditions in Environmental Clearance granted by Ministry of Environment & Forest vide letter no. F.No J - 13012/63/2010- IA.II (T) dated 21<sup>st</sup> August, 2014.

Presently project is under implementation.

### **PART- A**

Environmental Statement Report for the Financial Year ending the 31<sup>st</sup> March, 2022.

|      |  |  |
|------|--|--|
| i.   | Name and address of the owner/occupier of the industry Operation or process. | Mr. Ashok Singh Yadav<br>Plant Head, Jhabua Power Ltd<br>Vill.- Barela – Gorakhpur, Near Overhead Tank, Tehsil-Ghansore, Dist.-Seoni<br>Madhya Pradesh, 480997 |
| ii.  | Industry category Primary- (STC Code) Secondary - (STC Code)                 | Red Category   |
| iii. | Production Capacity  | 1 X 660 MW   |
| iv.  | Year of establishment  | Construction yet not started   |
| v.   | Date of the last environmental statement submitted.                          | 14 <sup>th</sup> July 2021 vide letter dated 14 <sup>th</sup> July 2021.   |

|   |   |
|---|---|
| 660 MW Coal Based Thermal Power Plant<br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | Environmental<br>Statement Report,<br>2021-2022 |
|---|---|

## PART - B

### (I) Water and raw Material Consumption:-

| Water consumption by |                      | Consumption M <sup>3</sup> /day                |   |
|----------------------|----------------------|--|---|
| 1                    | Process              | Nil  |   |
| 2                    | Cooling              | Nil  |   |
| 3                    | Domestic             | Nil  |   |
| S. No.               | Name of the Products | Process water consumption per unit of products |   |
|                      |                      | During the previous financial year 2020-21     | During the current financial year 2021-22 |
| 1.                   | Electricity          | Nil  | Nil                                       |

### (II) Raw material consumption

| Name of the Raw materials* | Name of the Products | Raw Material consumption per unit of products |   |
|----------------------------|----------------------|---|---|
|                            |                      | During the previous financial year 2020-21    | During the current financial year 2021-22 |
| Coal                       | Electricity          | Nil   | Nil                                       |

\*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

## PART - C

### Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Presently project activities yet not started. Observation in and around the project site:

| Pollutants | Quantity of Pollutants discharged (mass/day) | Concentration of Pollutants discharged (mass/volume) | Percentage of variation from prescribed standards with reasons. |
|------------|--|--|---|
| (a) Air    |  | Enclosed as <b>Annexure-1</b>                        | NA  |
| (b) Water  |  | Enclosed as <b>Annexure-2 &amp; 3</b>                | NA  |

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

**PART – D**

**HAZARDOUS WASTES**

**As specified under Hazardous Wastes (Management & Handling  
Rules, 1989)**

| S. No. | Hazardous Wastes                  | Total Quantity (Kg)                        |   |
|--------|-----------------------------------|--|---|
|        |                                   | During the previous financial year 2020-21 | During the current financial year 2021-22 |
| a.     | From Process                      | Nil  | Nil                                       |
| b.     | From Pollution Control Facilities | Nil  | Nil                                       |

**PART - E**

**SOLID WASTES**

| S. No. | Solid Wastes                                     | Total Quantity (Kg)                        |   |
|--------|--|--|---|
|        |  | During the previous financial year 2020-21 | During the current financial year 2021-22 |
| a.     | From Process                                     | Nil  | Nil                                       |
| b.     | From Pollution Control Facility                  | Nil  | Nil                                       |
| c.     | Quantity recycled or reutilized within the unit. | Nil  | Nil                                       |

**PART - F**

**Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.**

- Ash is the main solid waste generated in the coal based thermal power plant. The quantity of fly ash and bottom ash generated will be 0.183 MTPA and 0.045 MTPA respectively.



- Fly ash will be utilized as per notification for fly ash by Ministry of Environment & Forest, New Delhi. MoU for Fly ash utilization in Cement Industry is signed with M/s Heidelberg Cement Ltd, Damoh, M.P. for 1.7 million tons/annum.

## **PART – G**

### **Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost production.**

The ambient air quality monitoring with respect to the 10 km radius study area around the project site is being carried out by M/s Vardan Envirolab, Gurgaon on monthly, quarterly and six monthly basis to access existing ambient air quality of the area. The various sources of air pollution in the region are dust rising from unpaved roads, domestic fuel burning, vehicular traffic, agricultural activities, other industries like stone crusher, etc.

The surface and ground water quality of the study area is also being done on six monthly basis by M/s Vardan Envirolab, Gurgaon.

In order to know the baseline of noise levels in and around the project site, noise levels were measured in the core zone and within the plant premises. Regular monitoring of ambient air quality, Noise Level, ground & surface water quality has been carried out to evaluate the quality of environment.

Result for the same has been attached as below;

1. Ambient air quality monitoring report enclosed as **Annexure 1.**
2. Ground water quality report enclosed as **annexure 2.**
3. Surface water quality report enclosed as **annexure 3.**
4. Noise level monitoring report enclosed as **annexure 4.**

Sampling, monitoring & analysis of above report is carried out by our environmental consultant M/s M/s Vardan Envirolab, Gurgaon.

## **PART – H**

### **Additional measures/investment proposal for environmental protection including abatement of pollution.**

- Green belt development.
- World Environment day celebration on 5<sup>th</sup> June.

## **PART - I**

### **MISCELLANEOUS:**

### **Any other particulars in respect of environmental protection and abatement of pollution.**

- Water sprinkling being used on the roads of site and other dust vulnerable areas of the plant.
- We are developing greenery in and around the plant and approximately 2500 plants per hectare will be planted. Native species would be preferred for the plantation having following characteristics:
  - Fast growing with thick canopy cover
  - Adequate height with longer duration of foliage
  - Perennial and evergreen
- Out of 181000 plantations, 135541 plants are covered under phase –I whereas rest plants are developed under Phase-II in and around the plant for green belt development.

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

## Annexure - 1

### Ambient Air Quality Monitoring Results

February -2022

| S. No. | Parameters  | Project Site                     | Village Barela                   | Village Binaki                   | Village Dola                     | Village Durjanpur                | Village Panarjhir                | Village Gorakhpur                | Village Guneri                   |
|--------|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|        | Date of Monitoring  | 10/02/2022 to 11/02/2022         | 11/02/2022 to 12/02/2022         | 10/02/2022 to 11/02/2022         | 12/02/2022 to 13/02/2022         | 12/02/2022 to 13/02/2022         | 11/02/2022 to 12/02/2022         | 10/02/2022 to 11/02/2022         | 12/02/2022 to 13/02/2022         |
| 1.     | Particulate Matter (PM <sub>2.5</sub> ), $\mu\text{g}/\text{m}^3$ | 32.07                            | 28.82                            | 26.64                            | 26.34                            | 28.76                            | 26.22                            | 25.79                            | 28.57                            |
| 2.     | Particulate Matter (PM <sub>10</sub> ), $\mu\text{g}/\text{m}^3$  | 67.41                            | 67.45                            | 63.25                            | 67.45                            | 68.41                            | 65.45                            | 62.45                            | 69.11                            |
| 3.     | Nitrogen Dioxide (NO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$     | 18.38                            | 13.89                            | 15.94                            | 16.23                            | 13.55                            | 17.2                             | 14.41                            | 14.2                             |
| 4.     | Sulphur Dioxide (SO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$      | 10.45                            | 9.52                             | 7.79                             | 7.49                             | 9.21                             | 7.46                             | 9.2                              | 10.18                            |
| 5.     | Mercury (mg/m <sup>3</sup> )                                      | BDL (*DL 1.0 ng/m <sup>3</sup> ) | BDL (*DL 1.0 ng/m <sup>3</sup> ) | BDL (*DL 1.0 ng/m <sup>3</sup> ) | BDL (*DL 1.0 ng/m <sup>3</sup> ) | BDL (*DL 1.0 ng/m <sup>3</sup> ) | BDL (*DL 1.0 ng/m <sup>3</sup> ) | BDL (*DL 1.0 ng/m <sup>3</sup> ) | BDL (*DL 1.0 ng/m <sup>3</sup> ) |

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

## Annexure – 2

# Ground Water Monitoring Results

February -2022

Date of Sampling: 12.02.2022

| S. No. | Parameter                                  | Project Site | Village-Barela | Village-Panarjhir | Village-Durjanpur | Village-Guneri | Village-Dola | Village-Binaiki | Village-Gorakhpur | Desirable limit (Max.) | Permissible limit in the Absence of Alternate Source (Max.) |
|--------|--|--------------|----------------|-------------------|-------------------|----------------|--------------|-----------------|-------------------|------------------------|---|
| 1      | Colour (Hazen Unit)                        | BDL          | BDL            | BDL               | BDL               | BDL            | BDL          | BDL             | BDL               | 5                      | 15  |
| 2      | Odour                                      | Agreeable    | Agreeable      | Agreeable         | Agreeable         | Agreeable      | Agreeable    | Agreeable       | Agreeable         | Agreeable              | Agreeable   |
| 3      | Turbidity (NTU)                            | BDL          | BDL            | BDL               | BDL               | BDL            | BDL          | BDL             | BDL               | 1                      | 5   |
| 4      | pH (at 25 °C)                              | 7.34         | 7.11           | 7.16              | 7.48              | 7.34           | 7.33         | 7.38            | 7.46              | 6.5 to 8.5             | No Relaxation   |
| 5      | Total Dissolved Solids (mg/l)              | 318          | 239            | 272               | 337               | 327            | 318          | 296             | 311               | 500                    | 2000  |
| 6      | Total Hardness as CaCO <sub>3</sub> (mg/l) | 178.48       | 108.64         | 120.28            | 182.36            | 162.96         | 182.36       | 162.96          | 166.84            | 200                    | 600   |
| 7      | Alkalinity as CaCO <sub>3</sub> , (mg/l)   | 141.8        | 90.4           | 118.2             | 137.9             | 134            | 157.6        | 149.7           | 145.8             | 200                    | 600   |
| 8      | Sulphate as SO <sub>4</sub> (mg/l)         | 30.95        | 23.61          | 37.71             | 33.8              | 35.61          | 37.71        | 28.28           | 52.87             | 200                    | 400   |
| 9      | Chloride as Cl (mg/l)                      | 59.44        | 46.44          | 65.02             | 59.44             | 66.87          | 50.15        | 55.73           | 39.01             | 250                    | 1000  |
| 10     | Nitrate as NO <sub>3</sub> mg/l            | 7.47         | 4.15           | 2.42              | 6.64              | 6.72           | 7.4          | 6.64            | 5.89              | 45                     | No Relaxation   |
| 11     | Calcium as Ca mg/l                         | 54.43        | 26.44          | 34.21             | 54.43             | 55.98          | 55.98        | 48.21           | 52.87             | 75                     | 200   |
| 12     | Magnesium as Mg (mg/l)                     | 10.31        | 10.34          | 8.44              | 11.25             | 5.59           | 10.3         | 10.31           | 8.42              | 30                     | 100   |
| 13     | Iron as Fe (mg/l)                          | 0.21         | 0.17           | 0.21              | 0.33              | 0.25           | 0.22         | 0.22            | 0.22              | 0.3                    | No Relaxation   |
| 14     | Fluoride as F (mg/l)                       | 0.58         | 0.52           | 0.50              | 0.64              | 0.78           | 0.65         | 0.62            | 0.64              | 1.0                    | 1.5   |
| 15     | Aluminum (as Al)                           | BDL          | BDL            | BDL               | BDL               | BDL            | BDL          | BDL             | BDL               | 0.03                   | 0.2   |

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

|    |                               |        |        |        |        |        |        |        |        |  |               |
|----|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|---------------|
| 16 | Boron (as B) (mg/l)           | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.5  | 1.0           |
| 17 | Cadmium as Cd (mg/l)          | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.003  | No Relaxation |
| 18 | Chromium as Cr (mg/l)         | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.05   | No Relaxation |
| 19 | Copper as Cu (mg/l)           | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.05   | 1.5           |
| 20 | Lead as Pb (mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.01   | No Relaxation |
| 21 | Manganese as Mn (mg/l)        | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.1  | 0.3           |
| 22 | Selenium as Se (mg/l)         | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.01   | No Relaxation |
| 23 | Arsenic as As (mg/l)          | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.01   | 0.05          |
| 24 | Zinc as Zn (mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 5  | 15            |
| 25 | Mercury as Hg (mg/l)          | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.001  | No Relaxation |
| 26 | Residual free Chlorine (mg/l) | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.2  | 1.0           |
| 27 | Phenolic Compound (mg/l)      | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.001  | 0.002         |
| 28 | Anionic Detergent (mg/l)      | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.2  | 1.0           |
| 29 | Cyanides (mg/l)               | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.005  | No Relaxation |
| 31 | E. Coli                       | Absent | Absent | Absent | Absent | Absent | Absent | Absent | Absent | Shall not be detectable in any 100 ml sample |               |
| 32 | T. Coliform per/100 ml        | Absent | Absent | Absent | Absent | Absent | Absent | Absent | Absent | Shall not be detectable in any 100 ml sample |               |

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

## Annexure – 3

### Surface Water Sampling Results

February -2022

Date of sampling: 12.02.2022

| Sr. No | Parameters                                 | Pariyat River    | Temor River near Pati village | 100 Meter from confluence point | Surface Water Quality Standards (as per IS 10500:2012 and amendment 1). |               |
|--------|--|------------------|-------------------------------|---------------------------------|---|---------------|
|        |  |                  |                               |                                 | Desirable   | Permissible   |
| 1      | Colour (Hazen Unit)                        | *BDL(**DL 1.0)   | *BDL(**DL 1.0)                | -                               | 5   | 15            |
| 2      | Odour                                      | Agreeable        | Agreeable                     | Agreeable                       | Agreeable   | Agreeable     |
| 3      | Turbidity (NTU)                            | 5.0              | 2.0                           |                                 | 1   | 5             |
| 4      | pH (at 25 °C)                              | 7.39             | 7.46                          | 7.26                            | 6.5-8.5   | No relaxation |
| 5      | Total Dissolved Solids (mg/l)              | 253              | 208                           | 395                             | 500   | 2000          |
| 6      | TSS mg/l                                   | 6.8              | 6.0                           | 29.3                            | -   | -             |
| 7      | Total Hardness as CaCO <sub>3</sub> (mg/l) | 182.36           | 116.4                         | -                               | 200   | 600           |
| 8      | Alkalinity as CaCO <sub>3</sub> , (mg/l)   | 141.8            | 145.8                         | -                               | 200   | 600           |
| 9      | Sulphate as SO <sub>4</sub> (mg/l)         | 6.67             | 7.52                          | 7.81                            | 200   | 400           |
| 10     | Chloride as Cl (mg/l)                      | 24.15            | 27.86                         | -                               | 250   | 1000          |
| 11     | Nitrate as NO <sub>3</sub> mg/l            | 2.42             | 6.87                          | -                               | 45  | No relaxation |
| 12     | Calcium as Ca mg/l                         | 32.66            | 26.44                         | -                               | 75  | 200           |
| 13     | BOD mg/l                                   | 5.23             | 4.32                          | 13.5                            | -   | -             |
| 14     | Magnesium as Mg (mg/l)                     | 24.47            | 8.45                          | -                               | 30  | 100           |
| 15     | Iron as Fe (mg/l)                          | 0.12             | 0.11                          | -                               | 1.0   | No relaxation |
| 16     | Fluoride as F (mg/l)                       | 0.58             | 0.51                          | -                               | 1.0   | 1.5           |
| 17     | COD mg/l                                   | 22.55            | 24.6                          | 50.84                           | -   | -             |
| 18     | Boron (as B) ( mg/l)                       | *BDL(**DL 0.2)   | *BDL(**DL 0.2)                | -                               | 0.5   | 0.1           |
| 19     | Cadmium as Cd (mg/l)                       | *BDL(**DL 0.002) | *BDL(**DL 0.002)              | *BDL(**DL 0.002)                | 0.003   | No relaxation |
| 20     | Chromium as Cr (mg/l)                      | *BDL(**DL 0.02)  | *BDL(**DL 0.02)               | *BDL(**DL 0.02)                 | 0.05  | No relaxation |

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

|    |                                  |                     |                     |                     |       |               |
|----|----------------------------------|---------------------|---------------------|---------------------|-------|---------------|
| 21 | Copper as Cu (mg/l)              | *BDL(**DL<br>0.02)  | *BDL(**DL<br>0.02)  | -                   | 0.05  | 1.5           |
| 22 | Lead as Pb (mg/l)                | *BDL(**DL<br>0.005) | *BDL(**DL<br>0.005) | *BDL(**DL<br>0.005) | 0.01  | No relaxation |
| 23 | Manganese as Mn<br>(mg/l)        | *BDL(**DL<br>0.05)  | *BDL(**DL<br>0.05)  | -                   | 0.1   | 0.3           |
| 24 | Selenium as Se (<br>mg/l)        | *BDL(**DL<br>0.005) | *BDL(**DL<br>0.005) | -                   | 0.01  | No relaxation |
| 25 | Arsenic as<br>As (mg/l)          | BDL                 | BDL                 | BDL                 | 0.01  | No relaxation |
| 26 | Zinc as Zn (mg/l)                | BDL                 | BDL                 |                     | 5     | 15            |
| 27 | Mercury as Hg (mg/l)             | BDL                 | BDL                 | BDL                 | 0.001 | No relaxation |
| 28 | Residual free<br>Chlorine (mg/l) | BDL                 | BDL                 | -                   | 0.2   | 1.0           |
| 29 | Phenolic Compound<br>(mg/l)      | BDL                 | BDL                 | -                   | -     | -             |
| 30 | Anionic Detergent<br>(mg/l)      | BDL                 | BDL                 | -                   |       |               |
| 32 | Cyanides (mg/l)                  | BDL                 | BDL                 | -                   |       |               |
| 33 | Oil & Grease                     |                     |                     | 2.2                 |       |               |

|  |  |
|--|--|
| <b>660 MW Coal Based Thermal Power Plant</b><br>At Villages Barela and Gorakhpur, Tehsil Ghansore, District Seoni (Madhya Pradesh) | <b>Environmental<br/>Statement Report,<br/>2021-2022</b> |
|--|--|

## Annexure – 4

### Ambient Noise Level Results

February -2022

| S. No. | Name Of Sampling / Monitoring Location | Date of Sampling         | Noise level Monitoring Unit - dB (A)     |  |
|--------|--|--------------------------|--|--|
|        |  |                          | Day Time<br>Leq<br>(6.00 am to 10.00 pm) | Night Time<br>Leq<br>(10.00 pm to 6.00 am) |
| 1      | Project Site                           | 10/02/2022 to 11/02/2022 | 58.17                                    | 46.22                                      |
| 2      | Village -Barela                        | 11/02/2022 to 12/02/2022 | 52.9                                     | 40.68                                      |
| 3      | Village - Gorakhpur                    | 10/02/2022 to 11/02/2022 | 54.76                                    | 39.6                                       |
| 4      | Village - Guneri                       | 12/02/2022 to 13/02/2022 | 50.4                                     | 40.68                                      |
| 5      | Village - Dola                         | 12/02/2022 to 13/02/2022 | 54.3                                     | 42.08                                      |
| 6      | Village – Binaiki                      | 10/02/2022 to 11/02/2022 | 52.81                                    | 42.67                                      |
| 7      | Village - Panarjhir                    | 11/02/2022 to 12/02/2022 | 51.9                                     | 39.68                                      |



## **Annexure -10**

**Submission Receipts of green belt plan.**



# Jhabua Power Ltd.

Village - Barela, Post : Attaria, Tehsil - Ghansore  
Dist. - Seoni, Pin - 480997 (Madhya Pradesh)

Date :24-06-2011

JPL/JBP/2011

To,

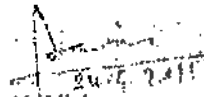
The CCF,  
Forest Department,  
Seoni (M.P.)

Sub: Proposal for plantation scheme around plant area.

Dear Sir,

M/s Jhabua Power Limited is setting up 1 x 600 MW coal based Thermal Power Plant at Village Barela-Gorakhpur, Tehsil - Ghansore, District - Seoni. As a measure for conservation of environment and to provide a buffer between the sources of pollution and the surrounding areas the green belt is been proposed around the plant boundary. The proposed area for green belt development is around 103 Acre for Phase-I. Jhabua Power Limited kindly request you to guide us with a plantation scheme with the species of saplings that can be grown effectively in green belt area.

Thanking You

  
A.N. Mishra  
Head Project  
Jhabua Power Ltd.

Encl. :- Plot Plan highlighting green belt area.



AVANTHA

Registered Office, 7<sup>th</sup> Floor, Macmet House, 10 B O C Ganguly Sarani, Kankar - 701426, W.B.  
Corporate Office, Thapar House 124 Janpath, New Delhi - 110001 (India)  
Tel: +91-11-23368906 Fax: +91-11-23368729

## **Annexure -11**

### **Fly ash utilization plan**

| <b>PROGRESSIVE FLY ASH UTILIZATION PLAN<br/>IMPORTED COAL</b>              |             |                 |                 |                 |                 |
|--|-------------|-----------------|-----------------|-----------------|-----------------|
| <b>ITEM DESCRIPTION</b>  | <b>Unit</b> | <b>1st Year</b> | <b>2nd Year</b> | <b>3rd Year</b> | <b>4th Year</b> |
| <b>Tota Production of Ash</b>  | MeT/Annum   | <b>0.1824</b>   | <b>0.1824</b>   | <b>0.1824</b>   | <b>0.1824</b>   |
| Fly Ash Bricks, Blocks,Tiles made with fly ash, lime & gypsum              | MeT/Annum   | 0.022           | 0.024           | 0.025           | 0.025           |
| Paving, Blocks, Paving Tiles, Checker Tiles. Cement wil be used as binder. | MeT/Annum   | 0.016           | 0.018           | 0.018           | 0.018           |
| Cement Manufaturing  | MeT/Annum   | 0.034           | 0.07            | 0.1             | 0.12            |
| Clay based building materials suck as bricks & blocks.                     | MeT/Annum   | 0.011           | 0.012           | 0.012           | 0.012           |
| Concret, mortarand plaster   | MeT/Annum   | 0.01            | 0.01            | 0.01            | 0.01            |
| Total Consumption  | MeT/Annum   | 0.093           | 0.131           | 0.165           | 0.185           |
| <b>Total Utilization</b>   | <b>%</b>    | <b>50.99</b>    | <b>71.82</b>    | <b>90.46</b>    | <b>101.43</b>   |

## **Annexure -12**

### **Wildlife Conservation plan**



(07692) - 220556,  
FAX - 07692-226181



e-mail: dfotaseoni@mp.gov.in  
dfonseoni@mpforest.org

## कार्यालय, वनमंडलाधिकारी, उत्तर सिवनी वनमंडल

पत्र क्रमांक/मा.चि./ 2465

सिवनी, दिनांक 18/9/2013

प्रति,

मुख्य महाप्रबंधक,  
झाबुआ पावर प्रोजेक्ट,  
ग्राम-बरेला, पोस्ट-अतरिया,  
तहसील-घंसौर, जिला-सिवनी।

- विषय :-** EIA study for proposed expansion from 600 MW to 1260 MW by addition of 1 X 660 MW coal based supercritical power plant at Barela & Gorakhpur, Tehsil:Ghansore, District:Seoni (M.P.).
- संदर्भ :-** आपका पत्र क्रमांक निल, दिनांक 17.09.2013.

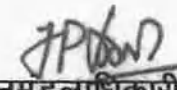
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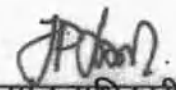
उपरोक्त विषयांतर्गत संदर्भित पत्र के परिप्रेक्ष्य में सिवनी जिले के उत्तर सिवनी वनमंडल के परिक्षेत्र शिकारा के ग्राम बरेला गोरखपुर में स्थापित किये जा रहे विद्युत संयंत्र के निर्माण के Environmental Impact Assessment (EIA) के संबंध में परियोजना क्षेत्र के 10 कि.मी. परिधि के अंतर्गत आने वाले फलोरा एवं फौना की सूची एवं मानचित्र को प्रमाणित करने का निवेदन किया गया है। तदानुसार मानचित्र एवं फलोरा एवं फौना की सूची में प्रमाणीकरण उपरांत प्रतिवेदन आपकी ओर अग्रिम कार्यवाही हेतु संलग्न प्रेषित है।

संलग्न :- उपरोक्तानुसार।

पृ. क्रमांक/मा.चि./ 2465

प्रतिलिपि :- मुख्य वन संरक्षक, सिवनी वृत्त सिवनी की ओर उपरोक्त संदर्भ में सूचनार्थ सम्प्रेषित।

  
वनमंडलाधिकारी  
उत्तर सिवनी वनमंडल  
सिवनी, दिनांक 18/9/2013

  
वनमंडलाधिकारी  
उत्तर सिवनी वनमंडल  
18/9/13.

कार्यालय

**JHABUA  
POWER**

## **WILD LIFE CONSERVATION PLAN**

**1 X 660 MW COAL BASED SUPERCRITICAL  
THERMAL POWER PLANT**

**At**

**Village-Barela & Gorakhpur,  
Tehsil- Ghansore  
District- Seoni  
Madhya Pradesh**

***Project Proponent***



**M/s Jhabua Power Ltd**

## **1.0 INTRODUCTION**

**M/s. Jhabua Power Ltd. (JPL)**, intends for the expansion of existing power plant capacity from 600 MW to 1260 MW by addition of 1 x 660 MW coal based supercritical Thermal Power Plant in the existing premises at Barela and Gorakhpur villages in District Seoni in Madhya Pradesh.

### **1.1 Purpose of the Report**

As per Environmental Impact Assessment EIA Notification dated 14<sup>th</sup> September, 2006, commissioning or operation of thermal power plants ( $\geq 500$  MW) falls under category 'A' under project type 1(D) and requires Environmental Clearance (EC) to be obtained from MoEF before the commencement of ground activity.

Inline with the said Notification, MoEF has prescribed the TOR for the preparation of EIA/EMP report for the proposed coal based power project during the meeting held on October 18-19, 2010. Based on the TOR conditions stipulated by MoEF vide letter No. **J-13012/63/2010-IA.II (T) dated 8<sup>th</sup> December 2010 & addendum in TOR vide letter no J-13012/63/2010-IA.II (T) dated 6<sup>th</sup> September 2011**. A detailed flora and fauna studies have been carried out and prepared wildlife conservation plan for observed/reported animal species.

### **1.2 Identification of Project and Project Proponent**

#### **1.2.1 About the Project**

The proposed expansion project (1X660 MW Coal Based Power Plant) will be located near Barela and Gorakhpur villages, Seoni district, Madhya Pradesh. This project is inline with the central government's massive power capacity addition plan, which sets a target of adding 78,700 MW of power generation capacity in the country in the 11<sup>th</sup> plan (2007-2012) out of which more than 15000 MW are expected to be met by the private sector. This proposed project at Seoni district by **M/s Jhabua Power Ltd.** would assist in meeting the increased demand of power.

It is envisaged that the required coal for the power plant will be imported from Indonesia. JPL has approached Ministry of Coal (MoC) for the long term coal linkage under prevailing policy of Government. Alternatively, JPL is also envisaging using imported coal from South Kalimantan/Banjarmasin, Indonesia, pending a formal coal linkage.

#### **1.2.2 Project Proponent**

**M/s. Jhabua Power Ltd. (JPL)**, intends for the expansion of existing power plant capacity from 600 MW to 1260 MW by addition of 1 x 660 MW coal based supercritical Thermal Power Plant in the existing premises at Barela and Gorakhpur villages in District Seoni in Madhya Pradesh.

### **1.3 Brief Description of Project**

The proposed project would require 385.79-acre ( $\approx 156.13$ -ha) of land including the ash pond and green belt area. In the proposed power plant expansion one (1) boilers with super critical technology will be installed which will be fired on coal. The total imported coal requirement of the project at 85% Plant Load Factor (PLF) is 2.85 MTPA. The water requirement will be about 15.33 MCM, which will be drawn from Bargi Reservoir. One existing di-flue stack of 275-m with ESP of



more than 99.99% efficiency will be provided to control particulate matter to below 50-mg/Nm<sup>3</sup>.

### 1.3.1 Project Cost

The cost of the total project is about Rs. 3500 crores, which includes Rs 193 Crores for environmental protection measures. The project will be commissioned in 24 months.

### 1.3.2 Description of the Site

The land identified for the proposed project is about 385.79 acres. The land in the plant site is rocky land with a general elevation of about **536-550 m MSL**.

The mean maximum and mean minimum ambient temperatures in the area as per IMD-Seoni for the period of 10 years are recorded to be 48.4°C (June) and 13.7°C (December) respectively. The relative humidity varies from 48% to 78%, the rain fall in the region is about 1346 mm. seismically, the site falls under Zone-II.

### 1.3.3 Environmental Setting of the Site

The environmental setting of the proposed plant site is given in **Table-1**. The location map of the project and study area map of 10-km radius around the proposed site are given in **Figure-1** and **Figure-2** respectively. The co-ordinates of the plant site and ash pond site are marked on topo-sheet and enclosed as **Figure-2**. Aerial distance & direction of Bargi reservoir is shown in **Figure-3**

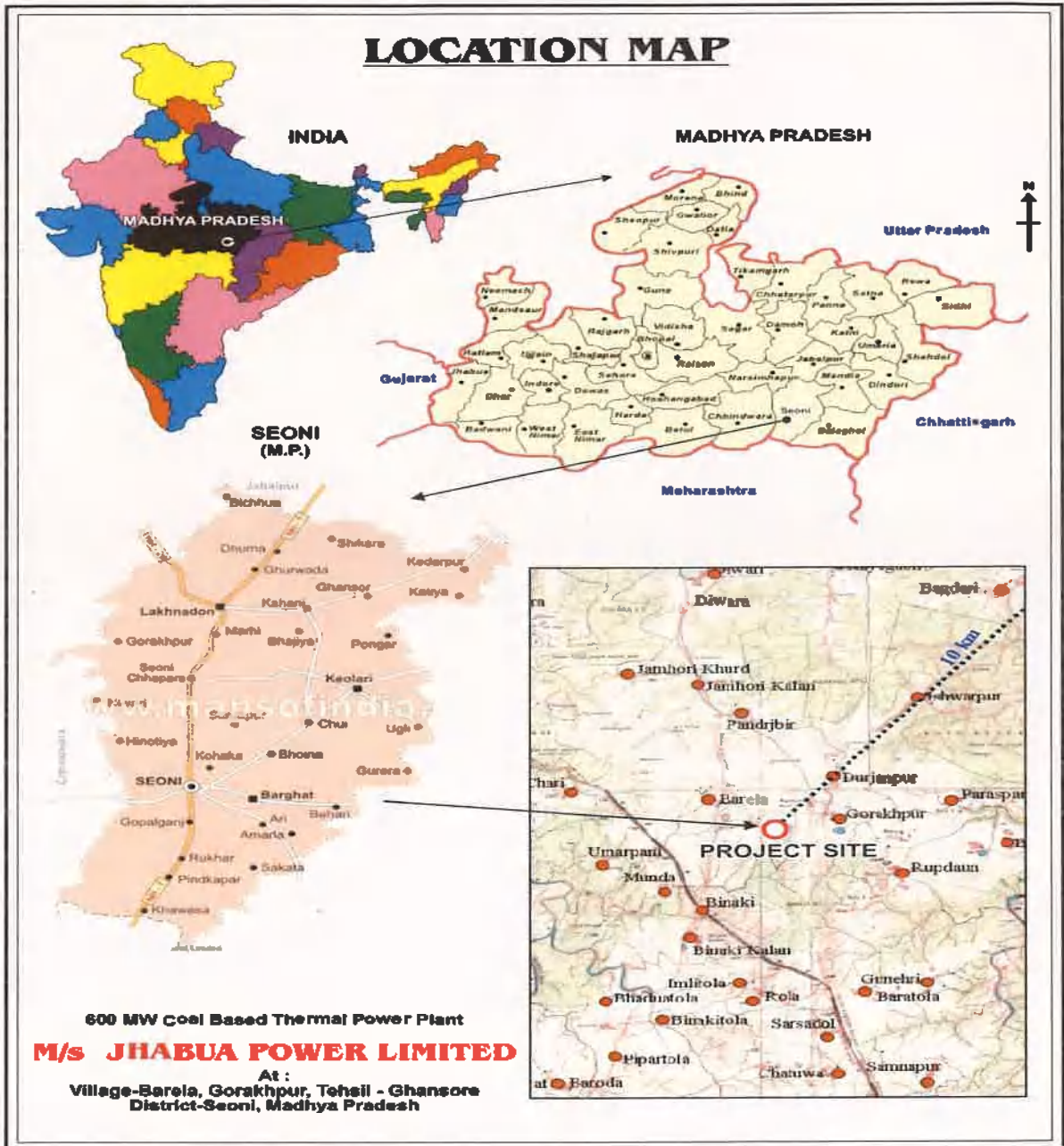
**TABLE-1  
ENVIRONMENTAL SETTING OF THE SITE**

| Sr.No.                           | Particulars                      | Details  |  |          |           |                                  |                                  |
|----------------------------------|----------------------------------|--|--|----------|-----------|----------------------------------|----------------------------------|
| 1                                | Plant Location                   | Barela and Gorakhpur villages of Seoni district, Madhya Pradesh  |  |          |           |                                  |                                  |
| 2                                | Plant site coordinates           | <b>COORDINATES</b><br><table border="1"> <thead> <tr> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>22°43'40" N<br/>to<br/>22°44'20" N</td> <td>79°54'35" E<br/>to<br/>79°55'35" E</td> </tr> </tbody> </table> |  | Latitude | Longitude | 22°43'40" N<br>to<br>22°44'20" N | 79°54'35" E<br>to<br>79°55'35" E |
| Latitude                         | Longitude                        |  |  |          |           |                                  |                                  |
| 22°43'40" N<br>to<br>22°44'20" N | 79°54'35" E<br>to<br>79°55'35" E |  |  |          |           |                                  |                                  |
| 3                                | Ash pond coordinates             | <b>COORDINATES</b><br><table border="1"> <thead> <tr> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>22°44'4.83" N</td> <td>79°55'15.30" E</td> </tr> </tbody> </table>  |  | Latitude | Longitude | 22°44'4.83" N                    | 79°55'15.30" E                   |
| Latitude                         | Longitude                        |  |  |          |           |                                  |                                  |
| 22°44'4.83" N                    | 79°55'15.30" E                   |  |  |          |           |                                  |                                  |
| 4                                | Climatic Conditions (IMD, Seoni) |  |  |          |           |                                  |                                  |
| a)                               | Temperature                      |  |  |          |           |                                  |                                  |
|                                  | Mean maximum                     | 48.4 °C (June)   |  |          |           |                                  |                                  |
|                                  | Mean minimum                     | 13.7°C (December)  |  |          |           |                                  |                                  |
| b)                               | Mean Annual Rainfall             | 1346 mm  |  |          |           |                                  |                                  |
| c)                               | Relative Humidity                | 48 % - 78%   |  |          |           |                                  |                                  |
| d)                               | Predominant wind directions      | North -East  |  |          |           |                                  |                                  |
| 6                                | Plant site Elevation above MSL   | 536-550 m above MSL  |  |          |           |                                  |                                  |

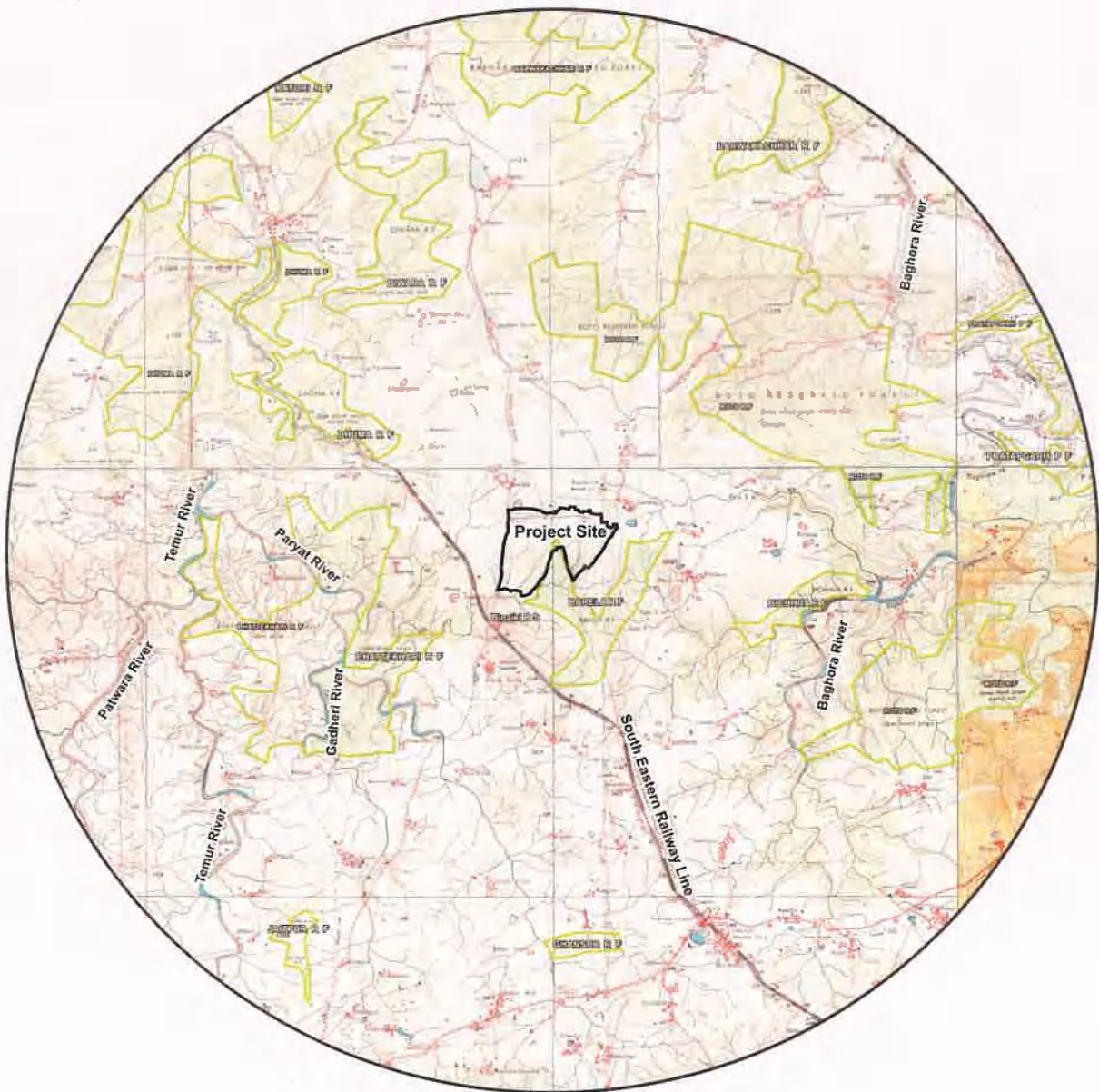
| Sr.No. | Particulars   | Details  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
|--------|---|--|--------|---|---|----------------------------|---|----------------------------------|---|--------------------------|---|------------------------|---|-------------------------|---|--------------------------|---|-------------------------------------|---|---------------------------|---|--------------------------|----|-------------------------|----|------------------------------|
| 7      | Plant site Toposheet  | 55 N/14  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 8      | Present land use at the site  | Mixed barren & Rocky land with shrubs  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 9      | Nearest highway   | NH-7 (18-km, NW)   |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 10     | Nearest railway station   | Jabalpur (60-km, NNE)  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 11     | Nearest Airstrip  | Jabalpur (60-km, NNE)  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 12     | Nearest major water bodies  | <ul style="list-style-type: none"> <li>- Patwara River (6.5-km, WSW)</li> <li>- Bhagori River (5.0-km, ESE)</li> <li>- Tamur River (6.5 km, W)</li> <li>- Paryat River (3.0 km, WSW)</li> <li>- Gadheri (4.5-km, WSW)</li> </ul>   |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 13     | Water source for the project  | Bargi Reservoir (10 Km, NE)  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 14     | Nearest town/City   | Ghansore (8.5-km, SSE)   |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 15     | Nearest village   | Gorakhpur (0.6-km, NE)   |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 16     | Hills/valleys   | --   |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 17     | Archaeologically important places   | Nil in 15-km radius  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 18     | Protected areas as per Wildlife Protection Act,1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves) | Nil in 15-km radius  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 19     | Reserved / Protected Forests  | <p>11 forests exists around study area</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Sr. No</th> <th>Name of the Forest Block, distance &amp; direction from project site.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Rote (RF), 3.0 Km, N to NE</td> </tr> <tr> <td>2</td> <td>Barwakchar (RF), 7.5 Km, N to NE</td> </tr> <tr> <td>3</td> <td>Katori (RF), 9.0 km , NW</td> </tr> <tr> <td>4</td> <td>Dhoma (RF), 3.0 km, NW</td> </tr> <tr> <td>5</td> <td>Diwara (RF), 4.7 km, NW</td> </tr> <tr> <td>6</td> <td>Ghansore (RF), 7.5 km, S</td> </tr> <tr> <td>7</td> <td>Bhattekhari (RF), 1.5 km, WNW to SW</td> </tr> <tr> <td>8</td> <td>Bichhua (RF), 3.5 km, ESE</td> </tr> <tr> <td>9</td> <td>Jaitpur (RF), 8.0 km, SW</td> </tr> <tr> <td>10</td> <td>Barela (RF), 0.0 km, SE</td> </tr> <tr> <td>11</td> <td>Partapgarh (RF), 8.0 km, ESE</td> </tr> </tbody> </table> | Sr. No | Name of the Forest Block, distance & direction from project site. | 1 | Rote (RF), 3.0 Km, N to NE | 2 | Barwakchar (RF), 7.5 Km, N to NE | 3 | Katori (RF), 9.0 km , NW | 4 | Dhoma (RF), 3.0 km, NW | 5 | Diwara (RF), 4.7 km, NW | 6 | Ghansore (RF), 7.5 km, S | 7 | Bhattekhari (RF), 1.5 km, WNW to SW | 8 | Bichhua (RF), 3.5 km, ESE | 9 | Jaitpur (RF), 8.0 km, SW | 10 | Barela (RF), 0.0 km, SE | 11 | Partapgarh (RF), 8.0 km, ESE |
| Sr. No | Name of the Forest Block, distance & direction from project site.   |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 1      | Rote (RF), 3.0 Km, N to NE  |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 2      | Barwakchar (RF), 7.5 Km, N to NE  |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 3      | Katori (RF), 9.0 km , NW  |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 4      | Dhoma (RF), 3.0 km, NW  |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 5      | Diwara (RF), 4.7 km, NW   |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 6      | Ghansore (RF), 7.5 km, S  |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 7      | Bhattekhari (RF), 1.5 km, WNW to SW   |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 8      | Bichhua (RF), 3.5 km, ESE   |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 9      | Jaitpur (RF), 8.0 km, SW  |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 10     | Barela (RF), 0.0 km, SE   |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 11     | Partapgarh (RF), 8.0 km, ESE  |  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 20     | Seismicity  | Seismic Zone-II as per IS 1893 (Part I): 2002  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 21     | Defence Installations   | None in 15-km radius area  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 22     | Major industries in 15-km radius  | No major industries are present in 15-km radius.   |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |
| 23     | State Boundary  | Uttar Pradesh & Maharastra State boundary  |        |   |   |                            |   |                                  |   |                          |   |                        |   |                         |   |                          |   |                                     |   |                           |   |                          |    |                         |    |                              |

*Note: All distances mentioned are aerial distances, Source: EIA studies,*

**Wildlife Conservation Plan of Proposed expansion by addition of 1X660 MW Supercritical Coal Based Thermal Power Plant at Barela and Gorakhpur Villages, Seoni District, Mndhya Pradesh.**

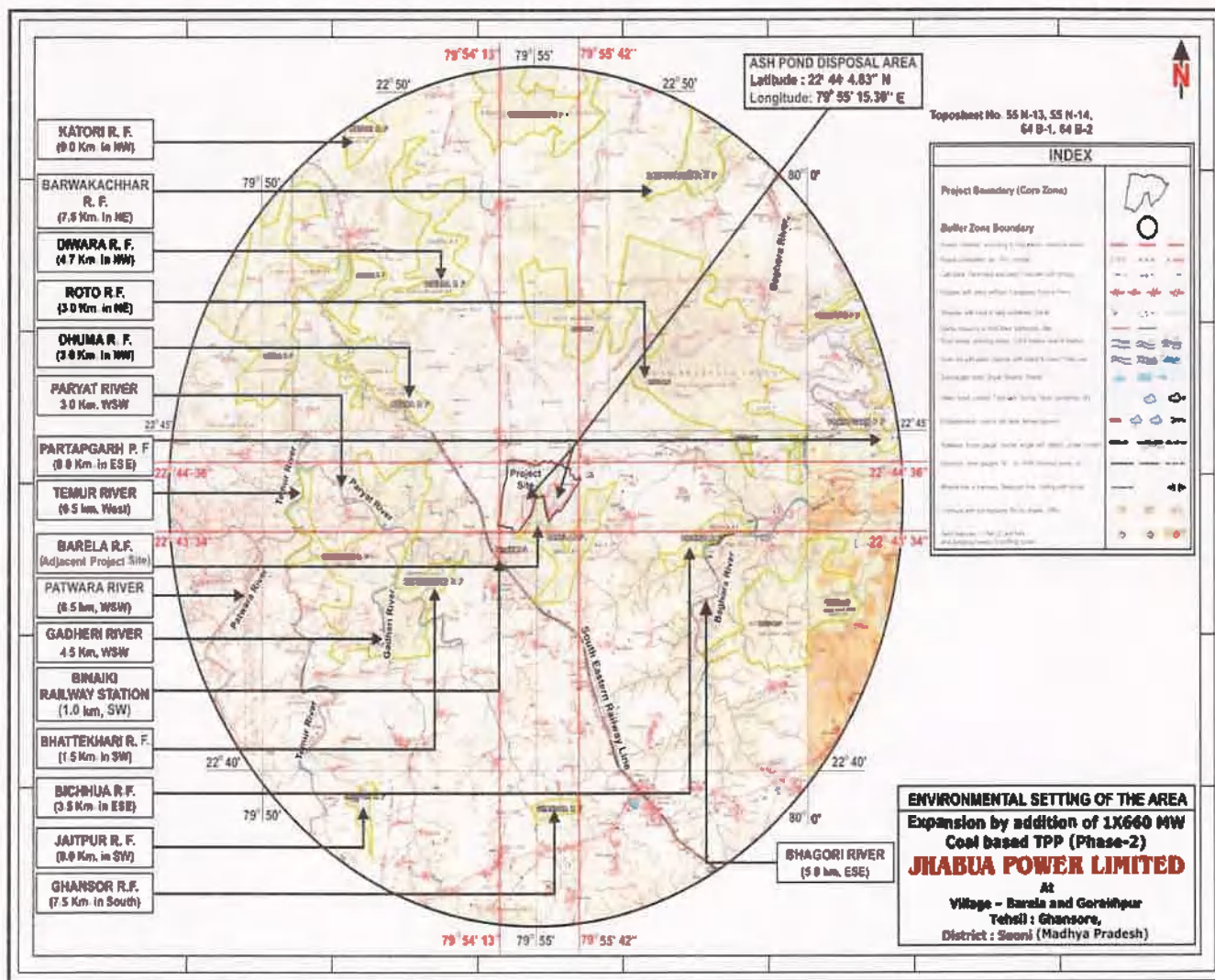


**FIGURE-1**  
**VICINITY MAP**

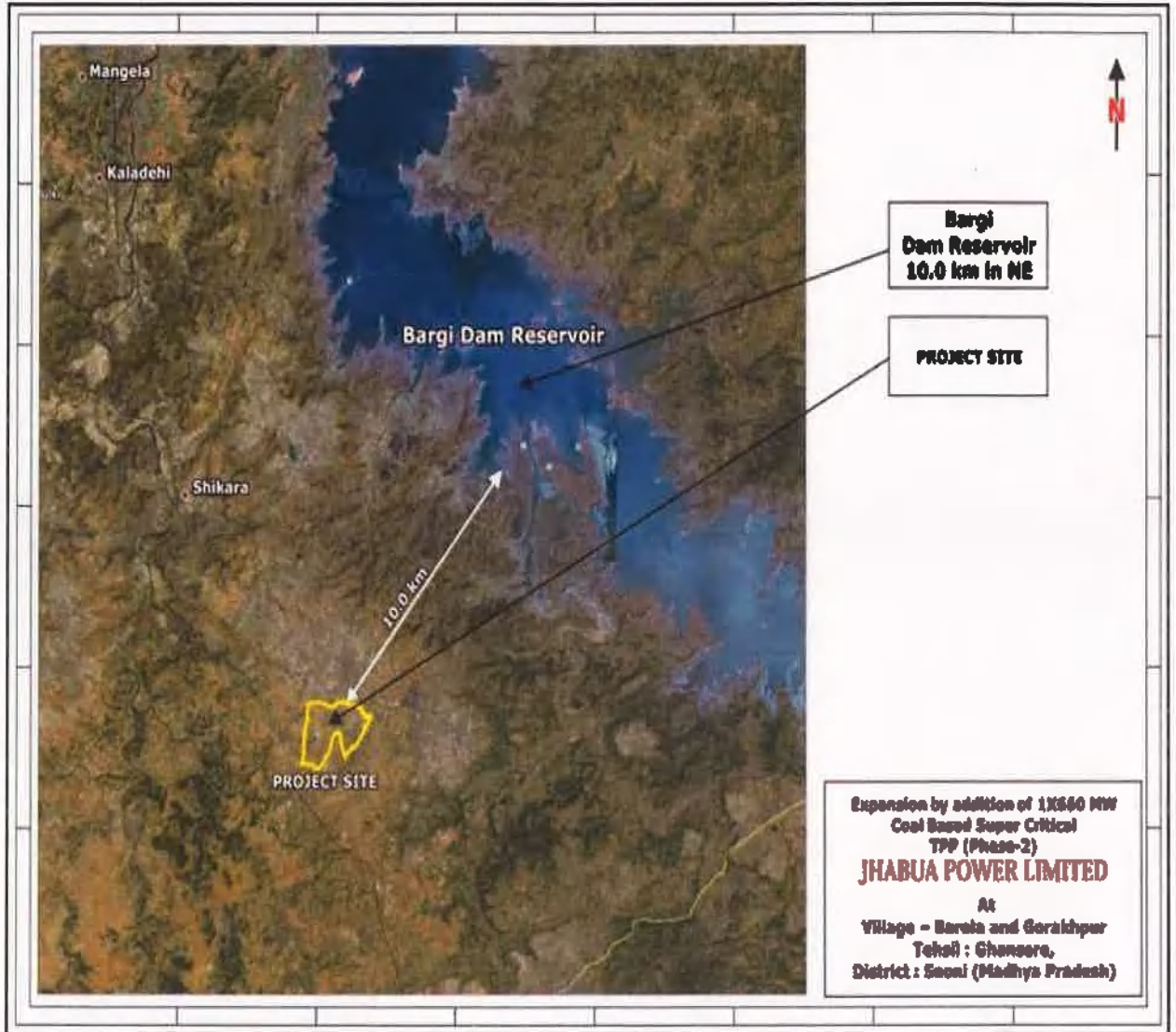


**Wildlife Conservation Plan of Proposed expansion by addition of 1X660 MW Supercritical Coal Based Thermal Power Plant at Barela and Gorakhpur Villages, Seoni District, Madhya Pradesh.**

**FIGURE-2  
STUDY AREA MAP (10 KM RADIUS)**



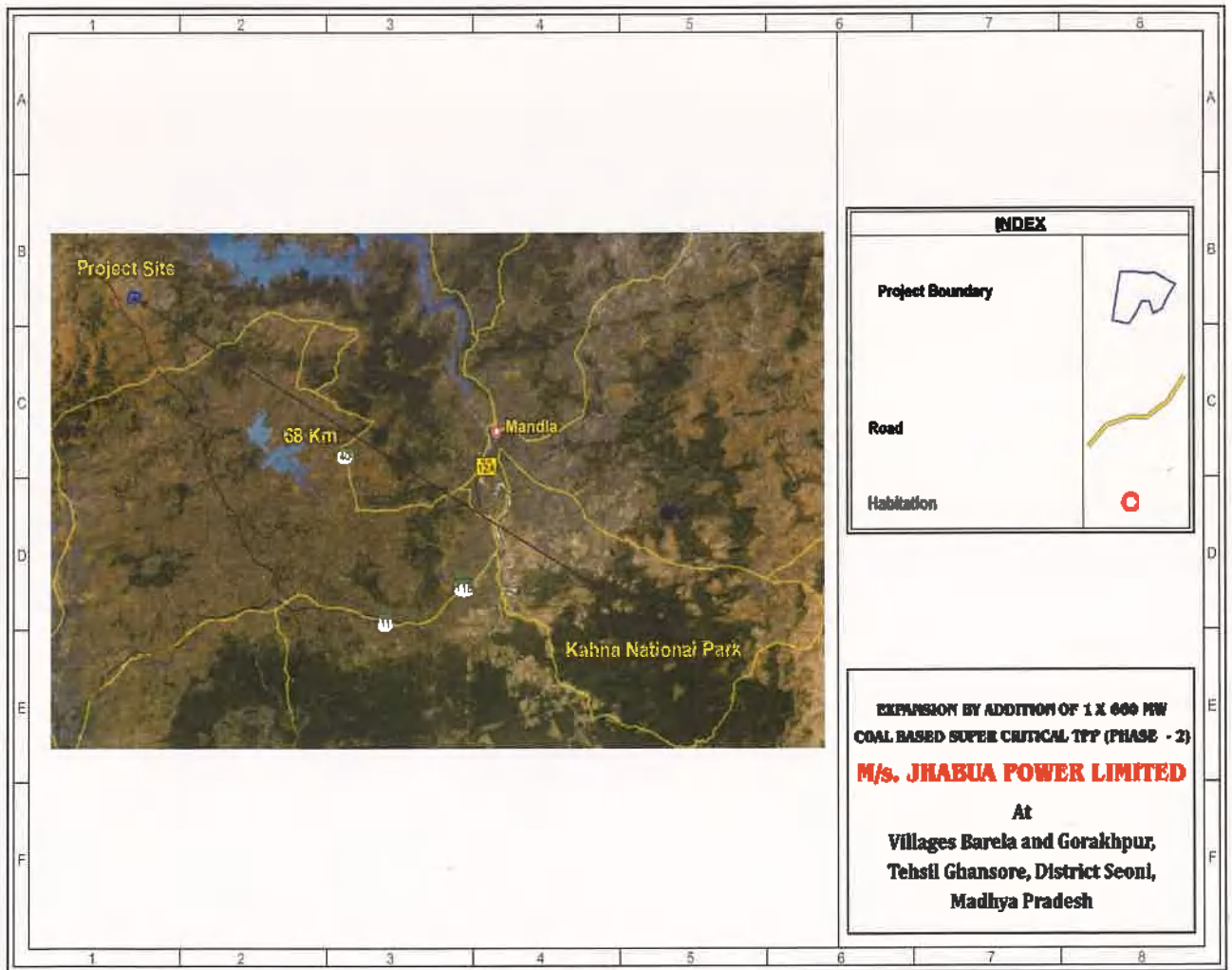
**FIGURE-3  
AERIAL DISTANCE & DIRECTION OF BARGI RESERVOIR**



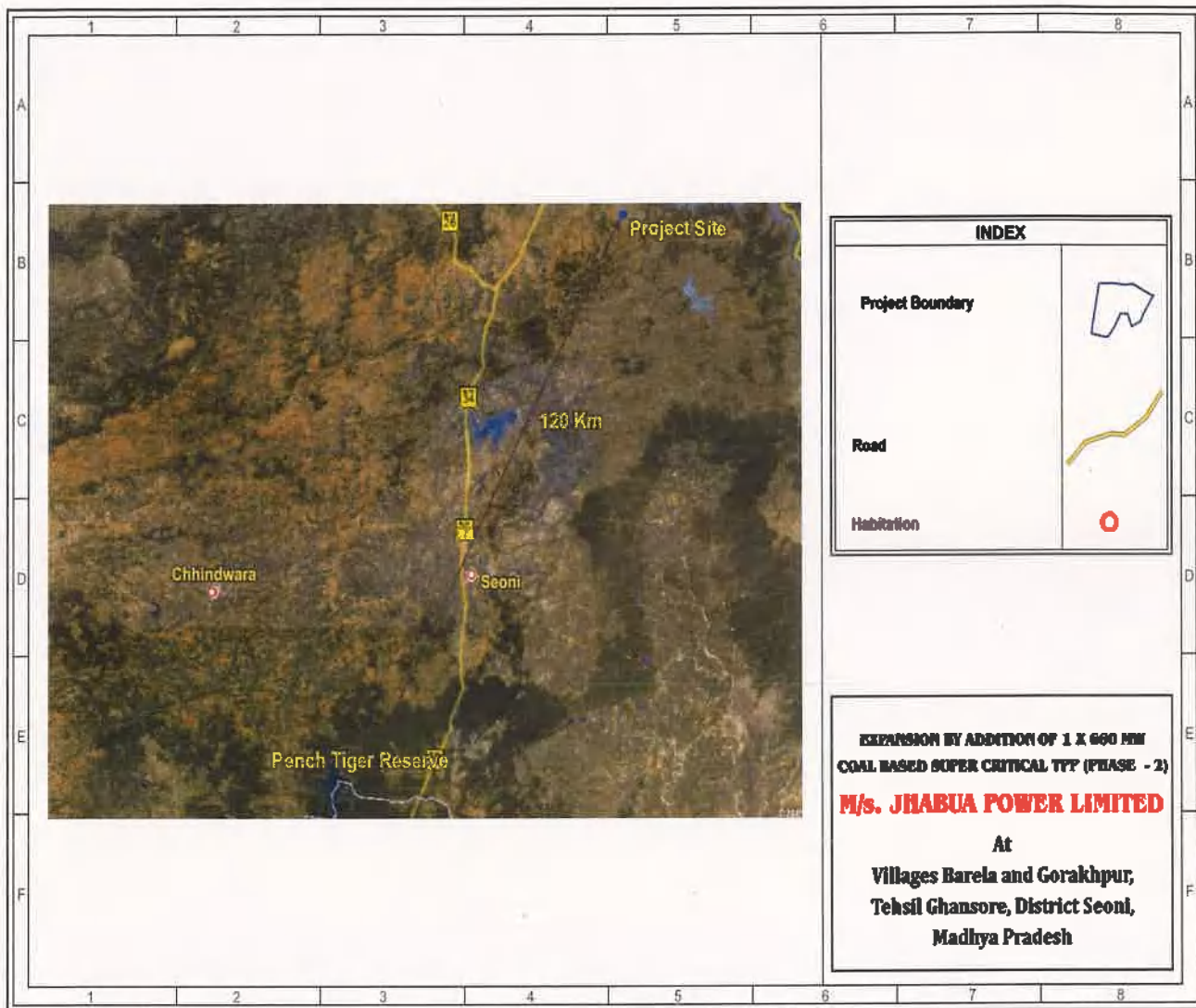
**1.3.4 National Park and Wild life Sanctuaries**

M/s Jhabua Power Ltd. has followed the guidelines of Ministry of Environment & Forest for site selection of coal based thermal power stations. As per MoEF guideline location of thermal power stations are avoided within 25 Km of the outer periphery of the National park and wildlife sanctuaries. The nearest national park is Kanha & Pench National park is 68 Km & 120 Km respectively which is far away from the M/s Jhabua Power Plant. Satellite Imaginary showing the aerial distance of Kanha & Pench national park is given in **Figure 4 & 5.**

**FIGURE-4  
AERIAL DISTANCE OF KANHA NATIONAL PARK**



**FIGURE-5  
AERIAL DISTANCE OF PENCH NATIONAL PARK**





## 2.0 WILDLIFE CONSERVATION PLAN

### 2.1 Forest Blocks in Study Area

The records of forest department and survey of India maps reveal that there are 11 forest blocks within 10-km radius of the proposed project site and details are presented in **Table-2**.

**TABLE-2  
DETAILS OF FOREST IN STUDY AREA**

| Sr. No.                              | Name of the Forest Block | Distance from Project Site (km) | Direction from Project Site |
|--------------------------------------|--------------------------|---------------------------------|-----------------------------|
| <b>Forest Blocks In 10-km radius</b> |                          |                                 |                             |
| 1                                    | Roto (RF)                | 3.0                             | N to SE                     |
| 2                                    | Barwakchhar (RF)         | 7.5                             | N to NE                     |
| 3                                    | Katori (RF)              | 9.0                             | NW                          |
| 4                                    | Dhoma (RF)               | 3.0                             | NW                          |
| 5                                    | Diwara (RF)              | 4.7                             | NW                          |
| 6                                    | Ghansore (RF)            | 7.5                             | S                           |
| 7                                    | Bhattekhari (RF)         | 1.5                             | WNW to SW                   |
| 8                                    | Bichhua (RF)             | 3.5                             | ESE                         |
| 9                                    | Jaitpur (RF)             | 8.0                             | SW                          |
| 10                                   | Barela (RF)              | 0.0                             | SE                          |
| 11                                   | Partapgarh (RF)          | 8.0                             | ESE                         |

**Source: EIA report of JM Environet**

Forests of Seoni district are mainly open scrub type and some dry deciduous can be broadly classified into two major groups e.g. Moist Tropical Forests and Dry Tropical Forests. There is no clear dividing line between these two forest groups. One group of forest gradually merges with the other. According to Champion & Seth's revised classification of Forest types of India, these forests have been further classified, as detailed below, into different types and sub-types depending upon physiognomy, moisture conditions, floral composition and other variables.

|           |                                 |
|-----------|---------------------------------|
| Group - 1 | Open scrub forest               |
| Group 5   | Tropical Dry deciduous forests. |

The second degradation stage of dry deciduous forest is this type of forest. It is an open forest but typically, formation of original forest is lost and the trees stand apart singly or in small groups particularly in valleys in more or less heavy grass in which certain fire resistant plants persist. These fire resistant plants gradually and slowly try to establish themselves as trees. However, in most of the cases such plants do not get established as trees because of fire and other biotic factors.

All the above described climatic types are susceptible to be reduced to open savannah type. The intensive biotic interference in such forest areas causes conspicuous presence of grass which is otherwise a secondary feature in those forests (Climatic type). Some of the grass species encountered in these types of forests are *Oryza rufipogon*, *Eragrostis unioides*, *Heteropogon contortus*, *Arundinella setos* and *Saccharum spontaneum*.

Though the preponderance of the grasses is the characteristic features in these forests, the tree species found to be occurring here are *Emblica officinalls*, *Bridella*

*retusa, Acacia nilotica, Acacia sundra* etc. These trees have very short boles and are mostly crooked and unsound. In fact, scattered bushes and such low trees among grasses are a very common composition observed in these savannah forests of this Division. Most of these degraded forest blocks are the result of long and continued over exploitation. The resultant effect has been reduction in natural regeneration of many tree species leading to complete wiping out of established seedlings of dominant species.

## **2.2 Objectives of Study**

The present study was undertaken with the following objectives:

- To assess the nature and distribution of vegetation in and around the proposed project site
- To assess the distribution of animal life spectra;
- To understand the productivity of the water bodies;
- To ascertain migratory routes of fauna and possibility of breeding grounds.
- Identification of suitable area of minor wildlife
- Preparation of wildlife conservation plan

## **2.3 Methodology Adopted for the Survey**

To achieve the above objectives a detailed study of the area was undertaken in 10-km radius area as proposed project site as centre. The different methods adopted were as follows:

- Compilation of secondary data with respect to the study area from published literature and Government agencies;
- Generation of primary data by undertaking systematic ecological studies in the area; and
- Gathering data for ethnobiology.

## **2.4 Floristic Composition- Primary Survey**

### ***Floristic Richness***

During field survey, maximum 118 number of plant species were recorded from the study area. The list of plant species recorded in the study area is given in **Table -3**.

Life form spectrum is a reflection of plant community. A plant community is governed by several factors like climatic, edaphic, topographic and biotic. Even local variations in environment affect components of plant community.

In the study area, maximum numbers of species are therophytes, followed by phanerophytes. These classes are followed by hemicryptophytes and geophytes. Hydrophytes were found in very few numbers.

Presence of large number of phanerophytes (shrubs and trees) and therophytes (annuals or herbaceous vegetation) indicates semiarid to tropical vegetation structure.

Hemicryptophytes (predominantly grasses and sedges) were found to be significant in the area. These indicate fertile and wet soil in upper layer of soil profile. Recorded plant species from forest area are presented in **Table -3**.

**TABLE -3**  
**LIST OF FLORA IN STUDY AREA**

| <b>SR. NO</b> | <b>Common Name</b> | <b>Botanical Name</b>            |
|---------------|--------------------|----------------------------------|
| 1             | Khair              | <i>Acacia cathechu</i>           |
| 2             | Neem               | <i>Azadirachta indica</i>        |
| 3             | Pipal              | <i>Ficus religiosa</i>           |
| 4             | Sagon              | <i>Tectona grandis</i>           |
| 5             | Khair              | <i>Acacia cathechu</i>           |
| 6             | Australian Babul   | <i>Acacia auriculaeformis</i>    |
| 7             | Babul              | <i>Acacia nilotica</i>           |
| 8             | Haldu              | <i>Adina cordifolia</i>          |
| 9             | Bel                | <i>Aegle marmelos</i>            |
| 10            | Kala Siras         | <i>Albizia lebbek</i>            |
| 11            | Safed Siras        | <i>Albizia procera, Benth</i>    |
| 12            | Dhavda             | <i>Anogeissus latifolia</i>      |
| 13            | Kadamba            | <i>Anthocephalus cadamba</i>     |
| 14            | Kaju               | <i>Anacardium occidentale</i>    |
| 15            | Sitafal            | <i>Annona squamosa</i>           |
| 16            | Vanbhindi          | <i>Abelmoschus crinitus</i>      |
| 17            | Bhindi             | <i>Abelmoschus esculentus</i>    |
| 18            | Kanghi             | <i>Abutilon indicum</i>          |
| 19            | Apamarg            | <i>Achyranthes aspera</i>        |
| 20            | Cholai             | <i>Amaranthus viridis</i>        |
| 21            | Adusa              | <i>Adhatoda vasica</i>           |
| 22            | Kachnar            | <i>Bauhinia variegata</i>        |
| 23            | Semal              | <i>Bombax ceiba</i>              |
| 24            | Taad               | <i>Borassus flabellifer</i>      |
| 25            | Palas              | <i>Butea monosperma</i>          |
| 26            | Aamta              | <i>Bauhinia malabarica</i>       |
| 27            | Bottle brush       | <i>Callistemon citrinus</i>      |
| 28            | Amaltas            | <i>Cassia fistula</i>            |
| 29            | Sandan             | <i>Cassia siamea</i>             |
| 30            | Kumbhi             | <i>Careya arborea</i>            |
| 31            | Nariyal            | <i>Cocus nucifera</i>            |
| 32            | Dahivan            | <i>Cordia dichotoma</i>          |
| 33            | Lasoda             | <i>Cordia macleodii</i>          |
| 34            | Lasora             | <i>Cordia myxa</i>               |
| 35            | Chirota            | <i>Cassia tora</i>               |
| 36            | Mandupkarni        | <i>Centella asiatica</i>         |
| 37            | Safed Musli        | <i>Chloropodium arundinaceum</i> |

|      |                |                                 |
|------|----------------|---------------------------------|
| 38   | Hurhur         | <i>Cleome gynandra</i>          |
| 39   | Jungli arabi   | <i>Colocasia indica</i>         |
| 40   | Kali Musli     | <i>Curculigo orchioides</i>     |
| 41   | Jangli Haldi   | <i>Curcuma aromatica</i>        |
| 42   | Aak            | <i>Caiotropis gigantea</i>      |
| 43   | Safed Aak      | <i>Caiotropis procera</i>       |
| 44   | Kadbur         | <i>Canthium parviflorum</i>     |
| 45   | Karonda        | <i>Carissa opaea</i>            |
| 46   | Raat ki Rani   | <i>Cestrum nocturnum</i>        |
| 47   | Shishu         | <i>Daibergia sisoo</i>          |
| 48   | Tendu          | <i>Diospyras meianoxyion</i>    |
| 49   | Kala shisham   | <i>Daibergia iatifora</i>       |
| 50   | Gulmohar       | <i>Delonix regia</i>            |
| 51   | Chota gulmohar | <i>Delonix eiata</i>            |
| 52   | Kala Tendu     | <i>Diospyros montana</i>        |
| 53   | Kala Dhatura   | <i>Detura metei</i>             |
| 54   | Dhatura        | <i>Detura stramonium</i>        |
| 55   | Jangli Mehandi | <i>Dodonaea viscosa</i>         |
| 56   | Amla           | <i>Emblica officinails</i>      |
| 57   | Thuar          | <i>Euphorbia iiguaria</i>       |
| 58   | Hirankhuri     | <i>Emilia sonchifolia</i>       |
| 59   | Shankhpushi    | <i>Evolvulus alsinoides</i>     |
| 60   | Van tulsi      | <i>Eranthemum purpurascens</i>  |
| 61   | Pipal          | <i>Ficus religiosa</i>          |
| 62   | Kakai          | <i>Fiacourtia indica</i>        |
| 63   | Katha          | <i>Feronia iimonia</i>          |
| 64   | Paraspipal     | <i>Ficus arnottiana</i>         |
| 6566 | Bargad         | <i>Ficus bengalensis</i>        |
| 67   | Anjir          | <i>Ficus carica</i>             |
| 68   | Gular          | <i>Ficus racemosa</i>           |
| 69   | Silver Oak     | <i>Grevelea robusta</i>         |
| 70   | Dhaman         | <i>Grewia tiliifolia</i>        |
| 71   | Gudhal         | <i>Hibicus rosa-sinensis</i>    |
| 72   | Shakarkand     | <i>Ipomoea batata</i>           |
| 73   | Jacaranda      | <i>Jacaranda mimosadfolis</i>   |
| 74   | Kunda          | <i>Jasminum multiflorum</i>     |
| 75   | Ratanjot       | <i>Jatropha curcas</i>          |
| 76   | Ratanjot       | <i>Jatropha gossypifolia</i>    |
| 77   | Lendia         | <i>Lagerstroemia parviflora</i> |
| 78   | Subabul        | <i>Leucaena leucocephala</i>    |
| 79   | Kathbel        | <i>Limonia acidissima</i>       |
| 80   | Mahndi         | <i>Lawsonia inermis</i>         |



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|     |               |                                 |
|-----|---------------|---------------------------------|
| 81  | Mahua         | <i>Madhuca indica</i>           |
| 82  | Aam           | <i>Magnifera indica</i>         |
| 83  | Kaari         | <i>Miliusa Tomentosa</i>        |
| 84  | Shahtut       | <i>Morus alba</i>               |
| 85  | Mithi Neem    | <i>Murraya koenigii</i>         |
| 86  | Chui-mui      | <i>Mimosa pudica</i>            |
| 87  | Kamal         | <i>Nelumbo nucifera</i>         |
| 88  | Kaner         | <i>Nerium indicum</i>           |
| 89  | Van Talsa     | <i>Ocimum basilicum</i>         |
| 90  | Tulsi         | <i>Ocimum sanctum</i>           |
| 91  | Van Singhada  | <i>Ottelia alismoides</i>       |
| 92  | Jangle Jalebi | <i>Pithecellobium dulce</i>     |
| 93  | Codachinta    | <i>Peltophorum peterocarpum</i> |
| 94  | Champa        | <i>Plumeria rubra</i>           |
| 95  | Ashok         | <i>Polyathia longifolia</i>     |
| 96  | Karanj        | <i>Pongamia pinnata</i>         |
| 97  | Gajar ghas    | <i>Parthenium hysterophorus</i> |
| 98  | Bhui amla     | <i>Phyllanthus amarus</i>       |
| 99  | Sarpgandha    | <i>Rauvolfia serpentina</i>     |
| 100 | Chandan       | <i>Santalum album</i>           |
| 101 | Ritha         | <i>Sapindus emarginatus</i>     |
| 102 | Kusum         | <i>Sclleichara oleosa</i>       |
| 103 | Kulu          | <i>Sterculia urens</i>          |
| 104 | Jamun         | <i>Syzygium cumini</i>          |
| 105 | Makoi         | <i>Solanum villosum</i>         |
| 106 | Gorakhmundi   | <i>Sphaeranthus indicus</i>     |
| 107 | Imli          | <i>Tamarindus indica</i>        |
| 108 | Arjun         | <i>Terminalia arjuna</i>        |
| 109 | Sagon         | <i>Tectona grandis</i>          |
| 110 | Deshi Badam   | <i>Terminalia catappa</i>       |
| 111 | Paras pipal   | <i>Thespesia popuinea</i>       |
| 112 | Singhada      | <i>Trapa natans</i>             |
| 113 | Gokharu       | <i>Tribulus terrestris</i>      |
| 114 | Vajradanti    | <i>Tephrosia purpurea</i>       |
| 115 | Jangli pyaz   | <i>Urginea indica</i>           |
| 116 | Ashwagandha   | <i>Withania somnifera</i>       |
| 117 | Bada Gorakhu  | <i>Xanthium strumarium</i>      |
| 118 | Ber           | <i>Ziziphus xylopyra</i>        |

### **Analysis of Flora**

- The Red Book Data of species does not include any of these species.
- As the above species are not endemic, rare or endangered, any ecological benign inevitable developmental activity may be undertaken precautionary measures of ecological sustainability e.g. controlled noise level, controlled emission and green belt development.
- The study area did not record the presence of any of the Critically Threatened species.

### **2.5 Endangered Plants**

Floristic studies were conducted October 2010-January 2011 to know the presence of any endangered/threatened/endemic plant species in plant area and surrounding 10-km radius. The study area did not record the presence of any critically threatened species. The records of Botanical Survey of India and Forest department also did not indicate presence of any endangered and or vulnerable species in this area.

### **2.6 Fauna-Primary Survey**

No national park or sanctuary is present in the study area. Common mammals, birds and reptiles are observed. Domestic animals were only noted during the study period. Wild animals are not found in the study area. List of fauna is presented in **Table 4**.

The observed and recorded wild animal species in 10-km radius and their conservation status as per Wildlife (Protection) Act, 1972 has been verified. List of fauna is presented in **Table 4**.

**TABLE 4**

**LIST OF FAUNA IN STUDY AREA**

| <b>S. No.</b> | <b>Common Name</b>   | <b>Zoological Name</b>       |
|---------------|----------------------|------------------------------|
| 1.            | Brahminy myna        | <i>Sturnus pagodarum</i>     |
| 2.            | Crow – pheasant      | <i>Cendropus sinensis</i>    |
| 3.            | Rat                  | <i>R. rattus</i>             |
| 4.            | Jungle crow          | <i>Carvus macrorhynchas</i>  |
| 5.            | House crow           | <i>Carvus spienrhynchas</i>  |
| 6.            | Crow – pheasant      | <i>Cendropus sinensis</i>    |
| 7.            | Black drongo         | <i>Dicruus adsimilis</i>     |
| 8.            | White bellied drongo | <i>Dicruus caerulesceens</i> |

|     |                               |                                  |
|-----|-------------------------------|----------------------------------|
| 9.  | Little egret                  | <i>Egretta garzetta</i>          |
| 10. | Red vanted bulbul             | <i>Pycnonotus cater</i>          |
| 11. | Spotted dove                  | <i>Streptopella chinensis</i>    |
| 12. | Brown wood dove               | <i>Streptopella senegalensis</i> |
| 13. | Brahminy myna                 | <i>Sturnus pagodarum</i>         |
| 14. | Common Babblers               | <i>Tuoides caudatus</i>          |
| 15. | Large Brown flying squirrel   | <i>Petaurista petaurista</i>     |
| 16. | White tailed wood rat         | <i>Rattus blanfordi</i>          |
| 17. | Frog                          | <i>Rana Tigrina</i>              |
| 18. | Common Lizard                 | <i>Varanus species</i>           |
| 19. | Hanuman / Langur              | <i>Presbytis entellus</i>        |
| 20. | Siyar / Jackal                | <i>Canis aureus</i>              |
| 21. | Newia /small Indian Mongoose  | <i>Herpestes auropunctatus</i>   |
| 22. | Rat                           | <i>R. rattus</i>                 |
| 23. | Monkey                        | <i>Maaca mulata</i>              |
| 24. | Bater / Common Quail          | <i>Coturnix asistica</i>         |
| 25. | Kabutar / Blue Rock Pigeon    | <i>Columba livia</i>             |
| 26. | Hariyal / Green Pigeon        | <i>Treron Phoenicoptera</i>      |
| 27. | Bagula / Grey Heron           | <i>Ardea cinerea</i>             |
| 28. | Chil / Brahminy Kite          | <i>Hallaster Indus</i>           |
| 29. | Koyal                         | <i>Eudynamys Scolopacea</i>      |
| 30. | Koyal/ Kuku                   | <i>Cuculus canorus</i>           |
| 31. | Nilkant / Indian Roller       | <i>Corocias bengalensis</i>      |
| 32. | Jungle Maina                  | <i>Acridotheres fuscus</i>       |
| 33. | Jungle Kawua / Jungle Crow    | <i>Corvus macrorhyncos</i>       |
| 34. | Desi Kawua / Common Crow      | <i>Corvus Splendense</i>         |
| 35. | Totta / Roser Ringed Parakeet | <i>Psittacula Krameri</i>        |
| 36. | Girgit /Garden Lizard         | <i>Calotes versicolor</i>        |
| 37. | Karant / Common Krait         | <i>Bungarus Casruleus</i>        |





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|    |                           |                     |
|----|---------------------------|---------------------|
| 38 | Kalang / Cobra            | Naja naja naja      |
| 39 | Dhaman / Rat Snake        | Ptyas mucosus       |
| 40 | Phursa / Russell's Viper  | Viperas russelli    |
| 41 | Panipa snap / Water snake | Enhydris enhydris   |
| 42 | Chelwa                    | Cheia atpar         |
| 43 | Rohu                      | Labeo rohita        |
| 44 | Tangra                    | Mystus bleakeri     |
| 45 | Mangur                    | Calarias mangur     |
| 46 | Common mongoose           | Herpestes edwarddii |

Birds, Reptiles, Butterflies, Amphibians and Mammals were recorded which belong to Schedule-II animals and rest belongs to Schedule-III and IV and V of Wildlife (Protection) Act, 1972. The list of fauna recorded in the study area is given in **Table 4**.

#### **Analysis of Fauna**

- There is no National park, Wild life Sanctuary, Biosphere Reserve, Wild life Corridor, Tiger Reserve within 10 km radius area from the proposed project site.
- Rare, endemic & threatened species, etc are not found with 10 km radius area of the proposed project site.
- No Schedule -1 species were observed in the study area during the field survey.

#### **2.7 Details of observed scheduled-II animal species**

##### **1. Langur (*Presbytis entellus*)**

Langur (*Presbytis entellus*) is a lanky, long-tailed monkey of Haryana, with bushy eyebrows and a chin tuft. It has a small slender body with long tail and long hands. 'Langur' means 'having a long tail'. The langur is gray washed with buff or silvery shades, often with a white head, but with a black face. It has crests of hair on the head. It is found in India, Tibet, Nepal, and Sri Lanka. It lives in humid forests

*[Handwritten signature]*  
 Director, Forest U.S. &  
 Forest Survey Department (FSD)



Size:

The male weighs 9 – 15 kg, the female weighs 4 – 8 kg but in the Himalayas it grows much larger. Most of them are of a slender build, about 2 feet long with a 2 1/2 foot tall.

Behavior:

Langurs are easy going. A high ranking female may sometimes slap a lower one. A dominant male stares at a subordinate, slaps the ground, grimaces, crouches, and suddenly stands again, grunting. He then tosses his head and chases the other one, hitting and even biting him. A subordinate will often come to the dominant one, present-turnstile, a sign of submission - then lie down while the dominant one grooms him. They spend 2 – 4 hours at midday resting and grooming each other. Langurs live in groups; the group consists of many females and one or two dominant males. Males chase each other to defend their territory and to establish mating rights. In Haryana, the Leopards are the main threats to Langurs. Using their speed and climbing ability they bring down the Langurs quite easily.

Reproduction:

The female breeds at 3 1/2 years of age. Gestation lasts 200 days. They usually only have one young. She nurses for 10 – 12 months. Births are spaced every 2 years or so. The young is dark brown at birth and stays this color for 3 – 5 months. The infant clings to its parent unaided. Other females stay with the mother to touch and lick the infant and pass it around among them.

Description:

Langurs don't like water and cannot swim. They can jump up to 10 meters, and cross small rivers and streams. They sleep on trees and come down to ground for foraging and to drink water. They are excellent climbers and can jump from tree to tree when threatened. Also they travel on ground from place to place in small groups. Hindus in India worship these animals and they can be found following worshippers in temples who offer them food. Normally one young is born and the mother Langur carries the baby for about six months. Being mammals the young ones are fed with milk. The Langur population in India is quite high and hence they are not so threatened.

## **2. Monkey (Macacca Mullata):**

### Description

The Rhesus macaque is brown or grey in color and has a pink face, which is bereft of fur. Its tail is of medium length and averages between 20.7 and 22.9 cm (8.1 and 9.0 in). Adult males measure approximately 53 cm (21 in) on average and weigh about 7.7 kg (17 lb). Females are smaller, averaging 47 cm (19 in) in length and 5.3 kg (12 lb) in weight.

### Distribution and Habitat

Rhesus macaques are native to northern India, Bangladesh, Pakistan, Nepal, Burma, Thailand, Afghanistan, Vietnam, southern China, and some neighboring areas. The Rhesus monkey has the widest geographic ranges of any nonhuman primate, occupying a great diversity of altitudes throughout Central, South, and Southeast Asia. Inhabiting arid, open areas, Rhesus macaques may be found in grasslands, woodlands and in mountainous regions up to 2,500 m (8,200 ft) in elevation. They are regular swimmers. Babies as young as a few days old can swim, and adults are known to swim over a half mile between islands, but are often found drowned in small groups where their drinking waters lie. Rhesus macaques are noted for their tendency to move from rural to urban areas, coming to rely on handouts or refuse from humans.[3] They have become a pest in some areas, perceived as a possible risk to public health and safety.

A diurnal animal, the Rhesus macaque is both arboreal and terrestrial, mostly herbivorous feeding on leaves and pine needles, roots, and the occasional insect or small animal. They have specialized pouch-like cheeks, allowing it to temporarily hoard its food.

## **3. Common Mongoose (Herpestes Edwardii)**

The Indian Gray Mongoose or Common Grey Mongoose (*Herpestes edwardsii*) is a species of mongoose found in southern India and Sri Lanka. The gray mongoose is commonly found in open forests, scrub lands and cultivated fields, often close to human habitation. It lives in burrows, hedgerows and thickets, among groves of trees, taking shelter under rocks or bushes and even in drains. It is very bold and inquisitive but wary, seldom venturing far from cover. It climbs well. Usually found singly or in pairs. It preys on rodents, snakes, birds' eggs and hatchlings, lizards and variety of invertebrates. Along the Chambal river it occasionally feeds on gharial eggs. It breeds throughout the year.

### Description

The Indian grey mongoose, or common grey mongoose is a medium sized tawny or yellowish grey with a lighter underside, darker feet (this separates it from the syntopic Small Asian Mongoose), and dark red tail tip. They have a reddish tint to their heads. Their tail length equals their body length. Body length: 14-17 inches (36-45cm) Tail length: 17 inches (45 cm), weight: 2-4 lb. (0.89-1.7kg). Males are significantly larger than the females



### **3.0 THREATS TO WILDLIFE AND THEIR HABITAT**

#### **Habitat Degradation**

The herbivores need leaf, fruit and flowers etc of various plants to browse. The wild animals also need vegetation as a cover. Maximum forest open scrub areas exist in study area in degraded condition. If this process continues, degradation of the open scrub areas will proceed in a galloping speed. This need to be checked and suitable alternatives should be found out and sites having some depth of soil deposit need to be afforested by species suitable to the site condition.

#### **Soil erosion and Loss of Moisture**

The area shall be prone to erosion due to absence of vegetation; steeper slope; activities like development of industrial areas and construction of house besides grazing of cattle and movement of vehicles. Moisture loss shall also be acute unless the ground is clothed and other measures are taken. Intensive soil conservation measures are to be adopted to restore the site condition. If these conditions are allowed to continue and further aggravate due to mining and other ancillary activities unchecked, the hill slopes shall further degrade to a point of no return. The wild animals shall suffer due to want of water, cover and food. The perennial and seasonal streams shall dry up not only to the detriment of wild animals but also the natural vegetation. The surrounding area within the Zone of Influence of 10Kms also shall also suffer similar fate if remedial measures are not taken.

#### **Water Conservation**

The requirement of water for the wildlife is limited. At present only a few species exist in the area like jackal, mongoose, snakes, rats, lizards etc. But gradually when adequate measures are ensured to grow vegetation and protection is provided more wildlife may prefer this area. But with mining water shall be scarce for them. To meet their water requirement, few existing seasonal streams should be taken care and managed to the possible extent to conserve rain water till summer season is over.

#### **Dependence on Forest**

Local people shall continue to depend on the small depleted forest patches of the area for their fuel, fencing, construction, food, fodder and heating needs. Once good vegetation comes up may be due to protection or afforestation, the local tribal will collect fuel wood, small timber etc for their bonafied use. Therefore, while planning for gap planting or protection to the existing vegetation it should be ensured that they should not be illicitly felled. For this purpose farm and social forestry with suitable species mix need be taken up in villages. They should also serve as niches for wild animals.

#### **Lack of Awareness**

All the above measures need involvement of local villagers, VSS members, youth, women of the locality and employees of various government and non-government



department. But at present such awareness is lacking. Besides lot of people shall be inducted to the area who are not aware of the need for conservation of wildlife. Unless such awareness is promoted through different means any effort in this direction shall be futile.

### **Garbage & Liquid Wastes**

Due to daily congregation of huge work force and others lots of solid as well as liquid wastes shall accumulate in and around the mine. They shall not only cover the ground, they may be ingested by wild animals causing their death. Regeneration shall also be affected. They may even choke the streams and water bodies. The liquid wastes shall contaminate the soil and if drunk by thirsty animals may cause diseases in them or even death. This may even trigger epidemics.

### **Mitigation Measures**

According to the wildlife protection act 1972 no threatened or endangered species of animals present in the study area. Hence the wild animals can find shelter there if they are made conducive to their stay with proper food, water cover and safety from fire and poaching. Hence the following steps are recommended for providing the same.

### **Protection and Impact of Forest Patches**

There are good numbers of minor fauna found in forest area which are in degraded condition. They came for grazing from down the hillock slopes. Hence these patches need be fully protected and planted up with species that can establish there in order to provide food, cover and safety for them. Of course, rain fall appears to be quite sufficient. Domestic livestock also do visit the area, though in small number. Forest Guards can be engaged to provide protection to the area and prevent fire to the grass land during dry months. They can seek support from the mining work force if needed. As it is fairly flat ground, fire watchers or additional staff may not be needed. Mixed plantations of indigenous species, preferably with edible fruit, flower, leaves etc. should be grown. The following planting technique shall be adopted.

### **Raising Plantation**

Plantation of hardy indigenous species, preferably those found in the neighbouring hill slopes can be planted up in 0.5 m<sup>3</sup> pits, filled with borrowed valley soil and organic manure. Application of Rhizobium or Azotobacter shall also be used for establishment of seedlings. They should be planted up with 2 years old healthy saplings immediately after the onset of monsoon at a spacing of 2.5mX2.5m. Bio-pesticides like neem oil cake etc can be applied, as the area is white ant prone. For all plants grown on the sloping ground, half moon trenches may be provided. Planting can also be taken up on 0.5m width x 0.5m deep x 5m length staggered trenches dug up along the contour at 5m intervals. This will help soil and moisture conservation and make water available to the plants. Clod mulching can be done immediately after the rains to prevent evaporation losses due to capillary action. The species recommended are Amla, Karj, Khamir, Gulmohar, Sisoma, Bahada, Bara, Neem, Mohua, Kachanar, Arjun, Pentaforam,

Jack fruit, Mango, Gambhari etc. Seeds of edible grass or berries may be sown embedded in soil/cow dung pellets or slips may be planted for improving fodder availability. Causalities should be replaced in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year with well grown seedlings in later part of July in 1<sup>st</sup> year and late June succeeding years. The plantation should be maintained for 5 years.

### **Soil and Moisture Conservation Measures**

Soil erosion and moisture loss due to unchecked runoff during torrential rains may increase further, thereby depleting the hillock slopes and affecting agriculture in the surrounding areas. Hence they should be checked. Hence, all gullies should be check dammed with rubble and vegetative barriers. This will also provide drinking water for smaller wild animals like hares, snakes, lizards, ground birds.

### **Awareness Promotion**

Awareness should be created among the mining work force through different programmes on wildlife and forest conservation so that they do not harm the wild animals and their habitat. This can be done through observation of different functions like Vana Mahotsava and wildlife week etc. Talk by prominent people, film shows and visit to PA's, Zoos and Museums etc.

### **Measures to be taken in the Immediate Surrounding of the Power Plant**

The road transportation etc shall definitely have adverse impact of the surrounding area of 10 km radius (Zone of Influence). Of course, its impact beyond this zone can not be completely ruled out. But, there is bound to be much pronounced impact on the immediate vicinity, particularly the slopes of the plateau on which the lease shall be operational. Hence, it is proposed to separately indicate remedial measures for the hill slope and other surrounding areas including villages.

### **Forest Protection**

The slopes flanking are quite steep, though quite rich in floral diversity. Of course the vegetation is sparsely distributed due to human pressure. There are pronounced gullies descending down the slopes. There are also perennial streams. Shifting/fixed cultivation is also practiced in pockets. Hence it is not only essential to protect whatever vegetation exists, but also to enrich the same. Of course the soil depth appears to be quite good, as seen from the plantations raised on hill slopes of other neighbouring hills. There are only 3 V.S.S. now. More VSS may be formed to cover the entire hill slope and they should be strengthened and incentive may be provided to them. The blank areas may be planted up with indigenously occurring species. Similar planting technique may be adopted as indicated for the area within the lease. Weeding operation should always be done along the contour.

### **Fire Protection**

With protection and additional plantation, lot of leaf litter shall be generated and grass shall dry up during summer months to make them combustible. This will not only affect the ground vegetation, this may create drier conditions and burn

the young ground dwelling animals and birds, their young ones and eggs. As most fire is man made and accidental, the local people may be sensitized regarding adverse effect of fire. Fire lines may be cleared before summer months and six fire watchers may be engaged out of local youth in fire protection work during 5 months from February to May. Four watch posts at vantage points along the lip of the plateau may be erected for providing clear view of the entire hill slope. The watchers may be provided with simple fire fighting tools like spades, bill hooks, axes, buckets and brooms etc. The mining force may provide help to fight fire when required.

#### **Soil and Moisture Conservation**

All gullies should be plugged through check dams of rubble, masonry or vegetation at suitable intervals depending on the slope to reduce the velocity of flowing water and to recharge the ground water. This shall also arrest soil loss. In other slopes, staggered contour trenches of 0.5m x 0.5m x 5.0m may be dug at suitable intervals depending on slope. The dug out soil should be placed on down hill side partly covering the trench and planting can be taken up on the deposited soil.

#### **Grazing**

As stall feeding is not in practice for the livestock here, they roam freely destroying forests and compacting the soil. The cattle breed can be improved through Artificial Insemination and stall feeding encouraged. Besides, the V.S.S. should sensitize people not to allow grazing of cattle in the forest areas. Such grazing causes spread of communicable disease to the wild animals.

#### **Protection and improvement of forest patches**

In this district, forests are more or less confined to hill slopes. But most of them have been laid barren due to different human activities including 'Podu' or shifting cultivation. In order to provide habitat for wildlife it is essential not only to protect them, but also clothe them with vegetation of indigenous species. While V.S.S. Should be formed and strengthened all around the forest patches, R.F. or otherwise, they should be planted up following the techniques indicated for the area within the lease. Similar soil and moisture conservation measures besides fire prevention measures may be taken. For this 4 fire watchers out of local youth should be appointed for 5 months every year. These measures shall help in improving much needed water requirement of the area. The 'Jhola' cultivators are very much dependant on such water flowing in perennial streams.

#### **Social Forestry**

Due to efforts made for Social Forestry Project in the past many good village woodlots are still seen in the district. In order to improve wildlife status it will be necessary to raise village woodlots, institutional planting, planting on farm bunds, back yards, road avenues and village commons. Different ornamental, fuel, fodder, fruit, flower trees like Amla, Karj, Khamir, Gulmohar, Sisoma, Bahada, Bara, Neem, Mohua, Kachanar, Arjun, Pentaforum, Jack fruit, Mango, Kadam etc. Rain tree, Ficus, Chhatian, Pelfoform, Mahagony, Cashew nut, Karanja, Neem, Red sanders, Sandal wood, Paladhua (*Erithrina*), Teak, Akasmalli, Spathodia,

Jacaranda, Bara Koli (*Zyzyphus*), Aswattha, Simuli, Sunari and tropical pines etc can be taken up depending on its suitability and site conditions. Two year old healthy seedlings should be planted on 0.5 m<sup>3</sup> pits with the involvement of individuals, Panchayat, V.S.S., concerned institutions, Forest Department or NGOs, who should also take care of their maintenance. This will also help bring down pressure on the forest patches occurring in the area, while providing 'niches' for different wild animals and birds.

#### **Providing Alternate Avocation (Eco-Development)**

Forests are usually depleted due to dependence of the people on them for their livelihood. If alternate avocations are provided to those not finding employment in the mines, particularly elderly, women and physically challenged persons they shall continue to depend on these depleted forests. They can be provided support for vegetable/mushroom growing, horticulture, diary, apiary, poultry, tailoring, embroidery, indigenous food processing etc and their marketing. These products shall find market in the industrialized belt here. Similarly support for small technical jobs like repairs to household equipments, radio, T.V., bicycle, two-wheeler, electric wiring etc can be provided to those who have aptitude for the same. They can also be encouraged to set up small shops, tea-stalls etc. For all these they may be linked to SHGs (self-help group) and/or financial institutions.

#### **Awareness Promotion**

The wildlife, whose status may improve due to different measures suggested above, shall not be safe unless the local people, particularly the younger ones are made aware of the need for conservation. Hence efforts should be made in schools and colleges and V.S.S. to promote awareness. This can be done by celebrations of different conservation functions, talks, film shows, audio-visual aids, brochures, posters, competitions, photography and visit to PA's, Zoos, Museums and other wildlife areas etc.

#### **4.0 Financial Assistance**

The details of financial assistance to wild conservation plan is presented in **Table-5**. Wildlife Conservation will be implemented for 10 years period.



**TABLE-5  
BUDGET ESTIMATION FOR WILDLIFE CONSERVATION**

| <b>Sr. No.</b> | <b>Particulars of Activities</b>   | <b>Capital cost (Rs. In Lakhs )</b> | <b>Recurring cost (Rs.In Lakhs)</b> |
|----------------|--|-------------------------------------|-------------------------------------|
| 1              | Protection of forest patches and regeneration of habitat.  | 2.0                                 | 1.0                                 |
| 2              | Raising plantation In forest area.   | 3.0                                 | 1.5                                 |
| 3              | Soil & moisture conservation measures(construction of Field bunds & loose boulder check dams, Ring basin structure)                      | 1.5                                 | 1.5                                 |
| 4              | Social/Agro forestry   | 0.75                                | 0.75                                |
| 5              | Providing strengthening livelihood initiative (Alternative income/employment generation schemes through Self Help Groups)                | 7.85                                | 3.0                                 |
| 6              | Wildlife protection awareness programme and community workshops (through exhibitions, film shows, awareness talks from various experts). | 2.0                                 | 1.0                                 |
| 7              | Rescue of animals with in study area.  | 2.0                                 | 2.0                                 |
| <b>Total</b>   |  | <b>19.1</b>                         | <b>10.75</b>                        |

## **Annexure -13**

**Receipts of last compliance report submission**

## **Anoop srivastava**

---

**From:** Anoop srivastava  
**Sent:** 28 May 2022 10:00  
**To:** 'yogendra78@nic.in'  
**Cc:** 'sudheer.ch@gov.in'  
**Subject:** Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh  
**Attachments:** MoEF New Delhi.pdf

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 1x660 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.

Anoop Kr. Srivastava

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

JPL/ECC/Phase-II/SHY/2022-2023/May/35

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 - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.**

**Ref.: MoEF letter no. J 13012/63/2010-IA.II (T) Dated 21th August'2014 & 6<sup>th</sup> August 2021**

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 1x660 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.**



*[Signature]*  
27/05/2022

**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

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

Corporate Office : Unit No.-307, 3<sup>rd</sup> 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

## **Anoop srivastava**

---

**From:** Anoop srivastava  
**Sent:** 28 May 2022 10:08  
**To:** 'apccfbhopal@gmail.com'  
**Subject:** Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.  
**Attachments:** MoEF Bhopal.pdf

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 1x660 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.

Anoop Kr. Srivastava

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



JPL/ECC/Phase-II/SHY/2022-2023/May/35

May 27, 2022

To,

**The Director,**

Regional Office, Ministry of Environment & Forests

Kendriya Paryavaran Bhavan, Link Road No.3,

Bhopal-462016

**Sub.: Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.**

**Ref.: MoEF letter no. J 13012/63/2010-IA.II (T) Dated 21th August'2014 & 6<sup>th</sup> August 2021**

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 1x660 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.**

**Authorized Signatory**

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

**Jhabua Power Limited**

(CIN : U40105WB1995PLC088616)

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, 3<sup>rd</sup> Floor, ABW Tower, (Near IFFCO Chowk) M.G. Road, Gurugram - Ptn-122002 (Haryana)

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



**AVANTHA**  
GROUP COMPANY

## **Anoop srivastava**

---

**From:** Anoop srivastava  
**Sent:** 28 May 2022 10:02  
**To:** 'mscb.cpcb@gov.in'; 'mscb.cpcb@nic.in'; 'ccb.cpcb@nic.in'  
**Subject:** Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.  
**Attachments:** CPCB New Delhi.pdf

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 1x660 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.

Anoop Kr. Srivastava

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

JPL/ECC/Phase-II/SHY/2022-2023/May/35

May 27, 2022

**To,**

**The Chairman,**

Central Pollution Control Board

Parivesh Bhawan,

East Arjun Nagar, Delhi - 110 032

**Sub.: Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.**

**Ref.: MoEF letter no. J 13012/63/2010-IA.II (T) Dated 21th August'2014 & 6<sup>th</sup> August 2021**


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 1x660 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.**



Siva Kumar  
27/05/2022

**Authorized Signatory**

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

**Jhabua Power Limited**

(CIN : U40105WB1995PLC068618)

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, 3<sup>rd</sup> 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



## **Anoop srivastava**

---

**From:** Anoop srivastava  
**Sent:** 28 May 2022 10:07  
**To:** 'cpcb.bhopal@gmail.com'  
**Subject:** Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.  
**Attachments:** CPCB Bhopal.pdf

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 1x660 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.

Anoop Kr. Srivastava

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



JPL/ECC/Phase-II/SHY/2022-2023/May/35

May 27, 2022

To,

**The Director,**

Zonal Office, Central pollution control board,  
3<sup>rd</sup> Floor, Sahkar bhawan,  
North TT Nagar, Bhopal-462003

**Sub.: Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.**

**Ref.: MoEF letter no. J 13012/63/2010-IA.II (T) Dated 21th August'2014 & 6<sup>th</sup> August 2021**

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 1x660 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.**

**Authorized Signatory**

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

**Jhabua Power Limited**

(CIN : U40105WB1995PLC068616)

Village Barela, PO Attarla, 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, 3<sup>rd</sup> 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

## **Anoop srivastava**

---

**From:** Anoop srivastava  
**Sent:** 28 May 2022 10:04  
**To:** ms-mppcb@mp.gov.in  
**Subject:** Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.  
**Attachments:** MPPCB Bhopal.pdf

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 1x660 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.

Anoop Kr. Srivastava

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

JPL/ECC/Phase-II/SHY/2022-2023/May/35

May 27, 2022

**To,**

**The Member Secretary,**

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

**Sub.: Submission of Six Monthly Compliance Report - 1x660 MW Coal Based Thermal Power Plant, Villages- Barela & Gorakpur, Tehsil- Ghansore, Distt.-Seoni, Madhya Pradesh.**

**Ref.: MoEF letter no. J 13012/63/2010-IA.II (T) Dated 21th August'2014 & 6<sup>th</sup> August 2021**


Dear Sir,

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Kindly acknowledge.

Regards,

**For Jhabua Power Ltd.**

A handwritten signature in blue ink, followed by the date '27/05/2022' written below it.

**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

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

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



**AVANTHA**  
GROUP COMPANY