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<b>Proposal No :</b>	IA/CG/THE/10559/2010	<b>Proposal Name :</b>	2 x 660 MW to 2 x 685 Coal Based Super Critical at Village-
<b>Category :</b>	Thermal Projects	<b>MoEF File No. :</b>	J-13012/62/2008-IA II (T)

**Compliance Letter/Report**

**Year of Compliance:** -All Years- **Date of Compliance \* :** Select

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## Praveen Anant

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**From:** Praveen Anant  
**Sent:** Saturday, May 30, 2020 2:23 PM  
**To:** ecompliance-cg@gov.in; apccfcentral-ngp-mef@gov.in; sakhare.pr@nic.in  
**Subject:** EC Compliance for Raipur Energen Limited - Oct 2019-March2020  
**Attachments:** REL Raipur EC Compliance for Oct19-March20.pdf

Dear Sir,

This is regarding EC compliance for Raipur Energen Limited for EC No. J 13012/62/2008-IA.II (T) dated 09th May 2011 and it's amended, dated on 10<sup>th</sup> June 2015, 13<sup>th</sup> June 2013, 18 November 2014 , 04<sup>th</sup> February 2015 and 05<sup>th</sup> November 2019 for 2x685 MW Super Critical TPP in Raipur district in Chhattisgarh. This company was earlier named GMR Chhattisgarh Limited and now name has been changed to Raipur Energen Limited and also updated in the EC vide amendment dated 5.11.2019.

We are attaching herewith EC Compliance report for the period of Oct 2019 – March 2020 as per EC conditions and same is being uploaded on PARIVESH portal also. Hope you will find this in order and suffice for the compliance requirement please.

Thanking you,

For, Authorized Signatory  
Raipur Energen Limited  
A Subsidiary of Adani Power Limited



## Power

Date: 29<sup>th</sup> May 2020

Ref: REL/MoEF&CC/EC/2020/May/29

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


**Subject:** Submission of six monthly compliance status of environment clearance No. J 13012/62/2008-IA.II (T) dated 09<sup>th</sup> May 2011 and it is amended, dated on 10<sup>th</sup> June 2015, 13<sup>th</sup> June 2013, 18 November 2014 and 04 February 2015 for 2x685 MW Super Critical Imported Coal Based Thermal Power Plant at villages Raikheda, Gaitara and Chicholi, in Tilda Block, in Raipur Distt., in Chhattisgarh for the period of October'2019 to March'2020.

Dear Sir,

With reference to the above subject, please find enclosed herewith six monthly compliance status of environment clearance for the period of Oct'19- Mar'20.

We hope you will find this satisfactory and in line with requirement.

**Thanking You,**  
**For, Raipur Energen Limited (A subsidiary of Adani Power Limited)**

  
29.05.2020.

**(Authorized Signatory)**

### CC:

1. The Member Secretary, Central Pollution Control Board, Parivesh Bhavan, East Arjun Nagar, New Delhi- 110032.
2. The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19, Naya Raipur(C.G.) Chhattisgarh 490009

**Enclosures:** As above

Raipur Energen Ltd  
(formerly known as GMR Chhattisgarh Energy Ltd)  
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Gujarat, India  
CIN: U40108KA2008PLC047974

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Registered Office: Skip House, 25/1 Museum Road, Bangalore 560 025, Karnataka, India

**SIX MONTHLY COMPLIANCE REPORT  
OF ENVIRONMENTAL CLEARANCE**

**1370 (2×685) MW THERMAL POWER  
PLANT**

**At**

**RAIKHEDA VILLAGE, TILDA BLOCK,  
RAIPUR DISTRICT  
CHHATTISGARH**

**Submitted to:**

**Ministry of Environment Forest, Climate Change  
Regional Office (WCZ)  
Ground Floor, East Wing  
New Secretariat Building, Civil Lines  
Nagpur – 440001 (Maharashtra)**

***Submitted By:***

**Raipur Energen Limited  
Raikheda Village, Tilda Block, Raipur District,  
Chhattisgarh**

**PERIOD: Oct'2019 – March'2020**

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**Raipur Energen Limited**  
**(2x685 MW Coal Based Thermal Power Plant)**

**Status of Half Yearly compliance w.r.t**  
**Environmental Clearance No. J-13012/62/2008-IA.II (T), dated: 09th May 2011. And amendment's dated: 13.06.2013,**  
**18.11.2014, 04.02.2015 & 09.12.2015.**  
**(For the Period of October 2019- March 2020)**

**Specific Conditions**

	<b>Conditions of EC dated 09th May 2011</b>	<b>First Amendment in Condition</b>	<b>Second Amendment in condition</b>	<b>Compliance Status</b>
i	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.	—	—	Name of the company has been changed to Raipur Energen Limited from 1 <sup>st</sup> July 2019 and company is now a subsidiary of Adani Power Limited.  The Vision document of the company is attached as <b>Annexure V</b>
ii	In case source of fuel supply now proposed to be run on imported coal from South Africa for running the power plant is proposed to be changed to domestic coal at a later stage, the project proponent shall apply for such a change in environmental clearance along with necessary documents as required under EIA notification, 2006 (and its amendments). In such a case the necessity for holding	Amended vide letter from MOEF having No. J-13012/62/2008-IA.II (T) GOI, MOEF dated 04/02/2015 for <b>"The source of imported coal from Indonesia in addition to South Africa and blend of maximum 50% domestic e-auction coal"</b> subjected to following condition	Amended vide letter from MOEF having No. J-13012/62/2008-IA.II (T) GOI, MOEF dated 09/12/2015 for <b>"Usage of 100% Domestic coal sourced from Talabira – I &amp;/or Ganeshpur coal mine, and in worst case scenario, usage of 50% blended coal as approved earlier"</b>	Being complied by use of 100% domestic coal sourced from tolling linkage and open market. Talabira-1 Mine is not under mining operation as Mining Plan was expired and the revised mining plan is due for approval.

	public hearing again or otherwise will be determined by the Ministry in consultation with the Expert Appraisal Committee (Thermal Power).	<p>Sulphur and ash content in the coal to be used in the project shall not exceed 0.7% and 34% respectively for 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 amendment to environmental clearance condition wherever necessary.</p> <p>The PP shall advertise in the local newspapers and place on the website, the proposed amendment for public information.</p>	<p>Sulphur and ash content of coal shall not exceed 0.7% and 34% respectively. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry for consideration.</p> <p>The PP shall advertise in the local leading newspaper and place on the website, the proposed amendment of EC (after receiving from ministry) for change in source of coal for public information.</p>	<p>Sulphur and Ash content in coal being used in project as fired coal is being ensured within prescribed standards of 0.7% and 34%</p> <p>This condition was complied with advertisement after the amendment. EC with all amendments are kept in public domain at company website <a href="https://www.adanipower.com/Downloads">https://www.adanipower.com/Downloads</a></p> <p><b>Thus, Complied.</b></p>
iii	Provision for installation of FGD shall be provided for future use.	—	—	<p>Space provision for FGD has been made.</p> <p><b>Thus, Complied.</b></p>

iv	Stack of 275 m height shall be installed and provided with continuous online monitoring equipment's for SO <sub>x</sub> , NO <sub>x</sub> , PM <sub>2.5</sub> & PM <sub>10</sub> . Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.	—	—	Stack Height is 275 meter. On-line continuous emission monitoring system (CEMS) has been installed for PM, SO <sub>2</sub> & NO <sub>x</sub> . Monitoring of Hg in stack emission is also carried out by authorized laboratory by MoEF & CC. The exit gas velocity is ensured @ 22m/sec.  The Environment Monitoring report is attached herewith as <b>Annexure I</b> .  <b>Thus, Complied.</b>
v	High Efficiency Electrostatic Precipitators (ESPs) shall be installed followed by installation of Bag Filter and it shall be ensured that particulate emission does not exceed 50 mg/Nm <sup>3</sup> .	Amended vide Office Memorandum letter from MOEF having No. J-13012/62/2008-IA.II (T) GOI, MOEF dated 13/06/2013  High Efficiency Electrostatic Precipitators (ESPs) shall be ensured that particulate emission does not exceed 50 mg/ Nm <sup>3</sup>	—	ESP is installed for ensuring emission level < 50 mg/Nm <sup>3</sup> . The report for stack monitoring is attached in <b>Annexure 1</b>  <b>Thus, Complied</b>
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.	—	—	Dust extraction system has been installed in coal crusher, AHP & coal bunker. Dust suppression system through dry fog method has been installed in coal conveyor transfer point & water spray system in coal yard has also been installed for dust suppression.  <b>Thus, Complied</b>



vii	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MOEF for suitable amendments to environmental clearance condition wherever necessary.	<p>Amended vide Office Memorandum letter from MOEF having No. J-13012/62/2008-IA.II (T) GOI, MOEF dated 13/06/2013 under Specific condition no. xxxi</p> <p>The GCV of the imported coal from south Africa shall not be less than 4911Kcal/kg and the ash and sulphur contents shall not exceed the limits stated under: Ash contents : 33.7% Sulphur Contents : 0.7%</p>	<p>Amended from MOEF vide letter no. J-13012/62/2008-IA.II (T) GOI, MOEF dated 04/02/2015 &amp; 09/12/2015</p> <p>Sulphur and ash content in the coal to be used in the project shall not exceed 0.7% and 34% respectively for 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 amendment to environmental clearance condition wherever necessary.</p>	Sulphur and Ash content in coal being used in project as fired coal is being ensured within prescribed standards of 0.7% and 34%
viii	Transport of coal to the plant site shall be strictly by rail. The project proponent shall therefore immediately take up the matter with the Railways. Status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	<p>Amended from MOEF vide letter no. J-13012/62/2008-IA.II (T) GOI, MOEF dated 18/11/2014</p> <p><b>Awarded temporary permission for road transportation of coal for a limited period of three years</b> subjected to compliance of conditions</p>	—	<p>Complied. The transportation through rail is started. Avenue plantation all along the road has already been done inside the plant premises. Complied after amendment. EC with its amendment time to time is also kept in public domain at the website of holding company <a href="https://www.adanipower.com/Downloads">https://www.adanipower.com/Downloads</a></p> <p><b>Thus, Complied.</b></p>

		<p>i) The coal transportation by road shall be through mechanically covered trucks to the extent feasible, else, shall be through tarpaulin covered trucks.</p> <p>ii) Avenue plantation of 2/3 row all along the road shall be carried out by the project proponent at its own expenses in consultation with the State Government Authority.</p> <p>iii) Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall facilitate the traffic control on the road in consultation with State Government Authorities.</p> <p>iv) The PP shall advertise in the newspaper and</p>	<p>—</p>	
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		place on the website, the amendment issued by the Ministry for public information.		
ix	Existing de-generated water bodies (if any) within 5.0 Km of the site shall be regenerated at the project proponent's expenses in consultation with the state govt.	—	—	We have regenerated around 6 numbers of Water bodies in nearby villages including 2 numbers in ponds were deepened and beautification was done by company in Raipur in consultation with state government.  <b>Thus, Complied</b>
x	The proponent shall sponsor a detailed study regarding water availability in Mahanadi River for all competing sources such as drinking, agriculture, industrial, minimum flow of water in the river during the lean season etc. through institutions like IIT, Delhi/IIT, and Roorkee. The draft terms of reference shall be submitted within three months which shall be finalized by the Expert Appraisal Committee. The preliminary report on the above study shall be submitted within one year.	—	—	Complied.
xi	The project proponent shall undertake proactive water harvesting measures and water storage for a larger			Rainwater harvesting design is approved by CGWA. Copy of approval letter is submitted to MoEFCC. The

	<p>period not less than 30 days storage shall be developed. The rain water harvesting system shall be put in place before commissioning of the plant. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology/design within a period of three months from the date of this clearance and details shall be furnished. The design of rain water harvesting shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Ministry within six months.</p>	—	—	<p>rainwater harvesting ponds are constructed for rain water harvesting and recharge.</p> <p><b>Thus, Complied.</b></p>
xii	<p>Hydrogeology in and around the project area shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality</p>	—	—	<p>The hydrogeology study was conducted for EC. Study report is being reviewed annually as per condition. The study is in progress and report will be submitted with next compliance report.</p> <p><b>Thus, Complied.</b></p>

	monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.			
xiii	No ground water shall be extracted for use in operation of the power plant even in lean season.	—	—	Being Complied.
xiv	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.	—	—	No water bodies has been disturbed during construction activity/ operational activity of the plant. <b>Thus, Complied</b>
xv	Water requirement shall be optimized to around 32 MCM and shall accordingly adopt higher COC of at least not less than 5.0.	—	—	Water requirement is being restricted to 25 MCM & COC is being maintained more than 5.0 <b>Thus, Complied.</b>
xvi	Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.	—	—	REL is drawing within the allocated water quantity. Allocation has been done to industry by Water Resource Department, Government of Chhattisgarh considering the minimum environment flow requirement in the river. <b>Thus, Complied.</b>
xvii	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for	—	—	Six nos. piezometers constructed around periphery of the ash pond.  Seasonal monitoring of ground water level and quality is being done and monitoring data is being submitted to the MOEF/CPCB/CECB regularly.

	heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project	—	—	The ground water analysis data is attached in <b>Annexure I.</b>  Thus, Complied.
xviii	Monitoring surface water quality in the region 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 be undertaken.	—	—	Seasonal monitoring of Surface water is being done. The monitored data is being submitted to MOEF/CPCB/CECB regularly.  The surface water analysis data is attached in <b>Annexure I.</b>  <b>Thus, Complied.</b>
xix	Additional soil for levelling 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.	—	—	Completed during construction phase. No major construction is being executed in operation phase.  <b>Thus, Complied.</b>

xx	The project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.	—	—	All the preventive measures have been ensured to restrict fugitive emission from fly ash.  <b>Thus, Complied.</b>
xxi	Utilization of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	—	—	Fly ash is being supplied to nearest cement industries and brick manufacturer. Fly Ash generation and utilization is attached as <b>Annexure II</b> <b>Thus, Complied.</b>
xxii	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 form. 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.	—	—	Fly ash is being collected in dry form and unutilized fly ash is being disposed in dedicated ash storage ponds. As per MoEF & CC Office Memorandum dated 28 <sup>th</sup> August 2019, utilization of fly ash in low lying areas has been permitted and the existing condition in Environmental Clearance may stand replaced, accordingly organization has started utilization of fly ash in low lying areas and land reclamation. Mercury and heavy metals are being monitored in bottom ash. No effluent is emanated from ash pond.  <b>Thus, Complied</b>
xxiii	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	—	—	Ash ponds is constructed in the way that no leachate takes place any point of time.  <b>Thus, Complied.</b>

	protect the ash dyke from getting breached.			
xxiv	For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be done after obtaining due permission from DGMS and after ensuring that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.	—	—	Shall be complied as & when required.
xxv	Green Belt consisting of 3 tiers of plantations of native species around plant and at least 75 m width shall be raised. Tree density shall not less than 2500 per ha with survival rate not less than 80 %.	—	—	Greenbelt development is developed as per guideline. Report is attached as <b>Annexure III</b> .  <b>Thus, Complied</b>
xxvi	At least three nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.	—	—	The Company undertakes various CSR activities with expenditure within the framework of the CSR Rules under the Companies Act. Community services in three nearby villages namely Raikheda, Chicholi & Gaitera is conducted with focus and Sontara, Gaurkheda and Murra village area also covered. The outreach is also expanded to other nearby villages namely Khamariya, Konari, Tulsi, Tarashiv, Bartori, Chatod and Samoda. The Thematic area of work in villages is improving quality of education, access of health care and sanitation, empowerment



				<p>and livelihood through SHGs, individual income generation &amp; community vocational training centre and community development.</p> <p>Please refer the attached annual report for latest updates as <b>Annexure IV</b></p> <p><b>Thus, Complied</b></p>
xxvii	The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	—	—	<p>The Company is undertaking CSR activities within 10 km radius area with focus on project affected and Railway siding villages namely Sontara, Gaurkheda, Khamariya, Konari Murra, Tulsi, Tarashiv, Bartori, Chatod located on western and northern boundary of the proposed plant. The development work in these villages is implemented in planned and time bound manner.</p> <p><b>Thus, Complied</b></p>
xxviii	A time bound implementation of the CSR shall be formulated within six months and submitted to the Ministry. While identifying CSR activities it shall be ensured that need based assessment for the nearby villages within study area shall be conducted to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people shall be undertaken. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for	—	—	<p>CSR Plan for the villages is made as per local need and CSR activities are identified by Social work professionals employed exclusively for CSR through the company in consultation with communities and their representatives. Poorest of the poor families are identified basing village Panchayats statistics and special interventions have been planned for their upliftment.</p> <p>Separate budget has been allocated for community development activities, income generation activities.</p> <p>Vocational training is being provided to youth for self-employment free of cost. We have started <b>Pratibha center</b> for local youths. To increase access of youth to educational and employment opportunities through helping them become aware of and to prepare for these. To prepare youth to become self-reliant through education and employment opportunities at Pratibha centers.</p>

	community development activities and income generating programmes. Vocational training programme for possible self-employment and jobs shall be imparted to identify villagers free of cost.			Please refer the attached annual report for latest updates as <b>Annexure IV</b>  <b>Thus, Complied</b>
xxix	An amount of Rs 33.16 Crores shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently a recurring expenditure of Rs 6.63 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six month along with road map for implementation.	—	—	Time bound implementation of CSR activities with budget of Rs.33.16 has been completed and recurring expenditure is planned and being implemented in nearby project villages.  <b>Thus, Complied</b>
xxx	It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time	—	—	Condition is being complied and social audit is being conducted time to time.  <b>Thus, Complied</b>

xxxii	—	<p>Amended vide Office Memorandum letter from MOEF having No. J-13012/62/2008-IA.II (T) GOI, MOEF dated 13/06/2013</p> <p>The GCV of the imported coal from south Africa shall not be less than 4911Kcal/kg and the ash and sulphur contents shall not exceed the limits stated under: Ash contents : 33.7% Sulphur Contents : 0.7%</p>	<p>Amended from MOEF vide letter no. J-13012/62/2008-IA.II (T) GOI, MOEF dated 04/02/2015 &amp; 09/12/2015</p> <p>Sulphur and ash content in the coal to be used in the project shall not exceed 0.7% and 34% respectively for 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 amendment to environmental clearance condition wherever necessary.</p>	<p>Sulphur and Ash content in coal is ensured within prescribed standards of 0.7% and 34%</p> <p><b>Thus, Complied.</b></p>
xxxii	—	<p>A long term study of radioactive and heavy metals contents on coal to be used shall be carried out through a reputed institute.</p> <p>Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including</p>	—	<p>Condition is being complied. Report for FY 2019-20 shall be submitted along with next compliance report. The samples have been sent for the radioactivity analysis to BRIT. But due to COVID – 19 outbreak the analysis could not be conducted.</p> <p><b>Thus, Complied.</b></p>

		bottom ash) shall be put in place.		
xxxiii	—	Continuous monitoring for heavy metals in and around the ash pond area shall be carried out through reputed institutes like IIT, Kanpur and records/data maintained.	—	Condition is being complied. The reports for heavy metals in peizometric wells is attached as <b>Annexure I</b>  <b>Thus, Complied.</b>
xxxiv	—	Harnessing solar power within the premises of the plant particularly at available rooftops shall be undertaken and status of the implementation shall be submitted periodically to the regional Office of the Ministry.	—	Complied. The feasibility study has been done & the work is awarded to M/s Mundra Solar PV Limited (MSPVL).  <b>Thus, Complied.</b>
xxxv	—	Greenbelt shall also be developed around the ash pond over and above the Green belt around the plant boundary.	—	Complied. Greenbelt development report is attached as <b>Annexure III.</b> <b>Thus, Complied.</b>
xxxvi	—	The project proponent shall formulate a well-laid corporate	—	A well laid environmental policy is in place, with competent and committed workforce for compliance.

		environment policy, identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the condition stipulated in this clearance letter and other applicable environmental laws and regulations.		
<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.	—	—	<p>The treated effluents conforming to the prescribed standards only are re-circulated and reused within the plant.</p> <p>Plant layout has been designed so that effluents and storm water do not get mixed.</p> <p>The ETP analysis report is attached as <b>Annexure I</b>.</p> <p><b>Thus, Complied</b></p>
ii	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	—	—	<p>A well-equipped Sewage Treatment Plant is installed and commissioned within premises to ensure quality of sewerage.</p> <p><b>Thus, Complied.</b></p>

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.	—	—	Complied with submission of drawings to the Ministry as well as to the Regional Office of the Ministry.
iv	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	—	—	Approval for storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS has been obtained from Department of Explosives, Nagpur has been submitted.  Sulphur content in the liquid fuel will not exceed 0.5%.  Disaster Management Plan also is in place.  <b>Thus, Complied.</b>
v	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	—	—	Completed during construction phase. <b>Thus, Complied.</b>
vi	Noise levels emanating for turbines shall be so controlled such that the noise in the			Engineering control for noise such as acoustic enclosure, silencer have been installed in the turbine. Other than engineering controls, PPE's like

	work zone shall be limited to 85 dBA from the source. For people working in the high noise area, requisite personal protective equipment like ear plugs/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.	—	—	ear plug, muff etc. are provided to workers in high noise area. Noise level monitoring report is attached in <b>Annexure I.</b>  <b>Thus, Complied.</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 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.	—	—	We have installed three nos. of stationary AAQMS station at periphery of the plant for Ambient air quality monitoring. Environment Monitoring Data as part of the six-monthly compliance to MoEF & CC is made available at <a href="https://www.adanipower.com/Downloads">https://www.adanipower.com/Downloads</a>  The ambient air quality monitoring report is attached as <b>Annexure I.</b>  <b>Thus, Complied.</b>

viii	Provision shall be made for the housing of construction labor (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 completion of the project.	—	—	Completed during construction phase.  <b>Thus, Complied.</b>
ix	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 Quality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance an 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>	—	—	Completed.  <b>Thus, Complied.</b>



x	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/ Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations. If any, receive while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	—	—	Completed. The environment clearance letter will be available in website of Adani Power <a href="https://www.adanipower.com/Downloads">https://www.adanipower.com/Downloads</a> <b>Thus, Complied.</b>
xi	An Environmental Cell comprising of at least one expert in environmental science / engineering, occupational health and social scientist, shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification it shall be ensured that the Head the Cell shall directly report to the head of the organization and he shall be held responsible for implementation of environmental regulations and social impact improvement/mitigation measures.	—	—	A competent experienced expert with academic qualification of M.Sc. & M.Phil in Environmental Sciences is appointed. Well laid environmental lab is in place.  <b>Thus, Complied.</b>
xii	The proponent shall upload the status of compliance of			Display board has also been installed at main gate.


	<p>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 (PM2.5 &amp; PM10), SO2, NOX (ambient levels as well as stack emissions) shall display at a convenient location near the main gate of the company in the public domain.</p>	—	—	<p>Recent Environment compliance report will be uploaded in company website.</p> <p><a href="http://www.adanipower.com/Downloads">www.adanipower.com/Downloads</a></p> <p><b>Thus, Complied.</b></p>
xiii	<p>The environment statement for each financial year ending 31 March in Form- V as is mandated to be submitted by the project proponent to the concerned: State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective</p>	—	—	<p>The Environmental Statement Form V is submitted vide our Letter No, REL/EMD/Sept./73 dated 28<sup>th</sup> Sept. 2019.</p> <p>Acknowledgement of Environment Statement is attached as <b>Annexure VI</b></p> <p><b>Thus, Complied.</b></p>

	Regional Offices at the Ministry.			
xiv	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.	—	—	Recent Environment compliance report will be uploaded in company website. <a href="http://www.adanipower.com/Downloads">www.adanipower.com/Downloads</a>  <b>Thus, Complied.</b>
xv	Regional Office of the Ministry of Environment, forest and climate change will monitor the implementation of the stipulated conditions. A complete set of documents including environmental impact Assessment Report and Environment Management Plan along with	—	—	Completed.  <b>Thus, Complied.</b>

	the additional, information submitted from time to time shall be forwarded to the regional office for their use during monitoring. Project proponent will upload the compliance status in their website and update the same from time to time at least six monthly basis Criteria pollutants levels including NOX (from stack & ambient air) shall be displayed at the main gate of the power plant.			
xvi	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.	—	—	Completed.  <b>Thus, Complied.</b>
xvii	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	—	—	Financial Closure granted on 10 <sup>th</sup> Dec'10. The Project development started after receiving Consent to establish dated 13 <sup>th</sup> Jun'11.

	authorities and the date of start of land development work a commissioning of plant.			<b>Thus, Complied.</b>
xviii	Full cooperation shall be extended to the Scientists/Officers from the Ministry Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.	—	—	Full Cooperation agreed. <b>Thus, Complied.</b>

# ANNEXURE -I

	Raipur Energen Limited 2x685 MW TPP at Village - Raikheda, Block - Tida, Distt - Raipur, (C.G.)					
	Discharge Monitoring Report : Oct'2019-March'2020					
Month	Parameters	pH	Oil & Grease	Suspended Solid	COD	BOD
	Prescribed limits	5.5-9.0	10 mg/l	100 mg/l	250 mg/l	30.0 mg/l
Oct-19	Min	8.1	0.9	20.0	93.0	13.0
	Max	7.9	0.8	18.0	90.0	12.0
	Max	8.2	1.0	22.0	96.0	14.0
Nov-19	Average	8.4	0.7	21.0	106.0	13.5
	Min	8.3	0.6	20.0	102.0	12.0
	Max	8.4	0.8	22.0	110.0	15.0
Dec-19	Average	8.1	0.8	21.3	100.0	13.3
	Min	8.1	0.8	19.5	97.0	12.0
	Max	8.2	0.9	23.0	103.0	14.5
Jan-20	Average	8.1	0.8	21.2	103.5	12.9
	Min	7.9	0.7	19.6	97.0	11.5
	Max	8.4	0.9	22.9	110.0	14.3
Feb-20	Average	7.4	0.9	23.8	92.6	13.9
	Min	6.9	0.8	21.5	89.1	12.5
	Max	8.0	1.0	26.0	96.0	15.2
Mar-20	Average	7.6	0.8	23.5	96.5	14.2
	Min	7.3	0.8	21.8	92.0	11.9
	Max	7.9	0.9	25.1	101.0	16.5



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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051

MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/REGL/A/01  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/A/2002180001  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Period of Analysis:** 18-24/02/2020

**Receipt Date:** 18/02/2020

**Sample Description:** AMBIENT AIR QUALITY MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Village Raikheda  
**Instrument Used** : RDS & FPS sampler with all Accessories  
**Instrument Code** : VEL/RDS/01 & VEL/FPS/03  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 13/02/2020 to 14/02/2020  
**Time of Monitoring** : 24 hours (09:00 Hrs to 09:00 Hrs)  
**Ambient Temperature (°C)** : Min. 16.0 Max. 31.0  
**Surrounding Activity** : Human and Vehicular activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : ---  
**Sampling & Analysis Protocol** : IS-5182  
**Parameter Required** : PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, Hg

S. No.	Parameter	Protocol	Result	Unit	NAAQS* Limit
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182(P- 24): 2019	36.8	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P- 23)-2006, RA. 2017	71.6	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P- 6)-2006 RA. 2017	21.2	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2), 2001 RA. 2017	15.6	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (CO)	IS 5182 (P-10):1999 RA. 2014 NDIR Method: 1999	0.63	mg/m <sup>3</sup>	4
6.	Mercury as Hg	CPCB Guidelines	BDL (DL 0.5)	ng/m <sup>3</sup>	--

\* NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 18.11.2009.

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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised [ISO 9001 | OHSAS 45001]

## Test Certificate

**Sample Number:** VEL/ REGL /A/02  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/A/2002180002  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Period of Analysis:** 18-24/02/2020

**Receipt Date:** 18/02/2020

**Sample Description:** AMBIENT AIR QUALITY MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Village Mura  
**Instrument Used** : RDS & FPS sampler with all Accessories  
**Instrument Code** : VEL/RDS/01 & VEL/FPS/03  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 14/02/2020 to 15/02/2020  
**Time of Monitoring** : 24 hours(10:00 Hrs to 10:00 Hrs)  
**Ambient Temperature (°C)** : Min. 17.0 Max. 32.0  
**Surrounding Activity** : Human and Vehicular activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : ---  
**Sampling & Analysis Protocol** : IS-5182  
**Parameter Required** : PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, Hg

S. No.	Parameter	Protocol	Result	Unit	NAAQS* Limit
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182(P- 24): 2019	35.4	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P- 23)-2006, RA. 2017	68.2	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P- 6)-2006 RA. 2017	19.7	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2), 2001 RA. 2017	13.8	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (CO)	IS 5182 (P-10):1999 RA. 2014 NDIR Method: 1999	0.58	mg/m <sup>3</sup>	4
6.	Mercury as Hg	CPCB Guidelines	BDL (DL 0.5)	ng/m <sup>3</sup>	--

\* NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(i)] 18.11.2009.

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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/ REGL /A/03  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/A/2002180003  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Period of Analysis:** 18-24/02/2020  
**Receipt Date:** 18/02/2020  
**Sample Description:** AMBIENT AIR QUALITY MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Village Gaitara  
**Instrument Used** : RDS & FPS sampler with all Accessories  
**Instrument Code** : VEL/RDS/03 & VEL/FPS/01  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 14/02/2020 to 15/02/2020  
**Time of Monitoring** : 24 hours(10:30 Hrs to 10:30 Hrs)  
**Ambient Temperature (°C)** : Min. 17.0 Max. 32.0  
**Surrounding Activity** : Human and Vehicular activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : ---  
**Sampling & Analysis Protocol** : IS-5182  
**Parameter Required** : PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, Hg

S. No.	Parameter	Protocol	Result	Unit	NAAQS* Limit
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182(P- 24): 2019	35.5	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P- 23)-2006, RA. 2017	70.3	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P- 6)-2006 RA. 2017	21.1	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2), 2001 RA. 2017	12.4	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (CO)	IS 5182 (P-10):1999 RA. 2014 NDIR Method: 1999	0.62	mg/m <sup>3</sup>	4
6.	Mercury as Hg	CPCB Guidelines	BDL (DL 0.5)	ng/m <sup>3</sup>	--

\* NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 18.11.2009.

  
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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051

MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/ REGL /A/04  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
 (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
 Dist. Raipur - 493225 (CG)  
**Receipt Date:** 18/02/2020

**Report No.:** VEL/A/2002180004  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Period of Analysis:** 18-24/02/2020

**Sample Description:** AMBIENT AIR QUALITY MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Village Chicholi  
**Instrument Used** : RDS & FPS sampler with all Accessories  
**Instrument Code** : VEL/RDS/02 & VEL/FPS/04  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 14/02/2020 to 15/02/2020  
**Time of Monitoring** : 24 hours(11:00 Hrs to 11:00 Hrs)  
**Ambient Temperature (°C)** : Min. 17.0 Max. 32.0  
**Surrounding Activity** : Human and Vehicular activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : ---  
**Sampling & Analysis Protocol** : IS-5182  
**Parameter Required** : PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, Hg

S. No.	Parameter	Protocol	Result	Unit	NAAQS* Limit
1.	Particulate Matter (PM <sub>2.5</sub> )	IS 5182(P- 24): 2019	37.4	µg/m <sup>3</sup>	60
2.	Particulate Matter (PM <sub>10</sub> )	IS:5182 (P- 23)-2006, RA. 2017	73.5	µg/m <sup>3</sup>	100
3.	Nitrogen Dioxide (NO <sub>2</sub> )	IS: 5182 (P- 6)-2006 RA. 2017	22.6	µg/m <sup>3</sup>	80
4.	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (P-2), 2001 RA. 2017	11.9	µg/m <sup>3</sup>	80
5.	Carbon Monoxide (CO)	IS 5182 (P-10):1999 RA. 2014 NDIR Method: 1999	0.65	mg/m <sup>3</sup>	4
6.	Mercury as Hg	CPCB Guidelines	BDL (DL 0.5)	ng/m <sup>3</sup>	--

\* NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 18.11.2009.

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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051

MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

<b>Sample Number:</b>	<b>VEL/REGL/AN/01</b>	<b>Report No.:</b>	<b>VEL/AN/2002180001</b>
<b>Name &amp; Address of the Party:</b>	<b>M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)</b>	<b>Format No.:</b>	<b>5.10 F-01</b>
		<b>Party Reference No.:</b>	<b>NIL</b>
		<b>Reporting Date:</b>	<b>24/02/2020</b>
		<b>Receipt Date:</b>	<b>18/02/2020</b>

**Sample Description:** AMBIENT NOISE LEVEL MONITORING

### General Information:-

<b>Client Representative</b>	: Mr. Amit Kumar Soni
<b>Sample collected by</b>	: Vardan EnviroLab Representative
<b>Sampling Location</b>	: Admin Building
<b>Instrument Used</b>	: Sound Level Meter
<b>Instrument Code</b>	: VEL/S/SLM/04
<b>Instrument Calibration Status</b>	: Calibrated
<b>Meteorological condition during monitoring</b>	: Clear Sky
<b>Date of Monitoring</b>	: 13/02/2020 to 14/02/2020
<b>Time of Monitoring</b>	: 06:00 AM to 06:00AM
<b>Ambient Temperature (°C)</b>	: Min. 16.0 Max. 31.0
<b>Surrounding Activity</b>	: Human and Vehicular Activities
<b>Scope of Monitoring</b>	: Regulatory Requirement
<b>Control measure if Any</b>	: No any
<b>Sampling &amp; Analysis Protocol</b>	: IS-9989 R-2003
<b>Sampling Duration</b>	: 24 Hours
<b>Parameter Required</b>	: As per Work Order

S. No.	Parameters	Protocol	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L <sub>max</sub>	IS 9989 R-2003	69.2	55.3	dB(A)
2.	L <sub>min</sub>	IS 9989 R-2003	46.1	42.6	dB(A)
3.	L <sub>eq</sub>	IS 9989 R-2003	62.35	48.45	dB(A)
4.	CPCB Limits in dB(A*) Leq ( Industrial Area )	-	75.00	70.00	dB(A)

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

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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051

MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/ REGL /AN/02  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/AN/2002180002  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Receipt Date:** 18/02/2020

**Sample Description:** AMBIENT NOISE LEVEL MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Field hostel  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/S/SLM/03  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 13/02/2020 to 14/02/2020  
**Time of Monitoring** : 06:00 AM to 06:00AM  
**Ambient Temperature (°C)** : Min. 16.0 Max. 31.0  
**Surrounding Activity** : Human and Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : IS-9989 R-2003  
**Sampling Duration** : 24 Hours  
**Parameter Required** : As per Work Order

S. No.	Parameters	Protocol	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L <sub>max</sub>	IS 9989 R-2003	65.2	55.6	dB(A)
2.	L <sub>min</sub>	IS 9989 R-2003	43.8	40.2	dB(A)
3.	L <sub>eq</sub>	IS 9989 R-2003	54.20	43.76	dB(A)
4.	CPCB Limits in dB(A*) Leq ( Residential Area )	-	55.00	45.00	dB(A)

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

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/ REGL /AN/03  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/AN/2002180003  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Receipt Date:** 18/02/2020

**Sample Description:** AMBIENT NOISE LEVEL MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Gate 1 Main Gate  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/S/SLM/02  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 13/02/2020 to 14/02/2020  
**Time of Monitoring** : 06:00 AM to 06:00AM  
**Ambient Temperature (°C)** : Min. 16.0 Max. 31.0  
**Surrounding Activity** : Human and Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : IS-9989 R-2003  
**Sampling Duration** : 24 Hours  
**Parameter Required** : As per Work Order

S. No.	Parameters	Protocol	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L <sub>max</sub>	IS 9989 R-2003	72.2	52.4	dB(A)
2.	L <sub>min</sub>	IS 9989 R-2003	45.6	43.5	dB(A)
3.	L <sub>eq</sub>	IS 9989 R-2003	62.40	46.65	dB(A)
4.	CPCB Limits in dB(A*) Leq ( Industrial Area )		75.00	70.00	dB(A)

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

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/ REGL /AN/04  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/AN/2002180004  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Receipt Date:** 18/02/2020

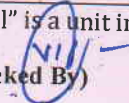
**Sample Description:** AMBIENT NOISE LEVEL MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Gate 2 Gaitara Gate  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/S/SLM/01  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 13/02/2020 to 14/02/2020  
**Time of Monitoring** : 06:00 AM to 06:00AM  
**Ambient Temperature (°C)** : Min. 16.0 Max. 31.0  
**Surrounding Activity** : Human and Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : IS-9989 R-2003  
**Sampling Duration** : 24 Hours  
**Parameter Required** : As per Work Order

S. No.	Parameters	Protocol	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	$L_{max}$	IS 9989 R-2003	64.7	48.2	dB(A)
2.	$L_{min}$	IS 9989 R-2003	43.4	38.9	dB(A)
3.	$L_{eq}$	IS 9989 R-2003	55.30	43.53	dB(A)
4.	CPCB Limits in dB(A*) $L_{eq}$ ( Industrial Area )		75.00	70.00	dB(A)

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

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Page 1 of 1

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035

Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051

MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/ REGL /AN/05 **Report No.:** VEL/AN/2002180005  
**Name & Address of the Party:** M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG) **Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Receipt Date:** 18/02/2020

**Sample Description:** AMBIENT NOISE LEVEL MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Gate 3 Bhatapara  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/S/SLM/02  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 14/02/2020 to 15/02/2020  
**Time of Monitoring** : 06:00 AM to 06:00AM  
**Ambient Temperature (°C)** : Min. 17.0 Max. 32.0  
**Surrounding Activity** : Human and Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : IS-9989 R-2003  
**Sampling Duration** : 24 Hours  
**Parameter Required** : As per Work Order

S. No.	Parameters	Protocol	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L <sub>max</sub>	IS 9989 R-2003	68.2	56.3	dB(A)
2.	L <sub>min</sub>	IS 9989 R-2003	43.8	39.2	dB(A)
3.	L <sub>eq</sub>	IS 9989 R-2003	56.24	43.72	dB(A)
4.	CPCB Limits in dB(A)* L <sub>eq</sub> ( Industrial Area )		75.00	70.00	dB(A)

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Page 1 of 1

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/ REGL /AN/06  
**Name & Address of the Party:** M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/AN/2002180006  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Receipt Date:** 18/02/2020

**Sample Description:** AMBIENT NOISE LEVEL MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Gate 4 Mura Colony  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/S/SLM/04  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 14/02/2020 to 15/02/2020  
**Time of Monitoring** : 06:00 AM to 06:00AM  
**Ambient Temperature (°C)** : Min. 17.0 Max. 32.0  
**Surrounding Activity** : Human and Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : IS-9989 R-2003  
**Sampling Duration** : 24 Hours  
**Parameter Required** : As per Work Order

S. No.	Parameters	Protocol	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L <sub>max</sub>	IS 9989 R-2003	68.2	54.3	dB(A)
2.	L <sub>min</sub>	IS 9989 R-2003	42.4	40.2	dB(A)
3.	L <sub>eq</sub>	IS 9989 R-2003	53.80	43.16	dB(A)
4.	CPCB Limits in dB(A*) Leq ( Residential Area )	-	55.00	45.00	dB(A)

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Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

**Sample Number:** VEL/ REGL /AN/07  
**Name & Address of the Party:** M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/AN/2002180007  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Receipt Date:** 18/02/2020

**Sample Description:** AMBIENT NOISE LEVEL MONITORING

### General Information:-

**Client Representative** : Mr. Amit Kumar Soni  
**Sample collected by** : Vardan EnviroLab Representative  
**Sampling Location** : Gate 5 Labour Colony  
**Instrument Used** : Sound Level Meter  
**Instrument Code** : VEL/S/SLM/03  
**Instrument Calibration Status** : Calibrated  
**Meteorological condition during monitoring** : Clear Sky  
**Date of Monitoring** : 14/02/2020 to 15/02/2020  
**Time of Monitoring** : 06:00 AM to 06:00AM  
**Ambient Temperature (°C)** : Min. 17.0 Max. 32.0  
**Surrounding Activity** : Human and Vehicular Activities  
**Scope of Monitoring** : Regulatory Requirement  
**Control measure if Any** : No any  
**Sampling & Analysis Protocol** : IS-9989 R-2003  
**Sampling Duration** : 24 Hours  
**Parameter Required** : As per Work Order

S. No.	Parameters	Protocol	Test Result dB (A)		Unit
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 06:00 am)	
1.	L <sub>max</sub>	IS 9989 R-2003	67.5	53.9	dB(A)
2.	L <sub>min</sub>	IS 9989 R-2003	43.3	40.7	dB(A)
3.	L <sub>eq</sub>	IS 9989 R-2003	54.25	43.85	dB(A)
4.	CPCB Limits in dB(A*) Leq ( Residential Area )		55.00	45.00	dB(A)

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised | ISO 9001 | OHSAS 45001

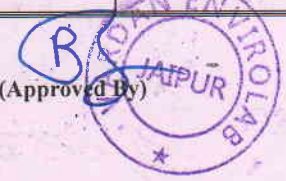
## Test Certificate

<b>Sample Number:</b>	<b>VEL/REGL/W/01</b>	<b>Report No.:</b>	<b>VEL/W/2002180001</b>
<b>Name &amp; Address of the Party:</b>	<b>M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)</b>	<b>Format No.:</b>	<b>5.10 F-01</b>
		<b>Party Reference No.:</b>	<b>NIL</b>
		<b>Reporting Date:</b>	<b>24/02/2020</b>
<b>Sample Description:</b>	<b>GROUND WATER SAMPLE</b>	<b>Period of Analysis:</b>	<b>18-24/02/2020</b>
<b>Sample Location:</b>	<b>Piezometer-1 (Near Field Hostel)</b>	<b>Receipt Date:</b>	<b>18/02/2020</b>
<b>Sample Collected by:</b>	<b>Vardan EnviroLab Representative</b>	<b>Sampling Date:</b>	<b>24/02/2020</b>
<b>Preservation:</b>	<b>Refrigerated</b>	<b>Sampling Quantity:</b>	<b>2.0 Ltr</b>
<b>Parameter Required:</b>	<b>As per IS 10500-2012</b>	<b>Sampling Type:</b>	<b>Grab</b>
<b>Sampling and Analysis Protocol:</b>	<b>IS-10500-2012, APHA 23rd Edition 2017</b>		

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.28	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	*BDL (**DL 5Hazen)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	*BDL (**DL 0.1 NTU)	NTU	1	5
4.	Odour	IS 3025 (P-5) 2018	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8) Reaffirmed 2017, 1984	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	172.5	mg/l	200	600
7.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	56.3	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	168.0	mg/l	200	600
9.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	47.4	mg/l	250	1000
10.	Residual free Chlorine	IS 3025(P-26) Reaffirmed 2019, 1986	*BDL(**DL 0.2mg/l)	mg/l	0.2	1
11.	Cyanide as CN	APHA (23 <sup>rd</sup> Edition)2017, 4500 CN D	*BDL(**DL 0.02 mg/l)	mg/l	0.05	No Relaxation
12.	Magnesium as Mg	IS 3025 (P-46) Reaffirmed 2019, 1994	7.78	mg/l	30	100
13.	Total Dissolved Solids	IS 3025 (P-16) Reaffirmed 2017, 1984	270.0	mg/l	500	2000
14.	Sulphate as SO <sub>4</sub>	IS 3025(P-24) Reaffirmed 2009, 1986	16.4	mg/l	200	400
15.	Fluoride as F	APHA (23 <sup>rd</sup> Edition)2017, 4500-F D	0.31	mg/l	1.0	1.5
16.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	1.25	mg/l	45	No Relaxation
17.	Iron as Fe	IS 3025 (P-53) Reaffirmed 2019, 2003	0.15	mg/l	0.3	No relaxation.
18.	Aluminium as Al	IS 3025 (P-55) Reaffirmed 2019, 2003	*BDL(**DL 0.03 mg/l)	mg/l	0.03	0.2
19.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l	0.5	1
20.	Total Chromium as Cr	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	No Relaxation

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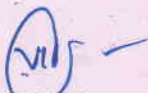
# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised ||ISO 9001 | OHSAS 45001)

## Test Certificate

Sample No.: VEL/REGL/W/01		Report No: VEL/W/2002180001				
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
21.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l	0.001	0.002
22.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l	0.2	1.0
23.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	5	15
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	1.5
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mmg/l)	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l	0.01	No Relaxation
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	No Relaxation
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	-0.05
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	

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

  
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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

<b>Sample Number:</b>	VEL/REGL/W/02	<b>Report No.:</b>	VEL/W/2002180002
<b>Name &amp; Address of the Party:</b>	M/s Raipur Energy Limited, (Formerly GMR-Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)	<b>Format No.:</b>	5.10 F-01
<b>Sample Description:</b>	GROUND WATER SAMPLE	<b>Party Reference No.:</b>	NIL
<b>Sample Location:</b>	Piezometer-2 (Behind REL site office)	<b>Reporting Date:</b>	24/02/2020
<b>Sample Collected by:</b>	Vardan EnviroLab Representative	<b>Period of Analysis:</b>	18-24/02/2020
<b>Preservation:</b>	Refrigerated	<b>Receipt Date:</b>	18/02/2020
<b>Parameter Required:</b>	As per IS 10500-2012	<b>Sampling Date:</b>	24/02/2020
<b>Sampling and Analysis Protocol:</b>	IS-10500-2012, APHA 23rd Edition 2017	<b>Sampling Quantity:</b>	2.0 Ltr
		<b>Sampling Type:</b>	Grab

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.52	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	*BDL (**DL 5Hazen)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	*BDL (**DL 0.1 NTU)	NTU	1	5
4.	Odour	IS 3025 (P-5) 2018	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8) Reaffirmed 2017, 1984	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	192.4	mg/l	200	600
7.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	67.6	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	178.3	mg/l	200	600
9.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	60.9	mg/l	250	1000
10.	Residual free Chlorine	IS 3025(P-26) Reaffirmed 2019, 1986	*BDL(**DL 0.2mg/l)	mg/l	0.2	1
11.	Cyanide as CN	APHA (23 <sup>rd</sup> Edition)2017, 4500 CN D	*BDL(**DL 0.02 mg/l)	mg/l	0.05	No Relaxation
12.	Magnesium as Mg	IS 3025 (P-46) Reaffirmed 2019, 1994	5.77	mg/l	30	100
13.	Total Dissolved Solids	IS 3025 (P-16) Reaffirmed 2017, 1984	296	mg/l	500	2000
14.	Sulphate as SO <sub>4</sub>	IS 3025(P-24) Reaffirmed 2009, 1986	17.2	mg/l	200	400
15.	Fluoride as F	APHA (23 <sup>rd</sup> Edition)2017, 4500-F D	0.35	mg/l	1.0	1.5
16.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	1.29	mg/l	45	No Relaxation
17.	Iron as Fe	IS 3025 (P-53) Reaffirmed 2019, 2003	0.15	mg/l	0.3	No relaxation
18.	Aluminium as Al	IS 3025 (P-55) Reaffirmed 2019, 2003	*BDL(**DL 0.03 mg/l)	mg/l	0.03	0.2
19.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l	0.5	1
20.	Total Chromium as Cr	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	No Relaxation

(Checked By) 

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

Sample No.:		VEL/REGL/W/02	Report No: VEL/W/2002180002			
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
21.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l	0.001	0.002
22.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l	0.2	1.0
23.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	5	15
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	1.5
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mmg/l)	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l	0.01	No Relaxation
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	No Relaxation
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	0.05
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	

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

  
(Checked By)

  
(Approved By)

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

<b>Sample Number:</b>	VEL/REGL/W/03	<b>Report No.:</b>	VEL/W/2002180003
<b>Name &amp; Address of the Party:</b>	M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)	<b>Format No.:</b>	5.10 F-01
<b>Sample Description:</b>	GROUND WATER SAMPLE	<b>Party Reference No.:</b>	NIL
<b>Sample Location:</b>	Piezometer-3 (Near Bhatapara to Raikheda Road)	<b>Reporting Date:</b>	24/02/2020
<b>Sample Collected by:</b>	Vardan EnviroLab Representative	<b>Period of Analysis:</b>	18-24/02/2020
<b>Preservation:</b>	Refrigerated	<b>Receipt Date:</b>	18/02/2020
<b>Parameter Required:</b>	As per IS 10500-2012	<b>Sampling Date:</b>	24/02/2020
<b>Sampling and Analysis Protocol:</b>	IS-10500-2012, APHA 23rd Edition 2017	<b>Sampling Quantity:</b>	2.0 Ltr
		<b>Sampling Type:</b>	Grab

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.42	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	*BDL (**DL 5Hazen)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	*BDL (**DL 0.1 NTU)	NTU	1	5
4.	Odour	IS 3025 (P-5) 2018	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8) Reaffirmed 2017, 1984	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	215.4	mg/l	200	600
7.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	71.5	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	219.8	mg/l	200	600
9.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	67.6	mg/l	250	1000
10.	Residual free Chlorine	IS 3025(P-26) Reaffirmed 2019, 1986	*BDL(**DL 0.2mg/l)	mg/l	0.2	1
11.	Cyanide as CN	APHA (23 <sup>rd</sup> Edition)2017, 4500 CN D	*BDL(**DL 0.02 mg/l)	mg/l	0.05	No Relaxation
12.	Magnesium as Mg	IS 3025 (P-46) Reaffirmed 2019, 1994	8.99	mg/l	30	100
13.	Total Dissolved Solids	IS 3025 (P-16) Reaffirmed 2017, 1984	350	mg/l	500	2000
14.	Sulphate as SO <sub>4</sub>	IS 3025(P-24) Reaffirmed 2009, 1986	17.9	mg/l	200	400
15.	Fluoride as F	APHA (23 <sup>rd</sup> Edition)2017, 4500-F D	0.33	mg/l	1.0	1.5
16.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	1.19	mg/l	45	No Relaxation
17.	Iron as Fe	IS 3025 (P-53) Reaffirmed 2019, 2003	0.16	mg/l	0.3	No relaxation.
18.	Aluminium as Al	IS 3025 (P-55) Reaffirmed 2019, 2003	*BDL(**DL 0.03 mg/l)	mg/l	0.03	0.2
19.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l	0.5	1
20.	Total Chromium as Cr	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	No Relaxation

(Checked By)

(Approved By)

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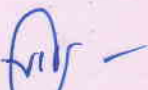
# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised | ISO 9001 | OHSAS 45001)

## Test Certificate

Sample No.: VEL/REGL/W/03			Report No: VEL/W/2002180003			
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
21.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l	0.001	0.002
22.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l	0.2	1.0
23.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	5	15
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	1.5
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mg/l)	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l	0.01	No Relaxation
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	No Relaxation
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	-0.05
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	

Note: - \*BDL-Below Detection Limit, \*\*DL- Detection Limit  
 #These parameter are not covered in our NABL scope.

  
 (Checked By)



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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

<b>Sample Number:</b>	VEL/REGL/W/04	<b>Report No.:</b>	VEL/W/2002180004
<b>Name &amp; Address of the Party:</b>	M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)	<b>Format No.:</b>	5.10 F-01
<b>Sample Description:</b>	GROUND WATER SAMPLE	<b>Party Reference No.:</b>	NIL
<b>Sample Location:</b>	Piezometer-4 (Beside Fly Ash Pond)	<b>Reporting Date:</b>	24/02/2020
<b>Sample Collected by:</b>	Vardan EnviroLab Representative	<b>Period of Analysis:</b>	18-24/02/2020
<b>Preservation:</b>	Refrigerated	<b>Receipt Date:</b>	18/02/2020
<b>Parameter Required:</b>	As per IS 10500-2012	<b>Sampling Date:</b>	24/02/2020
<b>Sampling and Analysis Protocol:</b>	IS-10500-2012, APHA 23rd Edition 2017	<b>Sampling Quantity:</b>	2.0 Ltr
		<b>Sampling Type:</b>	Grab

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.46	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	*BDL (**DL 5Hazen)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	*BDL (**DL 0.1 NTU)	NTU	1	5
4.	Odour	IS 3025 (P-5) 2018	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8) Reaffirmed 2017, 1984	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	187.9	mg/l	200	600
7.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	65.3	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	187.8	mg/l	200	600
9.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	53.2	mg/l	250	1000
10.	Residual free Chlorine	IS 3025(P-26) Reaffirmed 2019, 1986	*BDL(**DL 0.2mg/l)	mg/l	0.2	1
11.	Cyanide as CN	APHA (23 <sup>rd</sup> Edition)2017, 4500 CN D	*BDL(**DL 0.02 mg/l)	mg/l	0.05	No Relaxation
12.	Magnesium as Mg	IS 3025 (P-46) Reaffirmed 2019, 1994	6.07	mg/l	30	100
13.	Total Dissolved Solids	IS 3025 (P-16) Reaffirmed 2017, 1984	302.0	mg/l	500	2000
14.	Sulphate as SO <sub>4</sub>	IS 3025(P-24) Reaffirmed 2009, 1986	21.4	mg/l	200	400
15.	Fluoride as F	APHA (23 <sup>rd</sup> Edition)2017, 4500-F D	0.33	mg/l	1.0	1.5
16.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	1.18	mg/l	45	No Relaxation
17.	Iron as Fe	IS 3025 (P-53) Reaffirmed 2019, 2003	0.17	mg/l	0.3	No relaxation
18.	Aluminium as Al	IS 3025 (P-55) Reaffirmed 2019, 2003	*BDL(**DL 0.03 mg/l)	mg/l	0.03	0.2
19.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l	0.5	1
20.	Total Chromium as Cr	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	No Relaxation

(Checked By)

(Approved By)

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised | ISO 9001 | OHSAS 45001)

## Test Certificate

Sample No.:		VEL/REGL/W/04		Report No: VEL/W/2002180004		
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
21.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l	0.001	0.002
22.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l	0.2	1.0
23.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	5	15
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	1.5
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mmg/l)	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l	0.01	No Relaxation
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	No Relaxation
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	0.05
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	

Note: - \*BDL-Below Detection Limit, \*\*DL- Detection Limit  
 #These parameter are not covered in our NABL scope.

(Checked By)

(Approved By)

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur. (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised [ISO 9001 | OHSAS 45001]

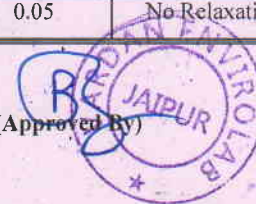
## Test Certificate

<b>Sample Number:</b>	<b>VEL/REGL/W/05</b>	<b>Report No.:</b>	<b>VEL/W/2002180005</b>
<b>Name &amp; Address of the Party:</b>	<b>M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)</b>	<b>Format No.:</b>	<b>5.10 F-01</b>
<b>Sample Description:</b>	<b>GROUND WATER SAMPLE</b>	<b>Party Reference No.:</b>	<b>NIL</b>
<b>Sample Location:</b>	<b>Piezometer-5 (Beside Bottom Ash Pond no-2)</b>	<b>Reporting Date:</b>	<b>24/02/2020</b>
<b>Sample Collected by:</b>	<b>Vardan EnviroLab Representative</b>	<b>Period of Analysis:</b>	<b>18-24/02/2020</b>
<b>Preservation:</b>	<b>Refrigerated</b>	<b>Receipt Date:</b>	<b>18/02/2020</b>
<b>Parameter Required:</b>	<b>As per IS 10500-2012</b>	<b>Sampling Date:</b>	<b>24/02/2020</b>
<b>Sampling and Analysis Protocol:</b>	<b>IS-10500-2012, APHA 23rd Edition 2017</b>	<b>Sampling Quantity:</b>	<b>2.0 Ltr</b>
		<b>Sampling Type:</b>	<b>Grab</b>

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.52	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	*BDL (**DL 5Hazen)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	*BDL (**DL 0.1 NTU)	NTU	1	5
4.	Odour	IS 3025 (P-5) 2018	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8) Reaffirmed 2017, 1984	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	213.4	mg/l	200	600
7.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	67.5	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	184.6	mg/l	200	600
9.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	64.3	mg/l	250	1000
10.	Residual free Chlorine	IS 3025(P-26) Reaffirmed 2019, 1986	*BDL(**DL 0.2mg/l)	mg/l	0.2	1
11.	Cyanide as CN	APHA (23 <sup>rd</sup> Edition)2017, 4500 CN D	*BDL(**DL 0.02 mg/l)	mg/l	0.05	No Relaxation
12.	Magnesium as Mg	IS 3025 (P-46) Reaffirmed 2019, 1994	10.93	mg/l	30	100
13.	Total Dissolved Solids	IS 3025 (P-16) Reaffirmed 2017, 1984	315.0	mg/l	500	2000
14.	Sulphate as SO <sub>4</sub>	IS 3025(P-24) Reaffirmed 2009, 1986	20.5	mg/l	200	400
15.	Fluoride as F	APHA (23 <sup>rd</sup> Edition)2017, 4500-F D	0.33	mg/l	1.0	1.5
16.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	1.37	mg/l	45	No Relaxation
17.	Iron as Fe	IS 3025 (P-53) Reaffirmed 2019, 2003	0.18	mg/l	0.3	No relaxation
18.	Aluminium as Al	IS 3025 (P-55) Reaffirmed 2019, 2003	*BDL(**DL 0.03 mg/l)	mg/l	0.03	0.2
19.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l	0.5	1
20.	Total Chromium as Cr	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	No Relaxation

(Checked By)

(Approved By)



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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised [ISO 9001 | OHSAS 45001]

## Test Certificate

Sample No.:		VEL/REGL/W/05	Report No: VEL/W/2002180005			
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
21.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l	0.001	0.002
22.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l	0.2	1.0
23.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	5	15
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	1.5
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mmg/l)	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l	0.01	No Relaxation
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	No Relaxation
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	0.05
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	

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

  
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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
 MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

Sample Number:	VEL/REGL/W/06	Report No.:	VEL/W/2002180006
Name & Address of the Party:	M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)	Format No.:	5.10 F-01
Sample Description:	GROUND WATER SAMPLE	Party Reference No.:	NIL
Sample Location:	Piezometer-6 (Near Raw water pump house)	Reporting Date:	24/02/2020
Sample Collected by:	Vardan EnviroLab Representative	Period of Analysis:	18-24/02/2020
Preservation:	Refrigerated	Receipt Date:	18/02/2020
Parameter Required:	As per IS 10500-2012	Sampling Date:	24/02/2020
Sampling and Analysis Protocol:	IS-10500-2012, APHA 23rd Edition 2017	Sampling Quantity:	2.0 Ltr
		Sampling Type:	Grab

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Requirement (Acceptable Limit)	Permissible limit in the Absence of Alternate Source
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.39	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	*BDL (**DL 5Hazen)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	*BDL (**DL 0.1 NTU)	NTU	1	5
4.	Odour	IS 3025 (P-5) 2018	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025 (P-8) Reaffirmed 2017, 1984	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	194.3	mg/l	200	600
7.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	72.5	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	235.6	mg/l	200	600
9.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	43.4	mg/l	250	1000
10.	Residual free Chlorine	IS 3025(P-26) Reaffirmed 2019, 1986	*BDL(**DL 0.2mg/l)	mg/l	0.2	1
11.	Cyanide as CN	APHA (23 <sup>rd</sup> Edition)2017, 4500 CN D	*BDL(**DL 0.02 mg/l)	mg/l	0.05	No Relaxation
12.	Magnesium as Mg	IS 3025 (P-46) Reaffirmed 2019, 1994	3.26	mg/l	30	100
13.	Total Dissolved Solids	IS 3025 (P-16) Reaffirmed 2017, 1984	340.0	mg/l	500	2000
14.	Sulphate as SO <sub>4</sub>	IS 3025(P-24) Reaffirmed 2009, 1986	18.7	mg/l	200	400
15.	Fluoride as F	APHA (23 <sup>rd</sup> Edition)2017, 4500-F D	0.34	mg/l	1.0	1.5
16.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	1.31	mg/l	45	No Relaxation
17.	Iron as Fe	IS 3025 (P-53) Reaffirmed 2019, 2003	0.12	mg/l	0.3	No relaxation
18.	Aluminium as Al	IS 3025 (P-55) Reaffirmed 2019, 2003	*BDL(**DL 0.03 mg/l)	mg/l	0.03	0.2
19.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l	0.5	1
20.	Total Chromium as Cr	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	No Relaxation

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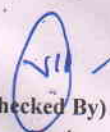
# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

Sample No.:		VEL/REGL/W/06		Report No: VEL/W/2002180006		
S. No	Parameter	Test-Method	Result	Unit	Limits of IS:10500-2012	
					Requirement (Acceptable) Limit	Permissible limit in the Absence of Alternate Source
21.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l	0.001	0.002
22.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l	0.2	1.0
23.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.03 mg/l)	mg/l	5	15
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l	0.05	1.5
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mmg/l)	mg/l	0.1	0.3
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l	0.003	No Relaxation
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l	0.01	No Relaxation
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	No Relaxation
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l	0.01	0.05
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l	0.001	No Relaxation
31.	Total Coliform	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	
32.	E. Coli	IS 1622,1981(Reaffirmed 2003)	Absent	MPN/100ml	Shall not be detectable in any 100 ml sample	

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

  
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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

**Sample Number:** VEL/REGL/W/01  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village:  
Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/W/2002180007  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Period of Analysis:** 18-24/02/2020  
**Receipt Date:** 18/02/2020  
**Sampling Date:** 15/02/2020  
**Sampling Quantity:** 2.0 Ltr  
**Sampling Type:** Grab

**Sample Description:** SURFACE WATER SAMPLE  
**Sample Location:** Bangoli Dam  
**Sample Collected by:** VardanEnviroLab Representative  
**Preservation:** Refrigerated  
**Parameter Required:** As per IS 10500-2012  
**Sampling and Analysis Protocol:** IS-10500-2012, APHA 23rd Edition 2017

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.38	--
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	4.0	Hazen
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	4.0	NTU
4.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	45.6	mg/l
5.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	125.3	mg/l
6.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	32.5	mg/l
7.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	114.0	mg/l
8.	BOD (3 Days at 27 °C)	IS 3025,P-44,1999 (Reaffirmed 2003)	26.8	mg/l
9.	COD	APHA 23rd Edition 2017, 5220 B	46.9	mg/l
10.	Dissolved Oxygen	APHA 23rd Edition 2017, 4500	6.7	-mg/l
11.	Residual free Chlorine	APHA 23rd Edition 2017, 4500 Cl- B	BDL(DL 0.2mg/l)	mg/l
12.	Cyanide as CN	APHA 23rd Edition 2017, 4500 CN- D	*BDL(**DL 0.02 mg/l)	mg/l
13.	Magnesium as Mg	APHA 23rd Edition 2017, 3500 Mg B	10.74	mg/l
14.	Total Dissolved Solids	APHA 23rd Edition 2017, 2540 C	169.0	mg/l
15.	Sulphate as SO <sub>4</sub>	APHA 23rd Edition 2017, 4500 E	32.5	mg/l
16.	Fluoride as F	APHA 23rd Edition 2017, 4500-F D	0.28	mg/l
17.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	5.1	mg/l
18.	Iron as Fe	APHA 23rd Edition 2017, 3500-Fe B	0.27	mg/l
19.	Chromium as Cr <sup>6+</sup>	APHA 23rd Edition 2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

Sample No.: VEL/REGL/W/07		Report No.: VEL/W/2002180007		
S. No	Parameter	Test-Method	Result	Unit
20.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l
21.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l
22.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	0.20	mg/l
23.	Oil & Grease	APHA (23 <sup>rd</sup> Edition)2017, 5220 E	*BDL(**DL 0.2 mg/l)	mg/l
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mg/l)	mg/l
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l
31.	Aluminium as Al	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l
32.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l

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

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Page 2 of 2

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised [ISO 9001 | OHSAS 45001]

## Test Certificate

**Sample Number:** VEL/REGL/W/08  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd)  
Village: Raikheda, Block-Tilda, Dist. Raipur -  
493225 (CG)  
**Sample Description:** SURFACE WATER SAMPLE  
**Sample Location:** Raikheda (Talab)  
**Sample Collected by:** VardanEnviroLab Representative  
**Preservation:** Refrigerated  
**Parameter Required:** As per IS 10500-2012  
**Sampling and Analysis Protocol:** IS-10500-2012,APIHA 23rd Edition 2017

**Report No.:** VEL/W/2002180008  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Period of Analysis:** 18-24/02/2020  
**Receipt Date:** 18/02/2020  
**Sampling Date:** 15/02/2020  
**Sampling Quantity:** 2.0 Ltr  
**Sampling Type:** Grab

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.49	--
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	3.0	Hazen
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	4.0	NTU
4.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	13.8	mg/l
5.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	64.3	mg/l
6.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	21.6	mg/l
7.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	82.0	mg/l
8.	BOD (3 Days at 27 °C)	IS 3025,P-44,1999 (Reaffirmed 2003)	3.2	mg/l
9.	COD	APHA 23rd Edition 2017, 5220 B	12.5	mg/l
10.	Dissolved Oxygen	APHA 23rd Edition 2017, 4500	6.1	-mg/l
11.	Residual free Chlorine	APHA 23rd Edition 2017, 4500 Cl- B	BDL(DL 0.2mg/l)	mg/l
12.	Cyanide as CN	APHA 23rd Edition 2017, 4500 CN <sup>-</sup> D	*BDL(**DL 0.02 mg/l)	mg/l
13.	Magnesium as Mg	APHA 23rd Edition 2017, 3500 Mg B	2.53	mg/l
14.	Total Dissolved Solids	APHA 23rd Edition 2017, 2540 C	108.0	mg/l
15.	Sulphate as SO <sub>4</sub>	APHA,23rd Edition 2017, 4500 E	2.96	mg/l
16.	Fluoride as F	APHA 23rd Edition 2017, 4500-F D	0.27	mg/l
17.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	0.59	mg/l
18.	Iron as Fe	APHA 23rd Edition 2017, 3500-Fe B	0.18	mg/l
19.	Chromium as Cr <sup>6+</sup>	APHA 23rd Edition 2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035

Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051

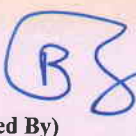
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## Test Certificate

Sample No.: VEL/REGL/W/08			Report No.: VEL/W/2002180008	
S. No	Parameter	Test-Method	Result	Unit
20.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l
21.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l
22.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	0.12	mg/l
23.	Oil & Grease	APHA (23 <sup>rd</sup> Edition)2017, 5220 E	*BDL(**DL 0.2 mg/l)	mg/l
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mg/l)	mg/l
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l
31.	Aluminium as Al	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l
32.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l

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

  
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# Vardan EnviroLab

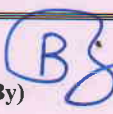
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 Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
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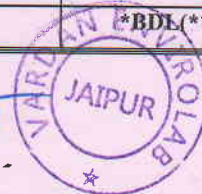
## Test Certificate

<b>Sample Number:</b>	VEL/REGL/W/09	<b>Report No.:</b>	VEL/W/2002180009
<b>Name &amp; Address of the Party:</b>	M/s Raipur Energy Limited, (Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda, Dist. Raipur - 493225 (CG)	<b>Format No.:</b>	5.10 F-01
<b>Sample Description:</b>	SURFACE WATER SAMPLE	<b>Party Reference No.:</b>	NIL
<b>Sample Location:</b>	Mura (Talab)	<b>Reporting Date:</b>	24/02/2020
<b>Sample Collected by:</b>	VardanEnviroLab Representative	<b>Period of Analysis:</b>	18-24/02/2020
<b>Preservation:</b>	Refrigerated	<b>Receipt Date:</b>	18/02/2020
<b>Parameter Required:</b>	As per IS 10500-2012	<b>Sampling Date:</b>	15/02/2020
<b>Sampling and Analysis Protocol:</b>	IS-10500-2012, APHA 23rd Edition 2017	<b>Sampling Quantity:</b>	2.0 Ltr
		<b>Sampling Type:</b>	Grab

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS 3025 (P-11) Reaffirmed 2017, 1983	7.54	--
2.	Colour	IS 3025 (P-4) Reaffirmed 2017, 1983	5.0	Hazen
3.	Turbidity	IS 3025 (P-10) Reaffirmed 2017, 1984	7.0	NTU
4.	Chloride as Cl	IS 3025 (P-32) Reaffirmed 2019, 1988	19.3	mg/l
5.	Total Hardness as CaCO <sub>3</sub>	IS 3025 (P-21) Reaffirmed 2019, 2009	87.6	mg/l
6.	Calcium as Ca	IS 3025(P-40) Reaffirmed 2019, 1991	24.5	mg/l
7.	Alkalinity as CaCO <sub>3</sub>	IS 3025 (P-23) Reaffirmed 2019, 1986	92.3	mg/l
8.	BOD (3 Days at 27 °C)	IS 3025,P-44,1999 (Reaffirmed 2003)	4.5	mg/l
9.	COD	APHA 23rd Edition 2017, 5220 B	16.9	mg/l
10.	Dissolved Oxygen	APHA 23rd Edition 2017, 4500	5.8	mg/l
11.	Residual free Chlorine	APHA 23rd Edition 2017, 4500 Cl- B	BDL(DL 0.2mg/l)	mg/l
12.	Cyanide as CN	APHA 23rd Edition 2017, 4500 CN D	*BDL(**DL 0.02 mg/l)	mg/l
13.	Magnesium as Mg	APHA 23rd Edition 2017, 3500 Mg B	6.43	mg/l
14.	Total Dissolved Solids	APHA 23rd Edition 2017, 2540 C	140.0	mg/l
15.	Sulphate as SO <sub>4</sub>	APHA 23rd Edition 2017, 4500 E	4.7	mg/l
16.	Fluoride as F	APHA 23rd Edition 2017, 4500-F D	0.28	mg/l
17.	Nitrate as NO <sub>3</sub>	IS 3025 (P-34) Reaffirmed 2019, 1988	1.45	mg/l
18.	Iron as Fe	APHA 23rd Edition 2017, 3500-Fe B	0.33	mg/l
19.	Chromium as Cr <sup>6+</sup>	APHA 23rd Edition 2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035  
Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

Sample No.: VEL/REGL/W/09		Report No.: VEL/W/2002180009		
S. No	Parameter	Test-Method	Result	Unit
20.	Phenolic Compounds	APHA (23 <sup>rd</sup> Edition)2017, 5530 C	*BDL(**DL 0.001 mg/l)	mg/l
21.	Anionic Detergents as MBAS	APHA (23 <sup>rd</sup> Edition)2017, 5540 C	*BDL(**DL 0.02 mg/l)	mg/l
22.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	0.19	mg/l
23.	Oil & Grease	APHA (23 <sup>rd</sup> Edition)2017, 5220 E	*BDL(**DL 0.2 mg/l)	mg/l
24.	Copper as Cu	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l
25.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.06 mg/l)	mg/l
26.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.06 mg/l)	mg/l
27.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)2017, 3113 B	*BDL(**DL 0.13mg/l)	mg/l
28.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l
29.	Arsenic as As	APHA (23 <sup>rd</sup> Edition)2017, 3114 B	*BDL(**DL 0.01 mg/l)	mg/l
30.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)2017, 3114 C	*BDL (**DL 0.001 mg/l)	mg/l
31.	Aluminium as Al	APHA (23 <sup>rd</sup> Edition)2017, 3111 B	*BDL(**DL 0.03 mg/l)	mg/l
32.	Boron	APHA (23 <sup>rd</sup> Edition)2017, 4500B C	*BDL(**DL 0.1 mg/l)	mg/l

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

  
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(Approved By)



Page 2 of 2

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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised [ISO 9001 | OHSAS 45001]

## Test Certificate

**Sample Number:** VEL/REGL/S/01  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/ S/2003180001  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Sample Description:** SOIL SAMPLE  
**Sample Location:** Plant Site  
**Period of Analysis:** 18-24/02/2020  
**Sample Collected by:** Vardan EnviroLab Team  
**Receipt Date:** 18/02/2020  
**Packing Status:** Temp Sealed  
**Sampling Date:** 15/02/2020  
**Parameter Required:** As per Work Order  
**Sampling Quantity:** 2.0 Kg  
**Sampling and Analysis Protocol:** IS 2720, USEPA 3050B & USDA  
**Sampling Type:** Composite

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS : 2720 (P- 26): 1987, RA: 2016	7.64	--
2.	Conductivity	IS:14767-2000 Reaffirmed 2016	0.285	mS/cm
3.	Soil Texture	IS : 2720 (P-4, RA1995)	Silty Clay	--
4.	Color	USDA Method, 1968	Blackish Brown	--
5.	Water holding capacity	USDA Method, 1968	37.6	%
6.	Bulk density	USDA Method, 1968	1.32	gm/cc
7.	Chloride as Cl	USDA Method, 1968	76.8	mg/kg
8.	Calcium as Ca	USDA Method, 1968	431.2	mg/kg
9.	Sodium as Na	USDA Method, 1968	172.5	mg/kg
10.	Potassium as K	USDA Method, 1968	291.2	kg/hect.
11.	Organic Matter	IS:2720 (P-22, RA2009)	1.05	%
12.	Magnesium as Mg	USDA Method, 1968	138.4	mg/kg
13.	Available Nitrogen as N	IS:14684, RA2006	225.3	kg./hect.
14.	Available Phosphorus	USDA Method, 1968	54.5	kg./hect.
15.	Zinc (as Zn)	USEPA 3050B	68.0	mg/kg
16.	Manganese (as Mn )	USEPA 3050B	232.5	mg/kg
17.	Lead (as Pb)	USEPA 3050B	29.3	mg/kg
18.	Cadmium (as Cd )	USEPA 3050B	6.75	mg/kg
19.	Chromium (as Cr)	USEPA 3050B	18.4	mg/kg
20.	Copper (as Cu )	USEPA 3050B	42.9	mg/kg

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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised (ISO 9001 | OHSAS 45001)

## Test Certificate

**Sample Number:** VEL/REGL/S/02  
**Name & Address of the Party:** M/s Raipur Energy Limited,  
(Formerly GMR Chhattisgarh Energy Ltd) Village: Raikheda, Block-Tilda,  
Dist. Raipur - 493225 (CG)  
**Report No.:** VEL/ S/2003180002  
**Format No.:** 5.10 F-01  
**Party Reference No.:** NIL  
**Reporting Date:** 24/02/2020  
**Sample Description:** SOIL SAMPLE  
**Sample Location:** Village- Chicholi  
**Sample Collected by:** Vardan EnviroLab Team  
**Packing Status:** Temp Sealed  
**Parameter Required:** As per Work Order  
**Sampling and Analysis Protocol:** IS 2720, USEPA 3050B & USDA  
**Period of Analysis:** 18-24/02/2020  
**Receipt Date:** 18/02/2020  
**Sampling Date:** 15/02/2020  
**Sampling Quantity:** 2.0 Kg  
**Sampling Type:** Composite

S. No.	Parameter	Test-Method	Result	Unit
1.	pH (at 25 °C)	IS : 2720 (P- 26): 1987, RA: 2016	7.72	--
2.	Conductivity	IS:14767-2000 Reaffirmed 2016	0.264	mS/cm
3.	Soil Texture	IS : 2720 (P-4, RA1995)	Silty Clay	--
4.	Color	USDA Method, 1968	Blackish Brown	--
5.	Water holding capacity	USDA Method, 1968	39.4	%
6.	Bulk density	USDA Method, 1968	1.35	gm/cc
7.	Chloride as Cl	USDA Method, 1968	84.8	mg/kg
8.	Calcium as Ca	USDA Method, 1968	359.4	mg/kg
9.	Sodium as Na	USDA Method, 1968	218.3	mg/kg
10.	Potassium as K	USDA Method, 1968	324.5	kg/hect.
11.	Organic Matter	IS:2720 (P-22, RA2009)	1.12	- %
12.	Magnesium as Mg	USDA Method, 1968	165.6	mg/kg
13.	Available Nitrogen as N	IS:14684, RA2006	248.7	kg/hect.
14.	Available Phosphorus	USDA Method, 1968	64.2	kg/hect.
15.	Zinc (as Zn)	USEPA 3050B	115.5	mg/kg
16.	Manganese (as Mn )	USEPA 3050B	315.8	mg/kg
17.	Lead (as Pb)	USEPA 3050B	32.4	mg/kg
18.	Cadmium (as Cd )	USEPA 3050B	8.72	mg/kg.
19.	Chromium (as Cr)	USEPA 3050B	22.6	mg/kg
20.	Copper (as Cu )	USEPA 3050B	59.2	mg/kg

(Checked By)

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Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051  
MoEF & CC Recognised | ISO 9001 | OHSAS 45001

## Test Certificate

Sample Number: VEL/REGL/ST/01 Report No.: VEL/ST/2002180001  
Name & Address of the Party: M/s Raipur Energy Limited, Format No.: 5.10 F-01  
(Formerly GMR Chhattisgarh Energy Party Reference No.: NIL  
Ltd) Village: Raikheda, Block-Tilda, Reporting Date: 24/02/2020  
Dist. Raipur - 493225 (CG)  
Receipt Date: 18/02/2020 Period of Analysis: 18-24/02/2020

Sample Description: STACK EMISSION MONITORING

General Information:-

Client Representative : Mr. Amit kumar Soni  
Sample collected by : Vardan EnviroLab Representative  
Sampling Location : Stack 1  
Date of Sampling : 15/02/2020&11:00 to 11:40 Hrs  
Sampling Duration (Minutes) : 40.0  
Stack Attached to : ESP  
Metrological Condition : Clear Sky  
Instrument Calibration Status : OK  
Height of Stack : 275 m  
Diameter of Stack : 7.5 m  
Ambient Temperature-Ta (°C) : 32.0  
Temperature of Stack Gases-Ts (°C) : 119  
Velocity of Stack Gases (m/sec.) : 17.30  
Flow rate of PM (LPM) : 25.0  
Flow rate of Gas (LPM) : 2.0  
Sampling Condition : Isokinetic  
Protocol Used : IS :11255

S. No.	Parameter	Protocol	Result	Unit
1.	Particulate Matter (PM) (6% dry O2 Basis)	IS: 11255 (P-1), RA 2014	46.5	mg/Nm <sup>3</sup>
2.	Oxides of Nitrogen (as NO <sub>x</sub> ) (6% dry O2 Basis)	IS 11255 (P-7) Reaffirmed 2003	345.6	mg/Nm <sup>3</sup>
3.	Sulphur Dioxide (as SO <sub>2</sub> ) (6% dry O2 Basis)	IS: 11255(P- 2), RA 2014	624.5	mg/Nm <sup>3</sup>
4.	Carbon Monoxide (as CO) (6% dry O2 Basis)	Gas Analyzer	0.00038	%
5.	Total Mercury	USEPA Method No. 29	0.007	mg/Nm <sup>3</sup>
6.	Oxygen (O2)	Gas Analyzer	7.60	%
7.	Carbon Dioxide (CO2)	Gas Analyzer	7.42	%

Note: \* ND-Not Detected

(Checked By)



(Approved By)

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# Vardan EnviroLab

Laboratory: Plot No. 24, 25, Narayan Vihar B Block, Jaipur (Raj.) 302035

Corp. Off.: Plot No. 82A, Sector- 5, IMT Manesar, Gurugram- 122051

MoEF & CC Recognised [ISO 9001 | OHSAS 45001]

## Test Certificate

Sample Number: VEL/REGL/ST/02 Report No.: VEL/ST/2002180002  
Name & Address of the Party: M/s Raipur Energy Limited, Format No.: 5.10 F-01  
(Formerly GMR Chhattisgarh Energy Party Reference No.: NIL  
Ltd) Village: Raikheda, Block-Tilda, Reporting Date: 4/03/2020  
Dist. Raipur - 493225 (CG)  
Receipt Date: 18/02/2020 Period of Analysis: 4/03/2020

Sample Description: STACK EMISSION MONITORING

### General Information:-

Client Representative : Mr. Amit kumar Soni  
Sample collected by : Vardan EnviroLab Representative  
Sampling Location : Stack 2  
Date of Sampling : 03/03/2020&13:00 to 13:37 Hrs  
Sampling Duration (Minutes) : 37.0  
Stack Attached to : ESP  
Metrological Condition : Clear Sky  
Instrument Calibration Status : OK  
Height of Stack : 275 m  
Diameter of Stack : 7.5 m  
Ambient Temperature-Ta (°C) : 34.0  
Temperature of Stack Gases-Ts (°C) : 112  
Velocity of Stack Gases (m/sec.) : 18.2  
Flow rate of PM (LPM) : 27.0  
Flow rate of Gas (LPM) : 2.0  
Sampling Condition : Isokinetic  
Protocol Used : IS :11255

S. No.	Parameter	Protocol	Result	Unit
1.	Particulate Matter (PM) (6% dry O2 Basis)	IS: 11255 (P-1), RA 2014	43.0	mg/Nm <sup>3</sup>
2.	Oxides of Nitrogen (as NO <sub>x</sub> ) (6% dry O2 Basis)	IS 11255 (P-7) Reaffirmed 2003	378.4	mg/Nm <sup>3</sup>
3.	Sulphur Dioxide (as SO <sub>2</sub> ) (6% dry O2 Basis)	IS: 11255(P- 2), RA 2014	682.2	mg/Nm <sup>3</sup>
4.	Carbon Monoxide (as CO) (6% dry O2 Basis)	Gas Analyzer	0.000402	%
5.	Total Mercury	USEPA Method No. 29	0.008	mg/Nm <sup>3</sup>
6.	Oxygen (O2)	Gas Analyzer	7.84	%
7.	Carbon Dioxide (CO2)	Gas Analyzer	7.56	%

Note: \* ND-Not Detected

(Checked By) 

(Approved By) 



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# ANNEXURE -II

**FLY ASH UTILIZATION REPORT Month- Apr'19-Mar'20**

Sl. No.	Name of the Company	Generation Capacity in (MW)	Month	Fly ash generation in the month (MT)	Fly ash utilization for the month of Apr'19 - Mar'20								
					Supply to Cement Plant (MT)	Supply to brick plant	Land filling(MT)	Ash dyke raising/construction (MT)	Agriculture (MT)	Mine filling(MT)	Road Making/other (MT)	Total utilization in (MT)	% age utilization in (MT)
1	Raipur Energen Limited	2×685 MW Coal based TPP	Apr-19	68236	44500	16912	0	0	0	0	0	61412	90.0%
2	Raipur Energen Limited		May-19	80227	69866	2338	0	0	0	0	0	72204	90.0%
3	Raipur Energen Limited		Jun-19	82839	66877	2934	0	0	0	0	0	69811	84.3%
4	Raipur Energen Limited		Jul-19	107244	39959	10450	0	0	0	0	0	50409	47.0%
5	Raipur Energen Limited		Aug-19	94638	12466	2107	0	0	0	0	829	15402	16.3%
6	Raipur Energen Limited		Sep-19	120501	71774	3423	0	0	0	0	360	75557	62.7%
7	Raipur Energen Limited		Oct-19	78990	64642	2842	60122	0	0	0	335	127941	162.0%
8	Raipur Energen Limited		Nov-19	134895	103872	3712	58460	0	0	0	1193	167237	124.0%
9	Raipur Energen Limited		Dec-19	173956	131145	4593	68414	0	0	0	1620	205772	118.3%
10	Raipur Energen Limited		Jan-20	159909	124605	4483	9030	0	0	0	1210	139328	87.1%
11	Raipur Energen Limited		Feb-20	111439	100979	3665.5	70307	0	0	0	1262	176214	158.1%
12	Raipur Energen Limited		Mar-20	95384	80212	1691	66934	0	0	0	292	149129	156.3%
<b>Total</b>	<b>Raipur Energen Limited</b>			<b>1308258</b>	<b>910897</b>	<b>59151</b>	<b>333267</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7101</b>	<b>1310416</b>	<b>100.2%</b>

\*Remark - Plant was not in continuous operation throughout the year.

# ANNEXURE -III

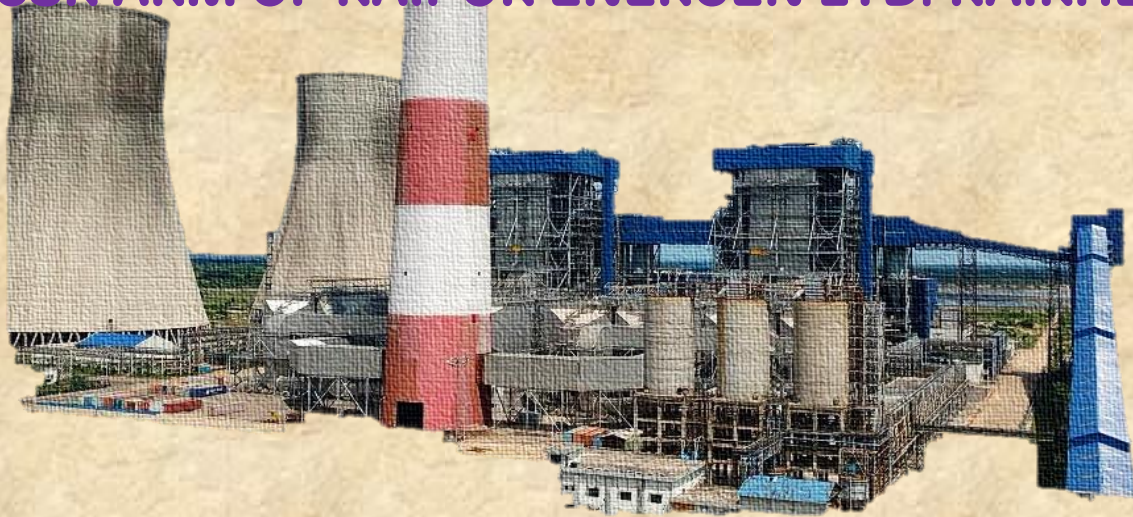
# Green Belt Development

Plantation on 33% land of 850 acres	280 acres
Density of plantation	2500 plants/Hectare
Area required per plant	4.0 SQM
<b>Total No. of plantation completed</b>	<b>230200 No's</b>
2013-14	58000
2014-15	44112
2015-16	70182
2016-17	10000
2017-18	44754
2018-19	1168
2019-20	1984
Survival rate maintained	>80%

# ANNEXURE -IV

# ADANI FOUNDATION – RAIPUR

(A CSR ARM OF RAIPUR ENERGEN LTD. RAIKHEDA)



## ANNUAL REPORT FY 2019-20

COURAGE, TRUST AND COMMITMENT



## HIGHLIGHTS OF CSR ACTIVITIES

### Education

- 4 Navodaya Coaching centers for Navodaya Entrance Examination.
- Transportation facility to the girls from the project affected villages to attend the college.
- 5 Community library centers in 5 villages for the benefit of communities.
- Prayas career counselling & coaching center for the youths, who are perusing for further professional courses or recruitment in entrance exams.

### Health, Hygiene and Sanitation

- Mobile Medical Unit Services reached out to 13 PAV's & RAV's villages.
- Provided door to door medical services to elderly people too.
- Provided support to pregnant and lactating women through 5 nutrition center in 3 Panchayats under Suposhan.
- Health Awareness Programs organized in schools.
- Conducted awareness camps on personal hygiene and sanitation.

### Empowerment and Livelihoods

- Provided support to youth in computer training at the Computer Literacy Center.
- Women & Girls skilled with an advanced tailoring course runs under ASDC Saksham.
- Women received bulk order to stitch petticoats & nighties from wholesaler of Raipur.
- Women of 4 SHG's supported under IGA for the sustainable livelihood.

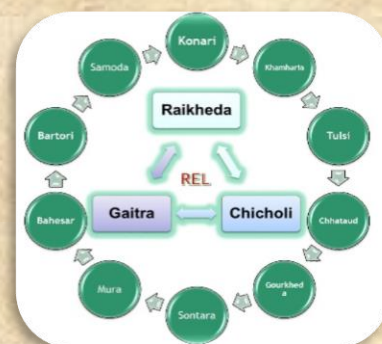
## BACKGROUND OF THE PROJECT

GMR Chhattisgarh Energy Ltd. (GCEL) a 2X685 MW supercritical thermal Power plant has been acquired by adani power Ltd. in July 2019 and acknowledged as Raipur Energen Ltd. GCEL had run CSR activities by GMR Varalakshmi Foundation a CSR arm of GMR group since from 2009. Adani Foundation, Ahmedabad (AF) has taken over CSR activities from GMRVF in Oct 2019 and decided to be continued all the running activities as usual till March 2020.

Adani Foundation, Raipur a CSR arm of Raipur Energen Ltd.

(REL) Raikheda in Chhattisgarh mainly works in 13 villages & 12

Gram Panchayats, named Raikheda, Chicholi, Gaitra, Gourkheda, Sontara, Murra, Tulsi, Khamharia, Konari, Bartori, Tarashiv Chatod and Samoda in Tilda and Aarang block of Raipur District in Chhattisgarh. Approximately 37,000 individuals are covered in all the villages.



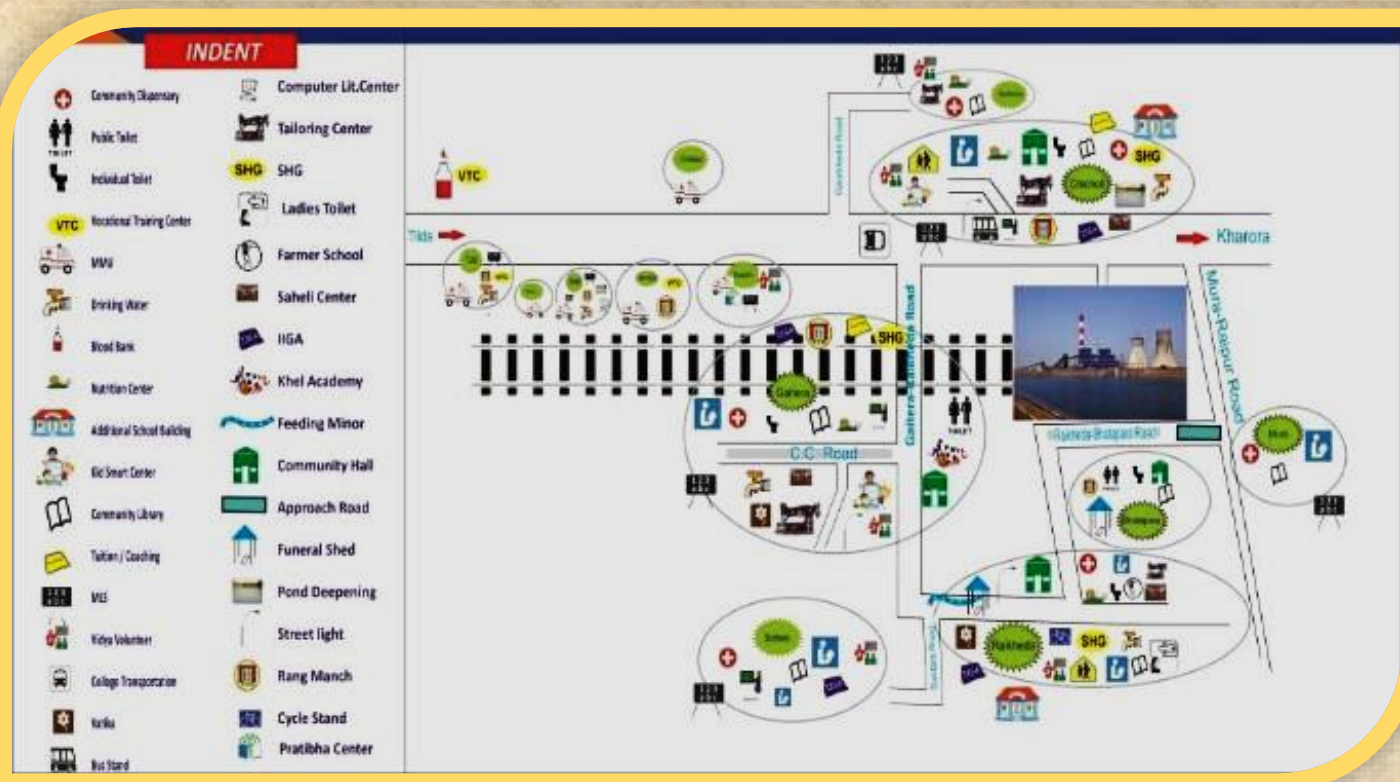
The province is deeply reliant on agriculture. Majority of the population belongs to the other backward caste (OBC) and Scheduled Caste (SC) community. Around 80% of landowners are marginal farmers with less than 2 acres of agricultural land. They depend on single Kharif crop of Paddy.

As per law, CSR Committee has been set by GMR group. Though there was no mandatory spend during the year, as part of the philosophy of the Group, first 3 months, minimal CSR activities were carried out with the approval of the CSR Committee of GMRVF, another 3 months same were continued by approval of adani power ltd. and for further 6 months by approval of adani foundation.

The Adani Foundation – Raipur team at REL comprises of a One Unit CSR Head and Sr. Project Officer with 3 Project Officers. Concurrently, 27 field volunteers with 2 faculties are also engaged in the surrounding villages as per activities. While under Adani Skill Development program 3 volunteers and 3 faculties are giving their services at the center.

At this instant various interventions implemented in the project area are depicted below:

### REL-AF PROGRAM INTERVENTIONS AT A GLANCE





# DETAILS OF CSR ACTIVITIES

## DETAILED REPORT

### A. EDUCATION

#### 1. Support to Government Schools:

- a) **Guru Sangis:** On request of block education officer adani foundation Raipur recruited 12 "Guru Sangis" (subject teachers support) to support to 11 govt. schools where about 1329 children out of which 452 are in Primary, 712 are in Middle & 165 are in High school at our PAV's & RAV's have been benefitted. Concurrently health awareness programs on cleanliness, hygiene & seasonal diseases also conducted in each schools.



#### 2. Direct Support to Children

- a) **Navodaya Coaching:** Adani Foundation, extended their support to continue the Navodaya entrance coaching which was started in 2011 by Foundation at one project affected village and later expanded to three more villages. Four Navodaya centers are being run in four different villages i.e. Raikheda, Gaitara, Tarashiv and Chicholi and 69 sorted students on which 29 are in 4<sup>th</sup> std. & 40 are in 5<sup>th</sup> std. from 4 villages are attending classes regularly. Regular tests are being conducted at these centers and based on the performance of the children in these tests, special attention would be given to the children who are scoring less marks. Regular parents meetings are being conducted and children's academic performance is shared with the parents in these meetings. In the year 2019-20 all 40 students appeared on Navodaya Entrance exam held on 11th Jan 2020 conducted by Navodaya group. During the reporting period, result awaited for current year however in last yr. session 7 students from Raikheda, Tarashiv and Chicholi were secured the seats at the school. As of now 32 students who attended coaching classes in our Navodaya coaching centers in past 7 yrs. are studying in Navodaya School and getting the quality education which was not possible at the surrounding govt. schools.



b) **Noni Laari:** A transport facility for college going girls students from the Project Affected Villages (PAV) who wants to extend their higher education have to go to college which is about 22 kms far from PAV in Tilda city, Due to the lack of transportation facility, commuting to college is difficult particularly for girls. To address this issue, foundation initiated transportation facility since from 2010, exclusively for girls in PAV's, who can attend college in Tilda. So far 200 girls from PAV's have completed their graduation. Adani Foundation hired school bus to extend the facilities, around 63 girls from 7 villages availed the facility to attend the college this year. Not only the regular students but also the girls who opted to appear in annual examination as a private students may also avail the bus facility to commute the college. This year total 111 students of which 63 regular & 48 private college girls have been benefited with Noni Laari.



c) **Mindfulness programs for children & Communities - World Environment Day, Road Safety Week** observed in the foundation office. 68 students participated on drawing competition. Similarly world Yoga day observed at the plant main gate where 220 people of surrounding villages comprising stakeholders have given their stint towards the healthiness drive on the day.



d) **Community Libraries:** Five community libraries located at Raikheda, Bhatapara, Gaitera, Gaurkheda & Chicholi inaugurated in 2009. About 21600 beneficiaries comprises with community men, women, kids and drop out youths visited and read the magazines, newspapers, comics & subjective books as per their interests. Besides it several programs like painting and Quiz competitions and important days celebrations were also organized at the libraries. Youths in the village have used the library to read periodicals to prepare for competitive examinations. 62 college students on which 40 girls & 22 boys have completed their graduate and post graduate courses with the help of the library services.



## B. HEALTH, HYGIENE AND SANITATION

Adani foundation-REL provides preventive and curative health care services to the people of 13 Project and Railway affected villages.

- 1. Mobile Medical Unit:** Adani foundation – REL has signed MOU with Jan Jagran Sansthan, Tilda for the free health services on the Mobile Medical Healthcare Unit (MMHU) in all 13 villages. The MMHU is run by a professional team which includes a qualified MBBS doctor, nurse and pharmacist who visits 13 villages mostly in weekly. The MMU covers 12 villages in Tilda block and 1 village in Arang block. The MMHU is beneficial mainly to the elderly, women and children. About 15559 persons of which 8881 old age, 4517 youths & 2161 children have been benefitted from Mobile Medical healthcare services. During all visits around 5034 Hypertensive, 1655 Diabetics, 679 Asthmatic and 8191 General patient have taken health consultation and regular medicines by MMHU doctor.



- 2. Fitness Talk program:** The MMHU doctor also visits to school on regular basis to educate children on health and personal hygiene. Health awareness on many topics e.g. Diarrhea, Scabies, Typhoid and Seasonal Diseases along with health checkups are being conducted every week at surrounding govt. schools by team of MMHU. About 1820 students of 23 schools benefitted with the health advice. As per health consultations, medicines also given to 512 students.



### 3. Suposhan cum Nutrition

**program:** To provide proper nutrition and ante-natal services to pregnant and lactating women, suposhan cum nutrition program have been initiated in 5 villages by adani foundation-REL. Door to door visits taken up for the proper follow-up on nutrition supplements, immunization and safety precautions to 121 beneficiaries on which 49 pregnant & 72 lactating regularly this year. The beneficiaries have ensured regular health check-ups by experienced gynecologist and also been encouraged for the institutional delivery.



4. **Gynecological Cognizance:** Cognizance on Gynecological complications, menstrual hygiene, malnourishment, cancers have also been organized within the community & school girls at project affected villages by the team of mobile medical healthcare unit of Adani foundation. About 349 beneficiaries on which 169 adolescent girls and 180 women from the villages of Raikheda, Chicholi and Gaitra were participated in the program.



5. **X-Ray Machine at CHC, Kharora and Blood Bank in Tilda:** Foundation had provided an X-Ray unit to the Community Health Centre, Kharora in 2014. 753 patients have got benefit from the X-Ray machine by the reporting period. A blood bank was established by Foundation five years ago at Mission Hospital, Tilda. The bank had collected 394 units of blood during the reporting period.

6. **School Health Camps:** Total 20 Health Awareness Programs have been organized in surrounding govt. schools and have covered 1712 students during the current FY Year.

7. **Especial measures initiated for relief on pandemic COVID – 19:** The spread of Novel Corona Virus (COVID-19) across many countries of the world, including India, has caused immense loss to the lives of people and resultantly impacted world economy as a whole.

In view of the emergent situation and challenges faced by fellow countrymen, adani foundation-Raipur Energen Ltd. (REL) has once again risen to the occasion and undertook the following initiatives to arrest the spread of the pandemic.



- 35 quintal daal worth Rs. 3.00 lakh contributed for food support to Raipur Smart City Ltd.

E-Receipt	
Sl. No.	1
Particulars	35 Quintal Daal
Value	Rs. 3,00,000/-
Total	Rs. 3,00,000/-

- Nose mask stitching started by the women of Saheli Shashakt Silai Samuh from 31<sup>st</sup> March 2020. They sewed about 200 nose masks in a day and planned to sew 2500 masks in a coming weeks.



- 150 masks disseminated to surrounding police thanas at Tilda & Kharora.



- Chemical sanitization scheduled in all 13 villages along with headquarters of Janpad & Nagar panchayats surrounding to our interventions area.



- Testing of body temperature of 700 plant workers and villagers conducted successfully and further to be continued.



- Awareness banners of COVID-19 displayed at prominent locations with live demonstration of 13 villages.



## C. EMPOWERMENT AND LIVELIHOODS

Adani Foundation – Raipur emphasizes on channelizing the skills of youths and women to enhance the income level of all the families in the project affected area through different empowerment and livelihoods programs.

### 1. Saksham a vocational training, an initiative by Adani Skill Development Center:

a) **Digital Literacy Center (DLC):** DLC was established at foundation office premises in 2016 and the program is affiliated by the govt. women polytechnic college (GWPC) Raipur under their CDTP scheme. The crash course on basic computer skill has continued in DLC for all students of Std. X to XII. In past 4 years total 500 youths have been trained from DLC on basics of computer & professional course of Tally. This year 120 students have taken admission and out of this 90 have successfully completed the course so far and 30 students of 4<sup>th</sup> batch are continued on course of tally. Monthly test examination have been organized at the end of month. Students are getting certificates after completion from the affiliated college.



### b) Tailoring Training :

Foundation has established Tailoring Training center at the office premises in 2017 affiliated from GWPC, Raipur with 15 industrial & 15 normal sewing machines. So far more than 200 girls & women of surrounding villages have been trained. This year 60 trainees have taken admission. New batch of 3<sup>rd</sup> Qtr. for tailoring training is continued with 7 students. Most of the trained students have started the sewing works of petiticoats, blouseses, Salwar suits for the livilihood at their respective villages.



### c) Electrical & House wiring Trainings:

Adani skill development center has started village based vocational training on Electrical & House wiring trade affiliated from GWPC, Raipur at village Samoda from Feb 2020. 20 students of surrounding villages have taken admission. This batch is continued till April 2020.



d) **Prayas Career Counseling cum Coaching Center:** In the view of career guidance foundation had established "PRAYAS" career counselling cum coaching center for the youths at village Tarashiv in 2013. Free coaching on various recruitments & competitive examinations along with English spoken & personality development class are being run in the center under the guidance of expert faculties. Newspapers, Employment news periodicals, competitive and current affairs books etc. are also available at library of Prayas Centre for the benefits of students. A separate batch for the competitive exam had started and 23 students succeeded in various privates as well as govt. Jobs in past 6 yrs. This year 28 students have taken admission for preparation of RRB, CGPSC, Teacher, SSC, CG Paramilitary forces, CG Armed Forces for the written examination. Total 5 students out of which 3 are in RRB group C, 1 in pvt. company and 1 in B.Ed. have been selected this year.



## 2. **Sustenance & Livelihood:**

### a) **Self Help Group support**

Fifty SHGs comprised of 577 members are being supported by foundation, are working on women social, economic and political developments. Monthly meetings, record keeping, inter-lending are being done by SHGs on regular basis. 42 SHG Members are engaged in income generation activities and earning the income from below activities:



- 8 women are making baby set which is being sold at nearby local hospitals. Earns Rs. 1700/- monthly by each one.
- 10 Members of various groups are engaged in Papad making and earning their livelihood. Earns Rs. 1500/- monthly by each one.
- 3 SHG are working to make Murra Laddu. Earns Rs. 1000/- monthly by each women
- 6 members of SHG are making "Ready to Eat" meals. Earns Rs. 600/- monthly by each women
- 18 members of Village Organization, Raikheda are making Bricks. Earns Rs. 2400/- by each one.



### b) Tailoring Production Center for livelihood:

Adani skill development center in association with adani foundation runs tailoring production center on its 15 highly advanced sewing machines at the office premises. The group of 15 women of "Saheli Shashakt Silai Samooh" (4S) & 10 trainee girls are engaged in sewing work in the center. The group is stitching and designing various designs of School, College & luggage bags along with their individual work for sewing of pants, shirts and blouses received from villages.



A big vendor of readymade garment supplier has agreed long term order of sewing of petticoats & nighties to the center and all the women of group are now busy with stitching and earning around 1000/- monthly. ASDC is supporting them for food and conveyance allowance worth Rs. 1500/- additionally against visiting at the center for the sustenance. The group has sewed about 10500 nos. of fabrics with bags etc. and earned Rs.2.35 Lac including our contribution towards food and conveyance so far since from Oct 19 to Mar 20.



### 3. Support to Micro-enterprises and Other Livelihood Activities:

a) **Group Income Generation Activity Support:** Adani foundation Raipur has supported to 4 SHG's with Rs. 1.00 Lakh for the start-up & Raw Material for their sustenance of livelihood like Dona Pattal, Papad, Utensils on rental & sleeper making machines as per below details..

1.	ANNAPURNA SWASAHAYATA SAMUH	Raikheda	25,000/-
2.	MAA GAYATRI SWASAHAYATA SAMUH	Raikheda	20,000/-
3.	JAI LAXMI MAA SWASAHAYATA SAMUH	Raikheda	20,000/-
4.	JAI LAXMI MAA SWASAHAYATA SAMUH	Chicholi	35,000/-

b) **Individual Exposure & Training support:** In order to enhance the income levels of the group & poor families, small scale Income Generation Activities like exposure & training provided to upkeep of livelihood. Till the year, around 300 families were supported by the foundation & adani foundation for the same.



## D. COMMUNITY INFRASTRUCTURE DEVELOPMENT

1. **Tube well support in Gothans:** State Government has established Gothan under the "Narwa, Garua, Ghurwa, Badi project aggressively at each gram panchayats where stray cattle's will be accommodated and accordingly many products will be produced by manure and go-mutra with the help of SHG groups. On the request of distt. administration tube well digging in two villages at Nakti-Kumhari & Chhadiya surrounding to REL plant initiated by Adani Foundation under the business CSR scope. The work has completed in both villages worth Rs. 1.90 lacs expenditures

## E. SWA-DAAN a specific initiatives

- a) **By Collage going girls:** The collage going girls, who are availing the school bus facility, were given the awareness about the "SWA-DAN" program. Under the "SWA-DAN" program, free tuition classes have been introduced in their village by our school bus beneficiaries. 63 collage going girls have given free tuition to more than 350 students at their home this year.



- b) **By Trainees of Production Center:** The trainees of tailoring, who are getting benefit from our Training cum Production center, were given the awareness about the "SWA-DAN" program. Under this program, free Uniform repairing work was introduced in Primary School Gaitra, by our Training cum Production center beneficiaries. 56 students benefitted by swa-daan done by our 30 Trainees at Primary School, Gaitra.



## F. Especial Events & Employees Engagements

REL has always been very vigorous in volunteering for different community assistance. This year 40 employees participated in 8 community development programs and contributed 2,57 voluntary hours which benefitted more than 1500 people in 8 months.

- a) **Alumni meet for Navodaya Coaching:** In the view of motivation and experience sharing about the quality education of Jawahar Navodaya school we have organized Alumni meet event for our Navodaya coaching class students in June 19. 185 students, with their parents, teachers were participated the function in the chairmanship of BEO Tilda, with Principal of schools and other dignitaries. The students & parents who are studying in the Navodaya School have shared their experiences in the meet. Chief guests has appreciated the effort of coaching and advised to open the center at the leftover villages of his block. The teachers, & alumni were rewarded with beautiful mementos at the end of program by the guests.





b) **Celebration of Shree Krishna Janamastami:** This year on the occasion of Janamastami adani foundation conducted sports & fancy dress competition between the SHG groups of village Chicholi where 50 women of 13 SHG's have participated in the event. Winners were rewarded by station head Shri Rambhav Gattu on 5<sup>th</sup> Sep 19.



c) **Navodaya Coaching Center Cup cricket & Kabaddi tournament:** NCC cup (Navodaya coaching Centre) cricket and Kabaddi tournament conducted at village Chicholi for our 72 Navodaya coaching students, 2 teams of Raikheda and Chicholi have taken part on 8 over cricket match, Chicholi team won the match, at the same time girls played Kabaddi game, 4 teams were participated in the game and team Chicholi won the match. Through the game, children learned about unity, friendship and to being healthy.



d) **Say No To Single Use Plastics:** This Swachhagraha 'campaign on, "SAY NO TO SINGLE USE PLASTIC", have launched from our core village Raikheda. 60 women officers of 15 self-help groups, with sarpanchs, REL colleague, panchs, villagers and foundation volunteers were presents in the program. They have pledged to move this campaign and keep spreading to every villages and make the villages plastic free to save the Environment. Total 700 cloth Thailas stitched in our tailoring center by women of 4S group were distributed to the women of SHG's in 5 villages. The campaign concluded on Dec 30<sup>th</sup> in village Samoda.



e) **Certificates awarded to DLC & Tailoring trainings:** Certificate distribution program conducted for DLC & Tailoring students of Adani Skill Development Centers. 45 students of 3<sup>rd</sup> batch have received the certificates on successful completion of training on basics of computers & Tailoring training. This has bestowed by the chief guest Shri Jaydeb Nanda, COO Adani power and Shri Rambhav Gattu station head REL. Shri Nanda appreciated the way of training and procedures of assessment for the certificates which is affiliated from govt. women polytechnic college.



f) **Deewali Milan conducted:** A meet conducted under the chairmanship of Unit CSR Head at the adani foundation office premise on the occasion of Deewali. All AF staffs with associated volunteers were invited in the meet. He wished all the team & staffs for lightful and sucessful deepawali with a packet of sweets.



#### g) Dignitaries social calls:-

1. CEO of adani Power Shri Vneet Jaain visited in adani foundation premises and appreciated the activities of adani foundation – REL runs in surroundings of the REL plant.
2. Shri R V Shahi visited at adani foundation – REL and appreciated the efforts for community development.
3. Set of utensils and toys have been donated to newly opened Anganbadi School at village Chicholi worth Rs. 25 K by station head – REL Shri Rambhav Gattu. The school has been provided a dozen of Thaalies, Quarter plates, glasses & spoons with four nos. of Ganjas, and a Kadahi, Serving Spoons, Baltis, and many more useful items for the kitchen of mid-day meal.
4. COO adani power ltd. Shri Jayadeb Nanda visited to our village development center, Raikheda and saw all the activities closely which runs in the villages. He met to villagers cum volunteers who are associated with AF and asked about the program which are being taken care by them. He appreciated adani foundation team to run the quality activities & programs in the villages.



#### G. Challenges Faced

1. High expectations among community members.
2. Huge demands from Panchayat Presidents (Sarpanches) since changeover completed by adani group.
3. Since the activities of Foundation were getting close and reduced at the village level have lost the faith on us and this may lead huge unhappiness too.

#### H. Strategic Plan for Coming Year

1. Convergence with ongoing government programs and leveraging available resources.
2. Marketing linkages for products made by SHG members and Training cum Production center.
3. Linking SHG and other programs with other NGO/Govt programs for its sustainability.

## I. Glimpses of the Events



**Their Smile... is Our Satisfaction**



**Thank You**

# ANNEXURE -V

## Vision Document

Raipur Energen Limited, a subsidiary of Adani Power vision is to be a world class leader in businesses that enrich lives and contribute to nations in building infrastructure through sustainable value creation.

Our values, 'Courage, Trust and Commitment', enable us to give back to the society by creating sustainable business value.

**Courage:** we shall embrace new ideas and businesses

**Trust:** we shall believe in our employees and other stakeholders

**Commitment:** we shall stand by our promises and adhere to high standard of business

**Grow with Goodness-** Scale denotes growth. To us, scale is not just about the businesses we are in. It is also about the influence and the change we can spur, our lives we can touch, the communities we can enrich, the businesses we can propel, and the future we can inspire. We have been able to disseminate this goodness by leveraging the size of our operations in multiple nation-critical sectors. We have consciously extended our scale to help India meet its infrastructure development requirements and ensure improved quality of life.

Adani Power Limited (APL), a part of the diversified Adani Group, is the largest private thermal power producer in India. We have a power generation capacity of 12,450 MW comprising thermal power plants in Gujarat, Maharashtra, Karnataka, Rajasthan, and Chhattisgarh and a 40 MW solar power project in Gujarat.

# ANNEXURE -VI

adani

Power

28<sup>th</sup> September 2019

Ref. No: REL/EMD/Sept./73

To,

**The Member Secretary,**  
Chhattisgarh Environment Conservation Board,  
Paryavas Bhavan, Sector - 19  
**Naya Raipur (C.G.)**

**Sub.:** Submission of Environmental Statement Report (Form-V) for the financial year 2018-19.

**Ref.:** 1) MoEF Environment Clearance Letter No.: J-13012/62/2008-IA. II (T) dated 9<sup>th</sup> May'2011.  
2) Consent to Operate granted by CECB vide letter no. 242/TS/CECB/2018 dated 4<sup>th</sup> April'2018.

Dear Sir,

This has reference to the above referred subject and clause no. xiii in General Conditions of Environment Clearance Letter and point no. 27 of CTO cited above issued by MoEF & CC, New Delhi. We are hereby submitting Environment Statement Report (Form-V) for the period of April'2018- March'2019.

The unit was not in continuous operation for the FY 2018-19.

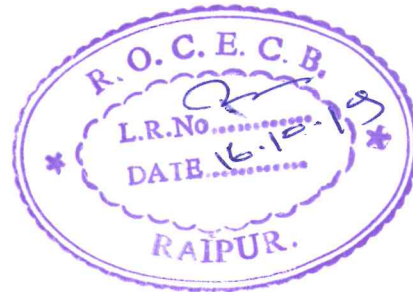
Thanking you,

Your's faithfully,  
For M/s. Raipur Energen Limited

[Rambhav Gattu]  
Station Head

Encl.: As above

CC: The Regional Officer,  
Chhattisgarh Environment Conservation Board, Raipur



**Raipur Energen Limited**  
(Formerly known as GMR Chhattisgarh Energy Limited)  
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