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Power

Ref: APL/REL/TPP/EMD/MoEFCC/EC/218/11/22
Date: 28.11.2022

To,
Dr. Bhardwaj Adiraju,
Ministry of Environment, Forests & Climate Change,
Integrated Regional Office, Aranya Bhawan, North Block
Sector 19, Naya Raipur, Atal Nagar,
Chhattisgarh 492 002

Sub: Submission of Half Yearly Environment Clearance (EC) Compliance Status Report for 2x685 MW Raipur Thermal Power Plant at village Raikheda, Gaitara and Chicholi in Tilda Block of Raipur District, Chhattisgarh.

Ref: Environment clearance vide letter no. **J-13012/62/2008-IA.II (T) dated 09.05.2011** and its subsequent amendment vide letter dated 10.06.2015, 13.06.2013, 18.11.2014, 04.02.2015

Dear Sir,

With reference to the above, please find enclosed herewith Six-Monthly Environment Clearance (EC) compliance status report along with environmental monitoring reports as Ambient Air, Water Quality, Noise level, Soil quality, CAAQM data, Met. data, Greenbelt development, Fly ash data & CSR progress report etc. for the period of **April'2022 to September'2022** in soft copy (**e-mail**).

This is for your kind information and record please.

Thanking You,
Yours faithfully,
for Raipur Energen Limited

(Santosh Kumar Singh)
Authorized Signatory

Encl.: As above

CC: Member Secretary,
Central Pollution Control Board,
Parivesh Bhavan, East Arjun Nagar,
New Delhi – 110 032

Regional Officer
Chhattisgarh Environment Conservation Board,
Commercial Complex,
Chhattisgarh Housing Board Colony,
Kabir Nagar, Raipur – 492 099, Chhattisgarh

Member Secretary,
Chhattisgarh Environment Conservation Board,
Prayavas Bhavan, North Block, Sector-19,
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SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENT CLEARANCE (EC)

FOR

1370 MW (2x685MW) Thermal Power Plant

At

Village Raikheda, Gaitara and Chicholi,
Tilda Block, Raipur District, Chhattisgarh

Submitted to:

West Central Zone, Regional Office
Ministry of Environment, Forest & Climate Change,
Central Pollution Control Board, New Delhi &
Chhattisgarh Environment Conservation Board, Naya Raipur

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Submitted by:

Environment Management Department

Raipur Energen Limited

Village Raikheda, Block Tilda,
District Raipur, Chhattisgarh

PERIOD: April'2022 – September'2022

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Raipur Energen Limited

1370 MW (2x685 MW) Coal Based Thermal Power Plant

INTRODUCTION

Raipur Energen Limited (formerly known as GMR Chhattisgarh Energy Generation Limited) has set up a coal based Thermal Power Plant of capacity 2x685 MW at village Raikheda, Gaitara and Chicholi in Tilda block of Raipur District, Chhattisgarh.

Environmental Clearance has been granted by Hon'ble MoEF&CC to M/s GMR Energy Ltd. vide letter No. J-13012/62/2008-IA. II (T), dated 09/05/2011. It was subsequently amended vide letter dated 13.06.2013, 18.11.2014. 04.02.2015 and 09.12.2015.

The company has been taken over by M/s Adani Power Ltd & name of the company has been changed from M/s GMR Chhattisgarh Energy Limited to **M/s Raipur Energen Limited (REL)** with effect from 20th August 2019 and it is to note that M/s Raipur Energen Limited is 100% subsidiary of M/s Adani Power Limited.

REL has also obtained transferred EC vide letter No. J-13012/62/2008-IA. II (T), dated 05.11.2019.

REL has a well-established Environmental Laboratory with equipped monitoring equipment, which used to monitor and test environmental parameters.

The company has adopted three peripheral villages and executing most of the CSR works which is supported by the Adani Foundation, in those villages in the field of their livelihood, infrastructure development, cleanliness, community health and education.

REL has engaged NABL Accredited Lab for their service of sampling, monitoring and analysis of Environmental parameters as per statutory guidelines.

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Raipur Energen Limited

1370 MW (2x685 MW) Coal Based Thermal Power Plant

Compliance Status of Environmental Clearance

Vide letter No. J-13012/62/2008-IA. II (T), dated: 09th May 2011 and amendment dated: 13.06.2013, 18.11.2014, 04.02.2015 & 09.12.2015.

Sl. No.	Conditions of EC	Compliance Status
A.	**Specific Conditions**	
(i)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.	Complied. The Vision document of Adani Power Limited was already submitted to MoEFCC, Regional Office (WCZ), Nagpur vide our office letter Ref: REL /MoEF&CC/EC/ 2020/ May/29, dated: 29th May 2020. Copy of Vision Document of Raipur Energen Limited (Adani Power) is enclosed as **Annexure - I.**
(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 public hearing again or otherwise will be determined by the Ministry in consultation with the Expert Appraisal Committee (Thermal Power).	Being complied. 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. Sulphur and Ash content of coal being used are within prescribed limits.
(iii)	Provision for installation of FGD shall be provided for future use.	Being Complied. Space provision available for installation of FGD However as per MoEFCC Notification dated 5th Sep'2022, Raipur TPP is falling under Category "C" Non- retiring TPPs and the timelines for compliance of SO_2 emission is up to December 2026. Accordingly, the work is under progress for compliance as per CPCB direction.
(iv)	Stack of 275 m height shall be installed and provided with continuous online monitoring equipment's for SO_x, NO_x, $PM_{2.5}$ & PM_{10}. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.	Complied. Stack Height is 275 meters. On-line continuous emission monitoring system (CEMS) has been installed for PM, SO2 & NOx. 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 enclosed herewith as **Annexure - II.**
(v)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed followed by	Complied.

Sl. No.	Conditions of EC	Compliance Status
	installation of Bag Filter and it shall be ensured that particulate emission does not exceed 50 mg/Nm^3.	High efficiency Electrostatic Precipitators (ESP) has been installed to meet revised emission standard of <50 mg/ Nm^3 for PM. Stack emission monitoring report is enclosed as **Annexure - II.**
(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.	Complied. Dust extraction system has been installed in coal crusher, AHP & coal bunkers. Dust suppression system through dry fog method has been installed at coal conveyor transfer points. Water spray system has also been installed in coal yards for dust suppression.
(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.	Being Complied. Sulphur and Ash content in coal being used as fired Coal is within the stipulated norms i.e., below 0.7% & 34% for Sulphur and Ash respectively
(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.	Complied. The transportation of Coal through Rail is already started. Avenue plantation all along the road & plant has already been done. Compliance status of conditions mentioned in Environmental Clearance and it's amendments has also kept in public domain at the website of APL: https://www.adanipower.com/Downloads
(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.	Complied. REL has regenerated around 6 numbers of Water bodies in nearby villages including 2 numbers of ponds are deepened and beautification has been done in consultation with state government.
(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 Roorkee. The draft terms of reference shall be	Complied. Water allocation is from Mahanadi River and maintained by WRD, Chhattisgarh. REL has no role in regulating the water flow downstream & distribution

Sl. No.	Conditions of EC	Compliance Status
	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.	
(xi)	The project proponent shall undertake proactive water harvesting measures and water storage for a larger period not less than 30 days storage shall be developed. The rainwater 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 rainwater harvesting shall comprise of rainwater 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.	Rainwater harvesting pond established within Plant premises Raikheda and photographs of the same is attached as **Annexure - III.**
(xii)	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 monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.	The Hydrogeological Investigation Report has been carried out and report submitted along with compliance report for the period of April'2020 to September'2020. Periodic review of Hydrogeology for 2022-23 is in progress. The report will be submitted along with coming compliance report.
(xiii)	No ground water shall be extracted for use in operation of the power plant even in lean season.	Being Complied. Ground water is not being use for any purpose.
(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.	Complied. No water bodies have been disturbed during construction activity & operational activity of the plant.
(xv)	Water requirement shall be optimized to around 32 MCM and shall accordingly adopt higher COC of at least not less than 5.0.	Complied. Water requirement is being restricted to 25 MCM. COC is being maintained more than 5.0 at Cooling water system.
(xvi)	Minimum required environmental flow suggested by the Competent Authority of the	Complied.

Sl. No.	Conditions of EC	Compliance Status
	State Govt. shall be maintained in the Channel. Rivers (as applicable) even in lean season.	REL has revisited and optimized water requirements by reusing and recycling system. The water allotment has been reduced from 37 to 25 MCM per annum by Water Resource Department, Government of Chhattisgarh
(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 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	Complied. Six nos. piezometric wells constructed around periphery of the ash pond for ground water monitoring. Seasonal monitoring of ground water level and quality is being done and monitoring data is being submitted to the MOEF, CPCB & CECB regularly. The ground water analysis data is enclosed as Annexure **- II**.
(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.	Complied. 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 **Annexure - II.**
(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.	Complied.
(xx)	The project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.	Complied. All the preventive measures have been ensured to restrict fugitive emission from fly ash.
(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.	Complied. Fly ash is being supplied to nearest cement industries and brick manufacturer and for road construction activities. Fly Ash generation and utilization Status is attached as **Annexure – IV.**
(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.	Being Complied. - Fly ash is being collected in dry form and unutilized fly ash is being disposed in dedicated ash storage ponds.

Sl. No.	Conditions of EC	Compliance Status
	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.	- As per MoEF&CC Office Memorandum dated 28th 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.
(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 protect the ash dyke from getting breached.	Complied. Ash ponds is constructed with LDPE/HDPE & in the way that no leachate takes place any point of time.
(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.	Noted & agreed in future disposal plan.
(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 %.	Complied. Plantation / Greenbelt development is being developed as per guidelines & in consultation with forest department for local species. Greenbelt Report is enclosed as **Annexure – V**
(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.	Being complied. The Company undertakes various CSR activities as per framework of 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

Sl. No.	Conditions of EC	Compliance Status
		in villages is improving quality of education, access of health care and sanitation, empowerment and livelihood thought SHGs, individual income generation & community vocational training centre and community development. Six Monthly CSR Report is enclosed (April 2022 – September 2022) as **Annexure – VI.**
(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.	Being complied. 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.
(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 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.	Being complied. 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 Panchayat's statistics and special interventions have been planned for their upliftment. Separate budget has been allocated for community development activities with income generation activities. Vocational training is being provided to youth for self-employment free of cost. We have started **Pratibha Centre** 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

Sl. No.	Conditions of EC	Compliance Status
		employment opportunities at Pratibha centres. Detailed CSR Report (April'2022--September 2022) is enclosed as **Annexure – VI.**
(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 months along with road map for implementation.	Time bound implementation of CSR activities have been carried out & CSR budget has earmarked for CSR activities being implemented in nearby project villages. Six Monthly CSR Report (April'2022 – September'2022) with details is enclosed as **Annexure - VI.**
(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	Complied. Social Audit has been carried out by Indian Institute of Social Welfare and Business Management, Kolkata and report is submitted to ministry with first half yearly Compliance report (2021-22).
B.	**General Conditions;**	
(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.	Complied. The treated effluents conforming to the prescribed standards are being re-circulated and reused within the plant. Plant layout has been designed so that effluents and storm water do not get mixed. The ETP analysis report is enclosed as **Annexure - II.**
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt plantation.	Complied. A well-equipped Sewage Treatment Plant is installed and commissioned within premises to ensure quality of sewerage.
(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. Drawings & other details are already submitted to the MoEFCC office, Delhi as well as Regional Office of MoEFCC Raipur. Details of firefighting equipment and their respective locations (Deluge Valve)

Sl. No.	Conditions of EC	Compliance Status
		installed at BTG & BOP areas at REL plant site are enclosed as **Annexure - VII.**
(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.	License for storage facility of LDO/HFO (auxiliary liquid fuel) obtained from Petroleum & Explosive Safety Organization (PESO). Sulphur content in the liquid fuel well within 0.5%. Disaster Management Plan also is in place.
(v)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied.
(vi)	Noise levels emanating for turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dBA from the source. For people working in the high noise area, requisite personal protective equipment like earplugs/earmuffs 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.	Complied. Engineering control for noise such as acoustic enclosure, silencer have been installed in the turbine. Other than engineering controls, PPEs like earplugs, earmuffs etc. are also provided to workers in high noise area. Noise level monitoring report is enclosed as **Annexure - II.**
(vii)	Regular monitoring of ambient air ground level concentration of SO_2, NOx, $PM_{2.5}$ & PM_{10} 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.	Complied. We 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 is being submitted to MoEFCC and is also made available at company's website. https://www.adanipower.com/Downloads The ambient air quality monitoring report is enclosed as **Annexure - II.**
(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	Complied during construction phase

Sl. No.	Conditions of EC	Compliance Status
	may be in the form of temporary structures to be removed after completion of the project.	
(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 http:..envfor.nic.in	Complied. Copies of the advertisement published in local daily Newspapers after obtaining EC and details of the same already submitted to ministry with previous compliance reports.
(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.	Complied. The environment clearance letter is available at website of Adani Power. https://www.adanipower.com/Downloads
(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.	Complied. We have well-established Environment Management Dept. headed by a competent experienced Manager with relevant academic qualification supported by Environmental Engineers, Chemist & Horticulturist.
(xii)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office	Complied. Display board has been installed at main gate of TPP. Environment compliance report is available at company's website. www.adanipower.com/Downloads

Sl. No.	Conditions of EC	Compliance Status
	of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely SPM, RSPM (PM2.5 & 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.	
(xiii)	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 Regional Offices at the Ministry.	Complied. The Environmental Statement Report for the period FY: 2021-22 in prescribed format (Form V) has been submitted to CECB, Raipur vide Letter No, REL/ENV/CECB/22-23/202 dated 10th September 2022.
(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.	Being Complied. Six monthly compliance report on the Environmental Clearance granted by MoEF is being submitted to MoEFCC, CPCB & CECB regularly. Compliance status updated on company's website. www.adanipower.com/Downloads Compliance report for the period of October'2021 to March'2022 has been already submitted to your good office vide letter no.: REL/TPP/EMD/MoEFCC/EC/ 211/ 05/22, dated: 26.05.2022

Sl. No.	Conditions of EC	Compliance Status
(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 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.	Being Complied. EIA & EMP report with all necessary document & information are already submitted to RO, MoEFCC and CECB.
(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.	Complied. Separate fund has been already allocated for environmental protection
(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 authorities and the date of start of land development work a commissioning of plant.	Complied. Financial Closure granted on 10th Dec'10. The Project development started after receiving Consent to establish dated 13th June'2011.
(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.	Noted. Full co-operation will be extended always
Conditions of Amended EC dated 13.06.2013		
(v)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed and it shall be ensured that particulate emission does not exceed 50 mg/Nm3"	Complied. High efficiency Electrostatic Precipitators (ESP) has been considered to meet revised emission standard of <50 mg/ Nm^3 for PM. The monitoring report for stack emission is enclosed as **Annexure - II.**

Sl. No.	Conditions of EC	Compliance Status
(xxxi)	The GCV of the imported coal from South Africa shall not be less than 4911 Kcal/kg and the ash and sulphur contents shall not exceed the limits stated under: Ash contents: 33.7% Sulphur contents: 0.7%	100% domestic Coal sourced from tolling linkage and open market/E-Auction. Talabira-1 Mine is not under mining operation as Mining Plan was expired and the revised mining plan is due for approval. Sulphur and Ash content in Coal being used in project as fired coal is ensured within prescribed standards of 0.7% Sulphur content and within 34%. Ash content are within prescribed limits of MoEFCC and CECB. As per in-house Proximate analysis results of feed coal. The characteristic of feed coal is in following range: Total Moisture :12.36% to 17.32% Gross Calorific Value :3600 to 4000 Kcal/kg Ash (%) :33.51 to 37.01 % Volatile Matter :16.17 to 20.50 % Fixed Carbon :21.12 to 32.22% Sulphur (%) :Less than 0.7%
(xxxii)	A long-term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Radioactive (U238 & Th232) analysis has been done through Board of Radiation and Isotope Technology, Navi Mumbai and report is enclosed as **Annexure - VIII.**
(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.	Being Complied.
Conditions of Amended EC Extension dated 18.11.2014		
(i)	The coal transportation by road shall be through mechanically covered trucks to the extent feasible, else, shall be through tarpaulin covered trucks.	Complied. The transportation through rail is being done.
(ii)	Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expenses in consultation with the State Government Authorities.	Complied. Avenue plantation all along the road has already been done inside the plant premises.
(iii)	Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall facilitate the traffic control	Complied. The coal transportation through rail has been started. Avenue plantation all

Sl. No.	Conditions of EC	Compliance Status
	on the road in consultation with the State Government Authorities.	along the road has already been done inside the plant premises.
(iv)	The PP shall advertise in the newspaper and place on the website, the amendment issued by the Ministry for public information.	Complied. Advertisement has been published in local daily News Papers. & details submitted with previous compliance report. Original Env. Clearance along with its amendment from time to time has been kept in public domain at the website of holding company https://www.adanipower.com/Downloads
(xxxiv)	Harnessing solar power within the premises of the plant particularly at available rooftops shall be undertaken and status of 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
(xxxv)	Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.	Complied. Greenbelt development report is enclosed as **Annexure - VI.**
(xxxvi)	The project proponent shall formulate a well-laid Corporate Environment Policy, identify, and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Complied. REL has implemented ISO 14001:2015 under Integrated Management System consist of Environment, Health & Safety, Quality and Energy Management Systems.
Conditions of Amended EC Extension dated 04.02.2015		
(i)	Sulphur and ash contents 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 amendments to environmental clearance condition wherever necessary.	Being Complied. Sulphur and Ash content in coal being used as fired coal is within the stipulated norms i.e., below 0.7% & 34% for Sulphur and Ash respectively.
(ii)	The PP shall advertise in the local newspapers and place on the website, the proposed amendment for public information.	Complied. Advertisement published in local daily News Papers. after obtaining EC and relevant amendments.
Conditions of Amended EC Extension dated 09.12.2015		

Sl. No.	Conditions of EC	Compliance Status
(i)	The Sulphur and ash contents in the coal shall not exceed 0.7 % and 34% respectively. In case of variation of coal quality at any point of time, fresh reference shall be made to the Ministry for consideration.	Being Complied. Sulphur and Ash content in coal being used in project as fired coal is being ensured within prescribed standards of 0.7% and Ash content is within 34%.
(ii)	The PP shall advertise in the local leading newspapers and place on the website, the proposed amendment of EC (after receipt from Ministry) for change in source of coal for public information.	Complied.
EC amendment – MoEF&CC notification vide letter number S.O. 1561 (E) dated 21st May, 2020		
Sl. No.	**Condition of Notification**	**Compliance Status**
1)	Setting up technology solution for emission norms i) Compliance of specified emission norms for Particulate Matter, as per extent notifications and instructions of Central Pollution Control Board, issued from time to time. ii) In case of washeries, middling and rejects to be utilized in FBC (Fluidised Bed Combustion) technology based thermal power plant. Washery to have linkage for middling and rejects in Fluidised Bed Combustion plants.	Noted. i) Technology solutions are being implemented for mitigating fugitive emissions of Particulate Matter. – The Dust Extraction (DE) type dust control system is provided for controlling fugitive dust emissions from dust generation points of coal handling system. – Bag filter type dust extraction system with reversable pulse jet cleaning arrangement with fan, bag filter and stacks are provided at coal crusher house. – Different types of dust suppression system and water sprinkling arrangements are already installed at various probable fugitive dust generation points. ○ Plain water dust suppression for wagon tippler complex. ○ Plain water dust suppression for Coal stockpile. ○ Pre-wetting system for Wagon Tripler. ○ Dry Fog dust suppression for all Transfer points. ii) Super Thermal Power Plant.
2)	Management of Ash Ponds i) The thermal power plants shall comply with conditions, as notified in the Fly Ash notifications issued from time to time,	Noted & being complied. i) Fly ash is being supplied to nearest cement industries and brick manufacture. Fly Ash generation and utilization is regularly submitted to

Sl. No.	Conditions of EC	Compliance Status
	without being entitled to additional capacity of fly ash pond (for existing power generation capacity) on ground of switching from washed coal to unwashed coal. ii) Appropriate Technology solutions shall be applied to optimise water consumption for Ash management. iii) The segregation of ash may be done at the Electro- Static Precipitator stage, if required, based on site specific conditions, to ensure maximum utilisation of fly ash iv) Subject to 2(i) above, the thermal power plants to dispose fly ash in abandoned or working mines (to be facilitated by mine owner) with environmental safeguards.	MoEFCC, CPCB, CEA & CECB. Details is enclosed as **Annexure - IV**. i. Water requirement is being restricted to 25 MCM. Cycles Of Concentration (COC) is maintained more than 5 at Cooling water system. ii. Noted & being complied. iii. Noted & will be complied as & when fly ash is disposed in abandoned or working mines
3)	Transportation i) Coal transportation may be undertaken by covered Railway wagon (railway wagons covered by tarpaulin or other means) and/or covered conveyor beyond the mine area. However, till such time enabling Rail transport/conveyer beyond infrastructure is not available, road transportation may be undertaken in trucks, covered by tarpaulin or other means. ii) It shall be ensured by the thermal power plant that a) Rail siding facility or conveyer facility is set up at or near the power plant, for transportation by rail or conveyor; and b) If transportation by rail or conveyor facility is not available, ensure that the coal is transported out from the Delivery Point of the respective mine in covered trucks (by tarpaulin or other means), or any mechanized closed trucks by roads.	i) Noted & being complied. Rail siding facility has been made operational & coal is being transported through covered rail wagons ii) a) Rail siding facility has been made operational & coal is being transported through covered rail wagons b) Not applicable as Rail siding facility has been made operational & coal is being transported through covered rail wagons

adani | Power

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.

ENVIRONMENTAL MONITORING REPORT

(1st Quarterly Report - June 2022)

Submitted To:

M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd.
Village- Raikheda, Block- Tilda,
District- Raipur, Chhattisgarh, India.
Pin Code - 493225

Study Conducted By:

M/s Vardan EnviroLab
Plot No. 82 A, Sector-5, IMT Manesar, Gurugram,
Haryana, India - 122051
E-mail: projects.env@vardan.co.in

(Recognized By NABL & MOEF&CC, Government of India)

PREFACE

The growing concern for Environmental protection and the passing of various Environmental Legislations have increased the responsibilities of Ministry of Environment, Forests & Climate Change, Pollution Control Boards in many folds. Besides enforcing the various Environmental Legislations MoEF&CC, CPCB & SPCB strive to propagate the necessity awareness regarding the various Legal Provisions and Environmental Protection measures in the country.

Electric Power scenario has occupied a significant place in the development program of the country. Development and Environment can neither be separated nor ignored. In fact, they are complimentary to each other. These issues have become a concern of the community, particularly the Environment Impact due to Industries in the developing countries.

However, the prerequisite for sustainable development is judicious planning of Environmental Status, likely impacts of the approach adopted on the Environment including inhabitants of the locality, availability of the Eco-friendly Technology, Emerging Waste Disposal and Waste Utilization Processes, Techniques of Land Reclamation for the Restoration of aesthetic beauty and soon.

M/s Raipur Energen Limited, Formerly GMR Chhattisgarh Energy Ltd., Village: Raikheda, Block-Tilda, District-Raipur, Chhattisgar, India, has engaged **M/S Vardan EnviroLab, Gurugram, Haryana** to provide Environmental Services in respect of Ambient Air Quality Monitoring, Ambient Noise Level Monitoring, Sampling and Analysis of Ground Water Quality, Surface Water Quality, Treated Effluent Sewage, Effluent Water from ETP & STP, Soil & Stack Emission Monitoring for M/s **Raipur Energen Limited, Raipur, Chhattisgarh**, as per guidelines of MoEF&CC and CPCB Gazette Notification.

M/s Vardan EnviroLab, Gurugram, Haryana has deployed entirely its own personnel, facilities and expertise for doing this service. Sampling / Monitoring Stations were identified by the Environmental Officer of M/s Raipur Energen Limited, Raipur. The samples were analyzed **partly** at site and partly at our MoEF&CC Recognized Laboratory situated at Gurugram, Haryana.

This report presents the data generated for the period from 15th June 2022 to 17th June 2022, i.e. **for First Quarter which** includes Sampling Locations, Methodology, Testing Procedure and Compilation for the Environmental Parameters i.e. Air, Noise, Water, Soil & Stack with a view to evaluate the impact due to the Thermal Power Plant activities.

During the course of our operations for the above task, the Staff and Management of M/s Raipur Energen Limited, were extremely co-operative. We are grateful to them for their invaluable support and assistance rendered to us during the course of the Sampling and Monitoring.

Date: 05/08/2022

Authorised Signatory

INDEX

Chapter – 1.0

INTRODUCTION

M/s Raipur Energen Limited, a subsidiary of Adani Power, is a power generation company based at Raipur in the State of Chhattisgarh. M/s Raipur Energen Limited has commissioned its Thermal Power Plant 1370 MW (2x685 MW) Unit at Village- Raikheda, Block -Tilda, District- Raipur, Chhattisgarh, India.

M/s Raipur Energen Limited is also committed towards the Environment and the Community it operates in. It has successfully implemented several Community Welfare Schemes in the field of Livelihood, Infrastructure, Community Health and Education which has so far benefited over 60,000 people from close to 75 Villages.

Figure No.1. M/s Raipur Energen Limited

Chapter – 2.0

PROJECT PROFILE

2.1 Topography & Drainage:-

Topography of this area is generally undulating. The area is drained by Raikheda Talab approximately 2.5 km. away from plant in SW direction and Bengoli Dam approximately 2.0 km. away from Plant in SW direction. Mura Talab approximately 5.0 km. away from plant in South direction, Chicholi Talab approximately 2.0 km. away from Plant in East direction.

2.2 Location:-

Plant is bounded by Northern Latitudes of 21^0 26' 23" to 21^0 27' 48" and Eastern Longitude of 81^0 50'34.6" to $81^0$52'08.5". This area falls in the survey of India top sheet no. 64 G/14, 64 G/15in parts(1:50000 Scale) The location of the Plant area is shown in **Fig. No.2**

2.3 Climate:-

The climate of the area is Sub-tropical type. It is in the zone of humid tropic climate where Temperature and Humidity of air are very high. The temperature varies from the Minimum - Maximum Temperature range between 31°C - 42°C in Summer, and 8°C - 25°C in Winter. The Humidity varies from 35 % to 82 %. The Annual Average Rainfall in the area is about 1300 mm.

2.4 Communication:-

The nearest Railway Station is Tilda, which is at a distance of 14 km. towards West direction. The area is well connected with S.H. No. 9. Nearest Airport is Raipur 32 km. in SW direction. Nearest Village is Raikheda 1.5 km. in South direction and nearest Town is Raipur 31 km. in SW direction.

2.5 Location Map:-

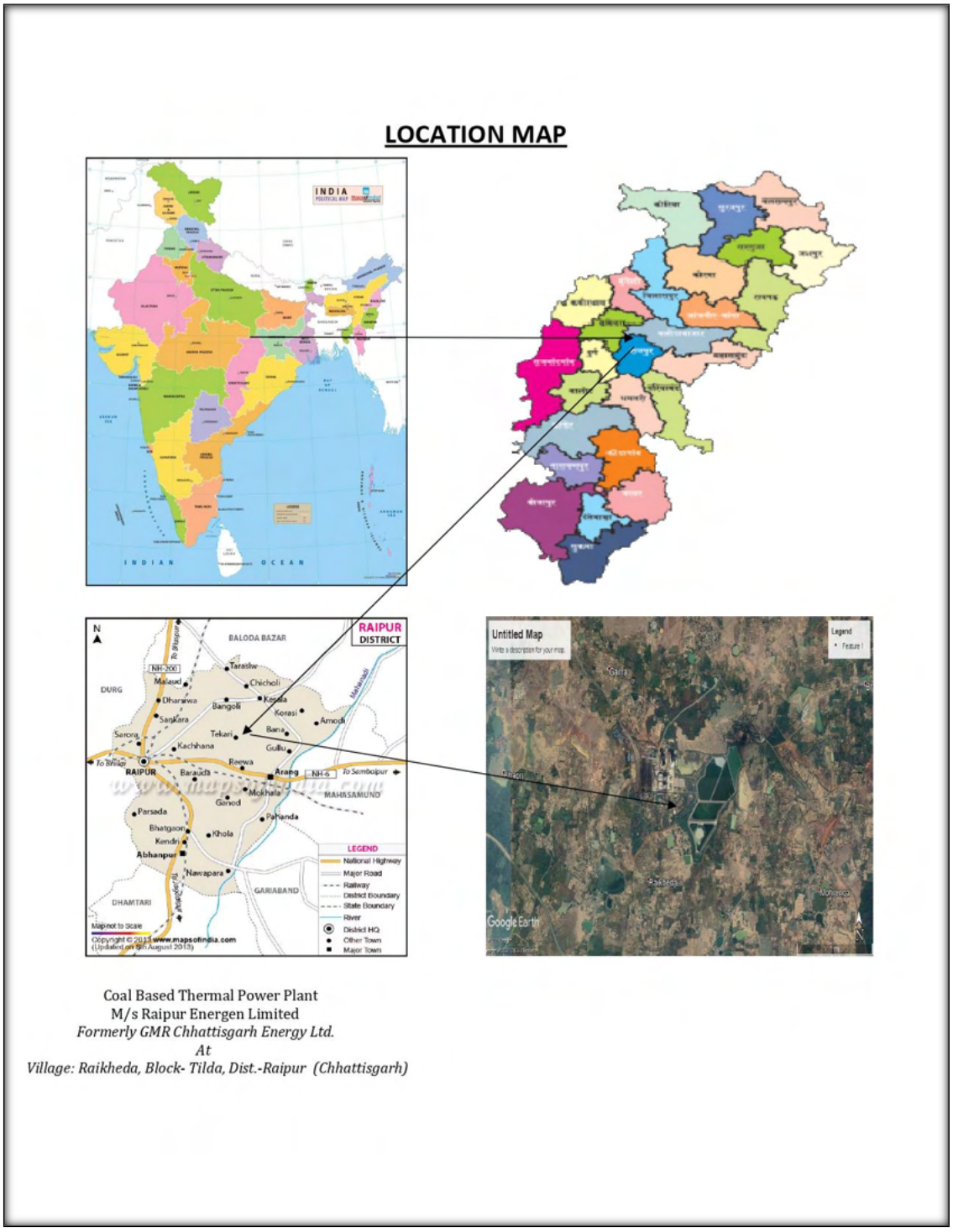

Figure No. 2. Location Map

Chapter – 3.0

SCOPE OF STUDY AND METHODOLOGY

3.1 Scope of Study:-

The scope of study includes Environmental Services in respect of Ambient Air Quality Monitoring, Ambient Noise Level Monitoring & Sampling and Analysis of Ground Water Quality, Surface Water Quality, Treated Effluent Sewage, Effluent Water from ETP & STP Plant, Soil and Stack Emission Monitoring.

3.2 Methodology:-

As mentioned in the scope of work covering the various Environmental Components Monitoring and Sampling and its Analysis was carried out on the basis of guidelines of Ministry of Environment, Forest & Climate Control of Government of India & Chhattisgarh State Pollution Control Board. Sampling procedure method reference and Analysis procedure method reference are mentioned in monitoring reports.

3.2.1 Ambient Air Quality Monitoring:-

The Ambient Air Quality has been carried out at various sources of Air Pollution surrounding and in the Plant. The prime objective of the Ambient Air Quality Monitoring is to access the existing air quality of the area.

The Ambient Air Quality Monitoring was carried out for 24 Hours at each Station. At all Stations PM_{10}, $PM_{2.5,}$ NO_2, SO_2, CO, C_6H_6, $NH_{3,}$ $O_{3,}$ Pb, As, Ni, BaP, TSPM and Mercury were monitored. All the samples collected and analyzed for Quantitative Analysis of various Pollutants. The Ambient Air Quality sampling locations were identified by the Environmental Officer of M/s Raipur Energen Limited.

3.2.2 Noise Environment:-

Sound Level Meter was used to know the sound levels generated due to plant activities at different locations. The measurements were taken for Equivalent sound level over a time period for Day and Night Time which is expressed in dB(A).

3.2.3 Water Environment:-

The Ground Water Samples, Surface Water Samples were collected from selected locations in two liter sterilized plastic cans. These samples were analyzed as per IS: 10500-2012. The Domestic Effluent and Industrial Effluent Samples were collected and analyzed for Parameters: pH, Total Suspended Solids, Biochemical Oxygen Demand, Chemical Oxygen Demand and Oil & Grease.

3.2.4 Soil:-

The Soil Samples were collected from selected locations. These samples were analyzed for Physico-Chemical Parameters including Heavy Metals.

3.2.5 Stack:-

The Stack Samples were collected from TPP (Unit-1 & Unit-2).

Chapter – 4.0

SAMPLING LOCATION MAP AND ANALYSIS REPORTS

4.1 Ambient Air Quality Monitoring:-

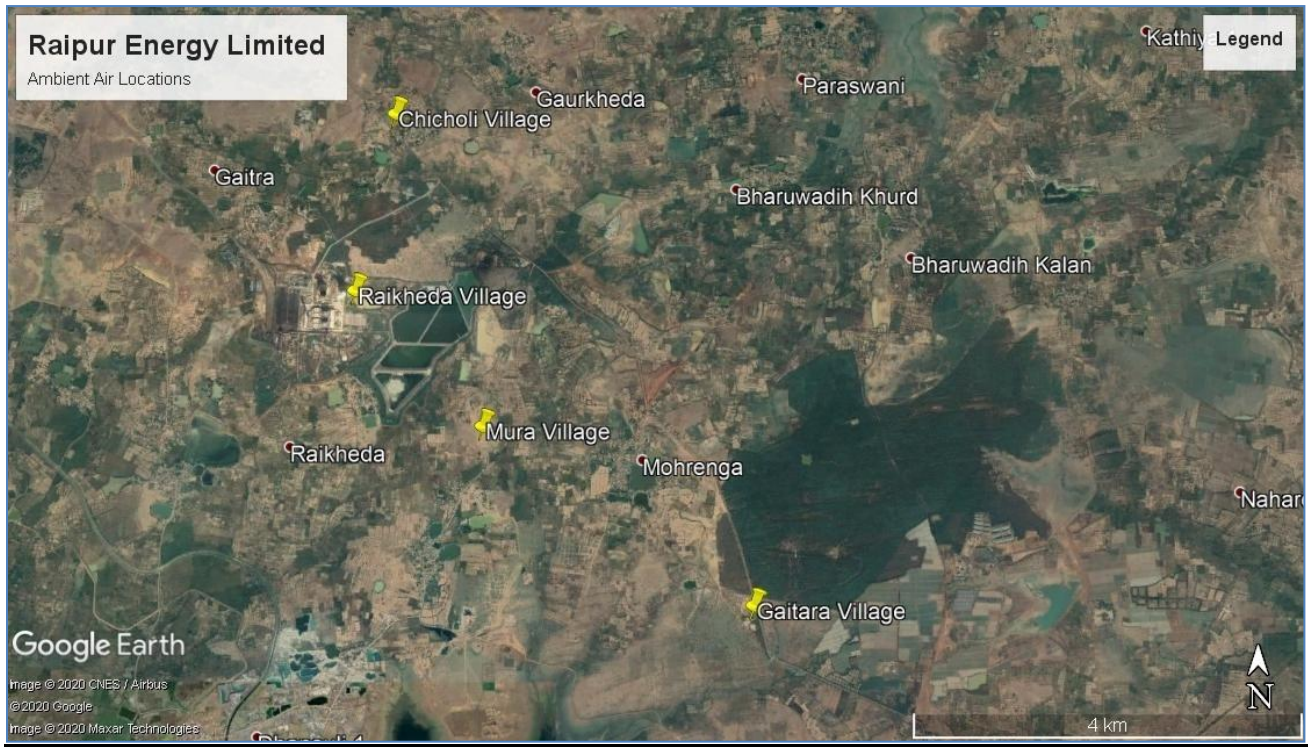

Figure No.3. Plan Showing Ambient Air Quality Location Map

Ambient Air Quality Monitoring Locations

Location Code:-

A1- Near STP
A2- Near Doosan (Old Project)
A3- Near Raw Water Pump House
A4- Village - Raikheda (Near Ramesh House)
A5- Village – Musa (Near Petrol Pump)
A6- Village – Chicholi (Near Sinha Furniture)
A7- Village – Gaitara (Near Rupendra House)

Test Report

Sample Number : VEL/A/2207051001
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051001
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near STP
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	09:00 AM to 09:00 AM
Ambient Temperature (°C)	:	Min.31°C, Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	82.95	µg/m³	100
2	Particulate Matter (as PM - 2.5)	IS:5182 (P-24) : 2019	39.10	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	27.04	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	10.36	µg/m³	80
5	#Carbon Monoxide (as CO)	IS:5182 (P-10) Gas Chromatography, RA:2003 / NDIR Method	0.74	mg/m³	4.0
6	Benzene (as C6H6)	IS:5182 (P-11) :2004	*BLQ(**LOQ - 0.5)	µg/m³	5.0
7	Ammonia (as NH3)	IS:5182 (P-25) :2018	*BLQ(**LOQ - 20)	µg/m³	400.0
8	#Ozone (as O3)	IS:5182 (P-9), Colorimetric Method, RA:2003	19.88	µg/m³	180.0
9	Lead (as Pb)	IS:5182 (P-22),Air Acetylene Method, RA:2009	*BLQ(**LOQ - 0.1)	µg/m³	1.0
10	Arsenic (as As)	VEL/ENV/STP/110,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ - 0.1)	ng/m³	6.0
11	Nickel (as Ni)	IS:5182 (P-26) : 2020	*BLQ(**LOQ - 5.0)	ng/m³	20.0

VARDAN ENVIROLAB Kushal Sharma Authorized Signatory

VEL/E/1/TR/PH30817

Test Report

Sample Number : VEL/A/2207051001 Report No. : VEL/A/2207051001

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
12	Benzo (alpha) Pyrine-Particulate Phase Only	IS:5182 (P-12):2004	*BLQ(**LOQ - 0.5)	ng/m³	1.0
13	Total Suspended Particulate Matter	IS:5182 (P-4), Gravimetric Method, RA:2005	218.53	µg/m³	--

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

Note - # indicates 1 hour monitoring of CO & Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Kushal Sharma (Approved By) Authorized Signatory

VEL/E/1772/PN30816

Test Report

Sample Number : VEL/A/2207051001
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051001
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near STP
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	09:00 AM to 09:00 AM
Ambient Temperature (°C)	:	Min.31°C, Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Mercury (Hg)	VEL/ENV/STP/129,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ - 5.0)	ng/m³	--

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

Note - # indicates 1 hour monitoring of CO & Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB
Kushal Sharma
(Approved By)
Authorized Signatory

VEL/E/1/TR/PN30815

Test Report

Sample Number : VEL/A/2207051002
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/A/2207051002
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

Sample Description : AMBIENT AIR

General Information

Sampling Location	:	Near Doosan (Old Project)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/02
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	09:30 AM to 09:30 AM
Ambient Temperature (°C)	:	Min.31°C, Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	88.44	µg/m³	100
2	Particulate Matter (as PM - 2.5)	IS:5182 (P-24) : 2019	44.07	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	25.0	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	16.16	µg/m³	80
5	#Carbon Monoxide (as CO)	IS:5182 (P-10) Gas Chromatography, RA:2003 / NDIR Method	0.71	mg/m³	4.0
6	Benzene (as C6H6)	IS:5182 (P-11) :2004	*BLQ(**LOQ - 0.5)	µg/m³	5.0
7	Ammonia (as NH3)	IS:5182 (P-25) :2018	*BLQ(**LOQ - 20)	µg/m³	400.0
8	#Ozone (as O3)	IS:5182 (P-9), Colorimetric Method, RA:2003	14.75	µg/m³	180.0
9	Lead (as Pb)	IS:5182 (P-22),Air Acetylene Method, RA:2009	*BLQ(**LOQ - 0.1)	µg/m³	1.0
10	Arsenic (as As)	VEL/ENV/STP/110,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ - 0.1)	ng/m³	6.0
11	Nickel (as Ni)	IS:5182 (P-26) : 2020	*BLQ(**LOQ - 5.0)	ng/m³	20.0

VARDAN ENVIROLAB * Kushal Sharma * Authorized Signatory

VEL/E/1TRIPN30813

Test Report

Sample Number : VEL/A/2207051002 Report No. : VEL/A/2207051002

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
12	Benzo (alpha) Pyrine-Particulate Phase Only	IS:5182 (P-12):2004	*BLQ(**LOQ - 0.5)	ng/m³	1.0
13	Total Suspended Particulate Matter	IS:5182 (P-4), Gravimetric Method, RA:2005	223.34	µg/m³	--

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

Note - # indicates 1 hour monitoring of CO & Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB
Kushal Sharma
(Approved By)
Authorized Signatory

VEL/E/I/TR/PN30812

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

Test Report

Sample Number : VEL/A/2207051002
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051002
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near Doosan (Old Project)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/02
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	09:30 AM to 09:30 AM
Ambient Temperature (°C)	:	Min.31°C, Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Mercury (Hg)	VEL/ENV/STP/129,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ - 5.0)	ng/m³	--

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

Note - # indicates 1 hour monitoring of CO & Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
VARDAN ENVIROLAB
Kushal Sharma
Authorized Signatory

VEL/E/1/TR/PN30814

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

Test Report

Sample Number : VEL/A/2207051003
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051003
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near Raw Water Pump House
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/03
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	10:00 AM to 10:00 AM
Ambient Temperature (°C)	:	Min.31°C, Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	78.94	µg/m³	100
2	Particulate Matter (as PM - 2.5)	IS:5182 (P-24) : 2019	37.42	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	19.35	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	14.50	µg/m³	80
5	#Carbon Monoxide (as CO)	IS:5182 (P-10) Gas Chromatography, RA:2003 / NDIR Method	0.68	mg/m³	4.0
6	Benzene (as C6H6)	IS:5182 (P-11) :2004	*BLQ(**LOQ - 0.5)	µg/m³	5.0
7	Ammonia (as NH3)	IS:5182 (P-25) :2018	*BLQ(**LOQ - 20)	µg/m³	400.0
8	#Ozone (as O3)	IS:5182 (P-9), Colorimetric Method, RA:2003	9.62	µg/m³	180.0
9	Lead (as Pb)	IS:5182 (P-22),Air Acetylene Method, RA:2009	*BLQ(**LOQ - 0.1)	µg/m³	1.0
10	Arsenic (as As)	VEL/ENV/STP/110,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ - 0.1)	ng/m³	6.0
11	Nickel (as Ni)	IS:5182 (P-26) : 2020	*BLQ(**LOQ - 5.0)	ng/m³	20.0

VARDAN ENVIROLAB Authorized Signatory

VEL/E/1/TR/PN30811

Test Report

Sample Number : VEL/A/2207051003 Report No. ; VEL/A/2207051003

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
12	Benzo (alpha) Pyrine-Particulate Phase Only	IS:5182 (P-12):2004	*BLQ(**LOQ - 0.5)	ng/m³	1.0
13	Total Suspended Particulate Matter	IS:5182 (P-4), Gravimetric Method, RA:2005	222.92	µg/m³	--

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

Note - # indicates 1 hour monitoring of CO & Ozone.

End of Report

(Checked By)

SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLABS
Kushal Sharma
Authorized Signatory
(Approved By)

VEL/E/I/TR/PN30910

Test Report

Sample Number : VEL/A/2207051003
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051003
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near Raw Water Pump House
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/03
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	10:00 AM to 10:00 AM
Ambient Temperature (°C)	:	Min.31°C, Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Mercury (Hg)	VEL/ENV/STP/129,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ - 0.5)	ng/m³	--

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

Note - # indicates 1 hour monitoring of CO & Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB * Authorized Signatory
Kushal Sharma
(Approved By)

VEL/E/1/TR/PN30809

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

Test Report

Sample Number : VEL/A/2207051004
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh

Report No. : VEL/A/2207051004
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

Sample Description : AMBIENT AIR

General Information

Sampling Location	:	Village- Raikheda (Near Ramesh House)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	10:05 AM to 10:05 AM
Ambient Temperature (°C)	:	Min.32°C, Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	81.35	µg/m³	100
2	Particulate Matter (as PM - 2.5)	IS:5182 (P-24) : 2019	36.59	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	28.15	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	13.96	µg/m³	80
5	#Ozone (as O3)	IS:5182 (P-9), Colorimetric Method, RA:2003	11.76	µg/m³	180.0
6	Total Suspended Particulate Matter	IS:5182 (P-4), Gravimetric Method, RA:2005	208.67	µg/m³	--

*BLQ-Below Limit of Quantification, **LOQ - Limit of Quantification.
Note - # indicates 1 hour monitoring of Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Gaurav Kumar Singh Authorised Signatory
(Approved By)

Test Report

Sample Number : VEL/A/2207051004
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : **AMBIENT AIR**

Report No. : VEL/A/2207051004
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Village- Raikheda (Near Ramesh House)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	10:05 AM to 10:05 AM
Ambient Temperature (°C)	:	Min.32°C, Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Mercury (Hg)	VEL/ENV/STP/129,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ-1.0)	ng/m³	--

*BLQ-Below Limit of Quantification, **LOQ - Limit of Quantification.
Note - # indicates 1 hour monitoring of ‡ Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB
(Approved By)
Authorised Signatory

VEL/E/I/TR/PN30840

Vardan EnviroLab

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

Test Report

Sample Number : VEL/A/2207051005
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051005
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Village- Musa (Near Petrol Pump)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/02
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	11:00 AM to 11:00 AM
Ambient Temperature (°C)	:	Min.32°C,Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	77.65	µg/m³	100
2	Particulate Matter (as PM - 2.5)	IS:5182 (P-24) : 2019	32.01	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	18.03	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	13.42	µg/m³	80
5	#Ozone (as O3)	IS:5182 (P-9), Colorimetric Method, RA:2003	9.46	µg/m³	180.0
6	Total Suspended Particulate Matter	IS:5182 (P-4), Gravimetric Method, RA:2005	201.75	µg/m³	--

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

Note - # indicates 1 hour monitoring of Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
VARDAN ENVIROLAB
Pradeep Singh
Authorised Signatory

VEL/E/I/TR/PN30838

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

Test Report

Sample Number : VEL/A/2207051005
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051005
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Village- Musa (Near Petrol Pump)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/02
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	11:00 AM to 11:00 AM
Ambient Temperature (°C)	:	Min.32°C,Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Mercury (Hg)	VEL/ENV/STP/129,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ-1.0)	ng/m³	--

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

Note - # indicates 1 hour monitoring of & Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB * Authorised Signatory *
(Approved By)

VEL/E/17TR/PN30839

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

Test Report

Sample Number : VEL/A/2207051006
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051006
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Village-Chicholi (Near Sinha Furniture)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/03
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	12:00 PM to 12:00 PM
Ambient Temperature (°C)	:	Min.32°C, Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	85.82	µg/m³	100
2	Particulate Matter (as PM - 2.5)	IS:5182 (P-24) : 2019	41.58	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	24.92	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	15.66	µg/m³	80
5	#Ozone (as O3)	IS:5182 (P-9), Colorimetric Method, RA:2003	9.04	µg/m³	180.0
6	Total Suspended Particulate Matter	IS:5182 (P-4), Gravimetric Method, RA:2005	215.16	µg/m³	--

*BLQ-Below Limit of Quantification, **LOQ - Limit of Quantification.
Note - # indicates 1 hour monitoring of Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Gaurav Pratap Singh Authorised Signatory
(Approved By)

VEL/E/1/TR/PR30837

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

Test Report

Sample Number : VEL/A/2207051006
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051006
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Village-Chicholi (Near Sinha Furniture)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/03
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	12:00 PM to 12:00 PM
Ambient Temperature (°C)	:	Min.32°C, Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Mercury (Hg)	VEL/ENV/STP/129,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ-1.0)	ng/m³	--

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

Note - # indicates 1 hour monitoring of Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
Gaurav Pratap Singh
Authorised Signatory

Test Report

Sample Number : VEL/A/2207051007
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh

Report No. : VEL/A/2207051007
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

Sample Description : AMBIENT AIR

General Information

Sampling Location	:	Village-Gaitara (Near Near Rupendra House)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	17/06/2022 To 18/06/2022
Time of Monitoring	:	12:00 PM to 12:00 PM
Ambient Temperature (°C)	:	Min.31°C, Max.41°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Particulate Matter (as PM -10)	IS:5182 (P-23), Gravimetric Method, RA:2006	86.62	µg/m³	100
2	Particulate Matter (as PM - 2.5)	IS:5182 (P-24) : 2019	34.09	µg/m³	60
3	Nitrogen Dioxides (as NO2)	IS:5182 (P-6), Jacob & Hochheiser, RA:2006	27.05	µg/m³	80
4	Sulphur Dioxide (as SO2)	IS:5182 (P-2), Modified West and Gaeke, RA:2012	12.58	µg/m³	80
5	#Ozone (as O3)	IS:5182 (P-9), Colorimetric Method, RA:2003	8.68	µg/m³	180.0
6	Total Suspended Particulate Matter	IS:5182 (P-4), Gravimetric Method, RA:2005	207.09	µg/m³	--

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

Note - # indicates 1 hour monitoring of Ozone.

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
Gaurav Pratap Singh
Authorised Signatory

VEL/E/I/TR/PN30834

Test Report

Sample Number : VEL/A/2207051007
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT AIR

Report No. : VEL/A/2207051007
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Village-Gaitara (Near Near Rupendra House)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	RDS/FPS
Instrument Code	:	VEL/RDS/FPS/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	17/06/2022 To 18/06/2022
Time of Monitoring	:	12:00 PM to 12:00 PM
Ambient Temperature (°C)	:	Min.31°C, Max.41°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	IS : 5182
Sampling Duration	:	24.0 Hours
Parameter Required	:	As per work order

S.No.	Parameters	Test Method	Results	Units	Limit as per CPCB
1	Mercury (Hg)	VEL/ENV/STP/129,Issue No.-01,Issue Date-01/11/2021:2021	*BLQ(**LOQ-1.0)	ng/m³	--

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

Note - # indicates 1 hour monitoring of Ozone.

End of Report

(Checked By)

SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Gaurav Pratap Singh Authorised Signatory

(Approved By)

4.2 Noise Level Monitoring:-

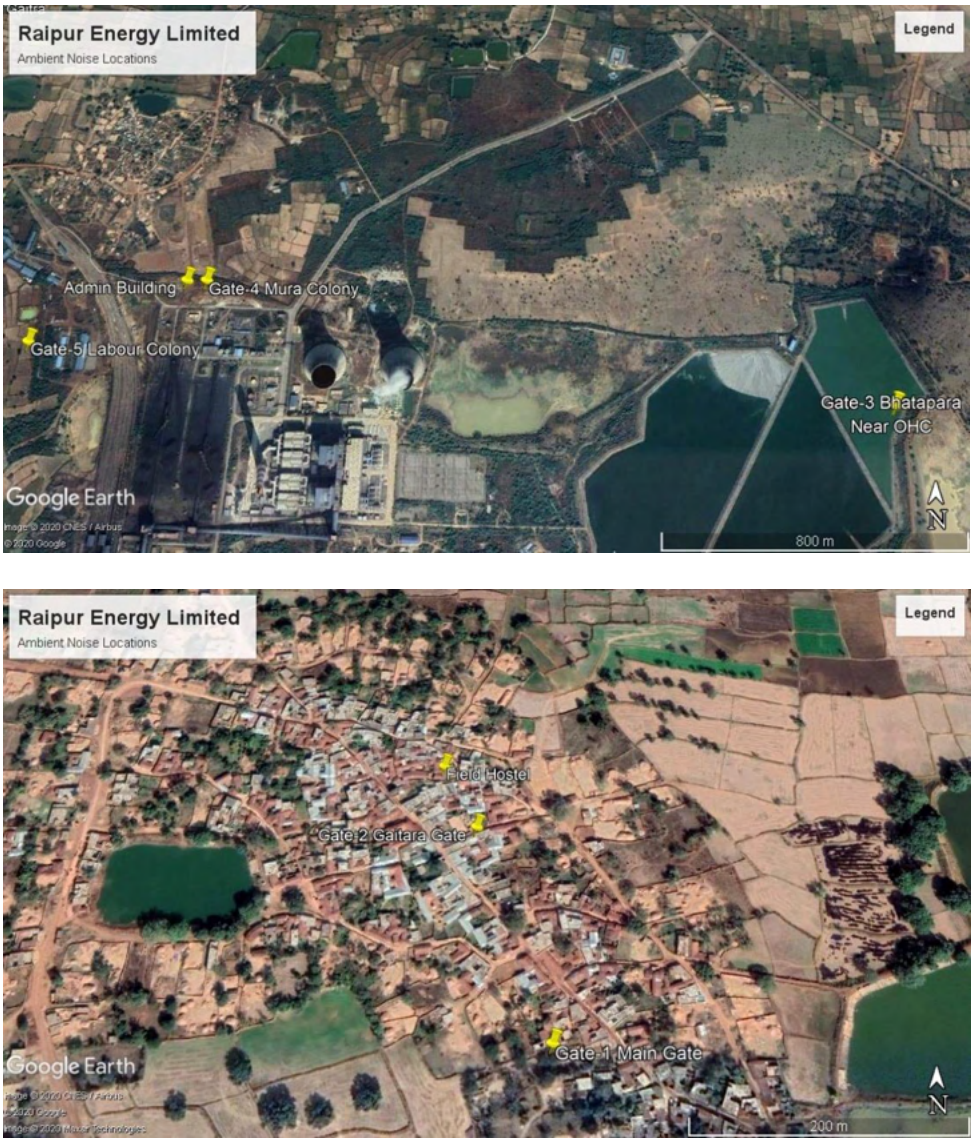

Figure No. 4. Plan Showing Noise Level Monitoring Location Map

Ambient Noise Level Monitoring Locations

Location Code: -
N1- Near Admin Building
N2- Near Field Hostel
N3- Near Gate No. -1
N4- Near Gaitara Village Gate
N5- Near Bhatapura Village Gate
N6- Near Musa Village Gate
N7- Near HOC
N8- Near Weigh Bridge

Test Report

Sample Number : VEL/N/2207051001
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT NOISE

Report No. : VEL/N/2207051001
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 08/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near Admin Building
Sample Collected By	:	VEL Representative (Mr.Rahul)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.31°C.Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work Order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	66.8	53.1	dB (A)
2	Lmin.	I S-9989	45.2	36.9	dB (A)
3	Leq	I S-9989	54.19	42.68	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75.00	70.00	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65.00	55.00	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50.00	40.00	dB (A)

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

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
Pratap Singh
Authorised Signatory

VEL/E/1/TR/PN30832

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

Test Report

Sample Number : VEL/N/2207051002
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/N/2207051002
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 08/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

Sample Description : AMBIENT NOISE

General Information

Sampling Location	:	Near Filed Hostel
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/02
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.31°C, Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work Order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	63.2	52.6	dB (A)
2	Lmin.	I S-9989	41.6	36.9	dB (A)
3	Leq	I S-9989	51.65	42.82	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75.00	70.00	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65.00	55.00	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50.00	40.00	dB (A)

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

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Gaurav Singh Authorised Signatory
(Approved By)

VEL/E/I/TR/PN30831

www.vardan.co.in
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Test Report

Sample Number : VEL/N/2207051003
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/N/2207051003
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 08/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

Sample Description : AMBIENT NOISE

General Information

Sampling Location	:	Near Gate No-1
Sample Collected By	:	VEL Representative (Mr.Rahul)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/03
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	15/06/2022 To 16/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.31°C,Max.42°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work Order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	IS-9989	65.7	57.1	dB (A)
2	Lmin.	IS-9989	45.2	39.8	dB (A)
3	Leq	IS-9989	59.82	44.68	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75.00	70.00	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65.00	55.00	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50.00	40.00	dB (A)

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

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
Pradeep Singh
Authorised Signatory

Test Report

Sample Number : VEL/N/2207051004

Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/N/2207051004
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 08/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

Sample Description : AMBIENT NOISE

General Information

Sampling Location	:	Near Gaitara Village Gate
Sample Collected By	:	VEL Representative (Mr.Rahul)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.32°C, Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work Order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	68.4	59.3	dB (A)
2	Lmin.	I S-9989	47.8	38.4	dB (A)
3	Leq	I S-9989	60.25	49.32	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75.00	70.00	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65.00	55.00	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50.00	40.00	dB (A)

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

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Gaurav Pratap Singh Authorised Signatory
(Approved By)

VEL/E/1/1R/PN30623

Test Report

Sample Number : VEL/N/2207051005
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda. Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT NOISE

Report No. : VEL/N/2207051005
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 08/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near Bhatapura Village Gate
Sample Collected By	:	VEL Representative (Mr.Rahul)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/02
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.32°C, Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	70.6	57.6	dB (A)
2	Lmin.	I S-9989	45.2	36.8	dB (A)
3	Leq	I S-9989	61.24	50.35	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75.00	70.00	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65.00	55.00	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50.00	40.00	dB (A)

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

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
VARDAN ENVIRO LAB
Authorised Signatory

VEL/E/1/TR/PN30822

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

Test Report

Sample Number : VEL/N/2207051006
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/N/2207051006
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 08/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

Sample Description : AMBIENT NOISE

General Information

Sampling Location	:	Near Musa Village Gate
Sample Collected By	:	VEL Representative (Mr.Rahul)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/03
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	16/06/2022 To 17/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.32°C, Max.43°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work Order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	67.2	58.1	dB (A)
2	Lmin.	I S-9989	43.8	35.4	dB (A)
3	Leq	I S-9989	56.92	48.25	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75.00	70.00	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55.00	45.00	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65.00	55.00	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50.00	40.00	dB (A)

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

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

(Approved By)
VARDAN ENVIROLAB Authorised Signatory

VEL/E/I/TR/PN30021

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Test Report

Sample Number : VEL/N/2207051007
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT NOISE

Report No. : VEL/N/2207051007A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near HOC
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	Sound Level Meter
Instrument Code	:	VEL/SLM/01
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	17/06/2022 To 18/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.31°C,Max.41°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	70.2	57.4	dB (A)
2	Lmin.	I S-9989	45.8	39.8	dB (A)
3	Leq	I S-9989	59.38	46.48	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75	70	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55	45	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65	55	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50	40	dB (A)

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

Remark- This report replaces our earlier report No. VEL/N/2207051007 dated 08/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022.

End of Report

(Checked By) SUBODH SHEKHAWAT DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Authorised Signatory

(Approved By) 23/07/2022

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Test Report

Sample Number : VEL/N/2207051008
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : AMBIENT NOISE

Report No. : VEL/N/2207051008A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-08/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	Near Weigh Bride
Sample Collected By	:	VEL Representative (Mr. Rahul)
Sampling Equipment used	:	Sound Levl Meter
Instrument Code	:	VEL/SLM/02
Instrument Calibration Status	:	Calibrated
Meteorological condition during monitoring	:	Clear Sky
Date of Monitoring	:	17/06/2022 To 18/06/2022
Time of Monitoring	:	06:00 AM to 06:00 AM
Ambient Temperature (°C)	:	Min.31°C, Max.41°C
Surrounding Activity	:	Human & Vehicular Activities
Scope of Monitoring	:	Regulatory Requirement
Sampling & Analysis Protocol	:	CPCB
Sampling Duration	:	24.0 Hours
Parameter Required	:	As Per Work order

S.No.	Parameters	Test Method	Test Results		Units
			Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)	
1	Lmax.	I S-9989	63.5	53.1	dB (A)
2	Lmin.	I S-9989	42.7	37.5	dB (A)
3	Leq	I S-9989	51.78	44.85	dB (A)
4	CPCB Limits in dB(A*) Leq (Industrial Area)	--	75	70	dB (A)
5	CPCB Limits in dB(A*) Leq (Residential Area)	--	55	45	dB (A)
6	CPCB Limits in dB(A*) Leq (Commercial Area)	--	65	55	dB (A)
7	CPCB Limits in dB(A*) Leq (Silent Zone)	--	50	40	dB (A)

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

Remark- This report replaces our earliar report No. VEL/N/2207051008 dated 08/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022.

End of Report

SUBHASH SHEKHAWAT
(Checked By)
DY. TECHNICAL MANAGER

(Approved By)
23/07/2022

4.3 Ground water Quality Analysis:-

Figure No. 5. Plan Showing Ground Water Quality Monitoring Location Map

Ground Water Quality Monitoring Locations

Location Code:-

GW1- Village- Raikheda Tap Water
GW2- Village- Chicholi Hand Pump Water
GW3- Village- Musa Hand Pump Water
GW4- Village- Gaitara Hand Pump Water
GW5- Near Gaitara Gate
GW6- Near AAQ MS-2 (Doosan)
GW7- Near STP Area
GW8- Near AAQ MS-1 (Raw Water Area)
GW9- Near Fly Ash Pond
GW10- Near Bottom Ash Pond
GW11- Field Hostel Tap Water
GW12- Near Phillips Office

Vardan EnviroLab
Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
MoEF&CC Recognized | ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number : VEL/W/01
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051003
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Raikheda Tap Water
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.35	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ(LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ(LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	237.60	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	57.0	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	208.12	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	57.0	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ(LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ(LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ(LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	10.73	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	350.00	mg/l	500	2000
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric	21.12	mg/l	200	400

VARDAN ENVIRO LAB GURGAON
Authorised Signatory
Dy. Technical Manager
12/07/2022

VARDAN ENVIRO LAB
Dr. Shiv Prakash Singh
Authorised Signatory
12/07/2022

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvironet.com, bd@vardanenvironet.com

Test Report

Sample Number : VEL/W/01 Report No. : VEL/W/2207051003

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15		Method:2017				
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.40	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	4.08	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.11	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ(LOQ-0.004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ(LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ(LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ(LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON Bhupur Nayak 12/07/2022

VARDAN ENVIROLAB Dr Shiv Kumar Singh Authorised Signatory 12/07/2022

VEL/E/N/TR/PN10486

Test Report

Sample Number : VEL/W/01 Report No. : VEL/W/2207051003

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.
BLQ-Below Limit of Quantification,LOQ-Limit of Quantification.

End of Report

(Checked By)
KHUSHBU SHARMA
Senior Microbiologist

(Approved By)
VARDAN ENVIROLAB Mohammad Shafi Technical Manager Authorized Signatory
12/07/2022

Test Report

Sample Number : VEL/W/02
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051004
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Chicholi Hand Pump Water
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.67	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	198.0	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	71.42	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	194.30	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	61.75	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	4.72	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	335.0	mg/l	500	2000

VARDAN ENVIROLAB PVT. LTD. GURGAON

VARDAN ENVIROLAB Dr. Shiv Singh Authorised Signatory

Test Report

Sample Number : VEL/W/02 Report No. : VEL/W/2207051004

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	25.57	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.32	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	3.81	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.21	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON 12/07/2022

VARDAN ENVIROLAB Dr Sim Prakash Singh Authorised Signatory 22/7/2022

VEL/E/N/TR/PN10483

Test Report

Sample Number : VEL/W/02 Report No. : VEL/W/2207051004

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov.2021.

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

End of Report

(Checked By)
KHUSHBU SHARMA
Senior Microbiologist

(Approved By)
VARDAN ENVIROLAB
Mohammed Shafi
Technical Manager
Authorized Signatory

VEL/E/N/TR/PN10536

Test Report

Sample Number : VEL/W/02
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051005
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Musa Hand Pump Water
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.60	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	188.10	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	55.55	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	166.50	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	76.0	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	11.96	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	345.00	mg/l	500	2000

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Test Report

Sample Number : VEL/W/02 Report No. : VEL/W/2207051005

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	26.29	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.31	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	3.54	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.31	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON 12/07/2022

VARDAN ENVIROLAB Dr. Shiv Prakash Singh 12/07/2022 Authorised Signatory

VEL/E/N/TR/PN10480

Test Report

Sample Number : VEL/W/02 Report No. : VEL/W/2207051005

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

End of Report

(Checked By)

KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB Mohammad Shafi Technical Manager Authorized Signatory

(Approved By)

VEL/E/N/TR/PN10535

Test Report

Sample Number : VEL/W/02
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051006
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Gaitara Hand Water
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.66	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	217.80	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	83.33	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	185.00	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	73.63	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	2.30	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	372.0	mg/l	500	2000

Bibhuti Nayak, Sr. Technical Manager
12/07/2022

VEL/E/N/TR/PN10451

Test Report

Sample Number : VEL/W/02 Report No. : VEL/W/2207051006

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	41.37	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.39	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	5.92	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB * GURGAON
Dr. Tech. Manager
12/07/2022

VARDAN ENVIROLAB
Dr. Shiv Prakash Singh
Authorised Signatory
12/07/2022

Test Report

Sample Number : VEL/W/02 Report No. : VEL/W/2207051006

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

End of Report

(Checked By) 12/07/2022

KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB Mohammad Shafi Technical Manager Authorized Signatory

12/07/2022 (Approved By)

VEL/E/N/TR/PA10534

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvironet.com, bd@vardanenvironet.com

Test Report

Sample Number : VEL/W/PZ/06-01
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051007
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Near Gaitara Gate
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.32	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	168.30	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	45.63	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	152.60	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	59.38	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	13.18	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	292.00	mg/l	500	2000

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvironet.com, bd@vardanenvironet.com

Test Report

Sample Number : VEL/W/PZ/06-01 Report No. : VEL/W/2207051007

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	15.08	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.27	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	2.04	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.31	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON

Dr. Shiv Prakash
Authorised Signatory

VEL/E/N/TR/PN10515

Test Report

Sample Number : VEL/W/PZ/06-01 Report No. : VEL/W/2207051007

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

Remarks: Source of water is Piezowell.

End of Report

(Checked By)

KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB Authorized Signatory

(Approved By)

VEL/E/N/TR/PN10533

Vardan EnviroLab
Laboratory: Plot No. 82A, Sector - 5, IMT Manesar, Gurugram - 122051 (Haryana)
MoEF&CC Recognized | ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number :	VEL/W/PZ/06-02	Report No.	: VEL/W/2207051008
Name & Address of the Party	: M/s Raipur Energen Limited Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.	Format No	: 7.8 F-03
		Party Reference No	: By Mail
		Reporting Date	: 12/07/2022
		Period of Analysis	: 05/07/2022-12/07/2022
		Receipt Date	: 05/07/2022
Sample Description	: WATER (Ground Water)	Sampling Date	: 16/06/2022
Location	: Near AAQ MS-2 (DOOSAN)	Sampling Quantity	: 5.0 Ltrs.+250 ml
Sample Collected by	: VEL Representative (Mr. Rahul)	Sampling Type	: Grab
Environmental Condition	: OK		
Sampling and Analysis Protocol	: APHA & IS		

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.60	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	212.85	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	75.39	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	180.40	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	54.63	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	5.92	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	335.00	mg/l	500	2000

VEL/E/W/R/PN/0513

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Test Report

Sample Number : VEL/W/PZ/06-02 Report No. : VEL/W/2207051008

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	16.95	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.30	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	3.33	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.41	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON — Bibhuti Nayak, Dy. Technical Manager

VARDAN ENVIROLAB — Dr Shiv Prakash Singh — Authorised Signatory

VEL/E/N/TR/PN10512

Test Report

Sample Number : VEL/W/PZ/06-02 Report No. : VEL/W/2207051008

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

Remarks: Source of water is Piezowell.

End of Report

(Checked By)

KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIRO Authorized Signatory

07/2022

(Approved By)

VEL/E/N/TR/PN10532

Test Report

Sample Number : VEL/W/PZ/06-03

Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051009
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Near STP Area
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.42	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	202.95	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	67.45	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	189.60	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	66.50	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	8.34	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	340.00	mg/l	500	2000

VARDAN ENVIROLAB Bibhuti Nayak 12/7/2022

VARDAN ENVIROLAB Dr. Shiv Prakash Authorised Signatory 12/7/2022

VEL/ENTR/PN10/10

Test Report

Sample Number : VEL/W/PZ/06-03 Report No. : VEL/W/2207051009

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	16.23	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.31	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	2.52	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.33	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON 12/07/2022

VARDAN ENVIROLAB Authorised Signatory 13/07/2022

VEL/E/R/TR/PN10509

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Test Report

Sample Number : VEL/W/PZ/06-03 Report No. : VEL/W/2207051009

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

Remarks: Source of water is Piezowell.

End of Report

(Checked By)
KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB Mohammad Shafi Technical Manager Authorized Signatory

12/07/2022

(Approved By)

VEL/E/R/TR/PN10531

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvironet.com, bd@vardanenvironet.com

Test Report

Sample Number : VEL/W/PZ/06-04
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051010
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 17/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Near AAQMS-1 (Raw Water Area)
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.56	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	188.10	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	61.50	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	171.10	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	59.38	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	8.35	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	305.00	mg/l	500	2000

Bibhuti Nayak
Assistant Manager
12/07/2022

Dr Shiv
12/07/2022

Test Report

Sample Number : VEL/W/PZ/06-04 Report No. : VEL/W/2207051010

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	19.97	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.30	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	2.38	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.12	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIRO LAB GURGAON — Bibhuti Nayak, Dy. Tech. Manager

VARDAN ENVIROLAB — Dr. Shiv Prakash, Authorised Signatory

Test Report

Sample Number : VEL/W/PZ/06-04 Report No. : VEL/W/2207051010

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

Remarks: Source of water is Piezowell.

End of Report

(Checked By)

KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB Mohammed Sajid Technical Manager Authorized Signatory

12/07/2022

(Approved By)

VEL/E/N/TR/PN10530

Test Report

Sample Number : VEL/W/PZ/06-05

Name & Address of the Party : M/s Raipur Energen Limited Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051011
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 17/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Near Fly Ash Pond
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.59	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	198.00	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	71.42	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	180.40	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	66.50	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	4.72	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	320.00	mg/l	500	2000

Dy. Tech. Manager

Authorised Signatory

VEL/EN/TR/PN/10504

Test Report

Sample Number : VEL/W/PZ/06-05 Report No. : VEL/W/2207051011

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	21.98	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.34	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	3.61	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.21	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB Authorised Signatory Dy. Tech. Manager 12/07/2022 GURGAON

VARDAN ENVIROLAB Dr. Shiv Prakash Singh 12/07/2022 Authorised Signatory

VEL/E/N/TR/P/10503

Test Report

Sample Number : VEL/W/PZ/06-05 Report No. : VEL/W/2207051011

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622 :1981	<2	MPN/100 ml	--	--

#The Submitted sample have above mentioned analytical characteristics, conforms to IS-10500:2012 Amendment No.4 Nov.2021

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

Remarks: Source of water is Piezowell.

End of Report

(Checked By)
KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB Authorized Signatory

(Approved By)

VEL/E/N/TR/PN10529

Test Report

Sample Number : VEL/W/PZ/06-06
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051012
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 17/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Near Bottom Ash Pond
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.63	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	207.90	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	73.41	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	185.00	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	71.25	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	5.93	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	329.00	mg/l	500	2000

VARDAN ENVIROLAB PVT. LTD. GURGAON 12/07/2022

Test Report

Sample Number : VEL/W/PZ/06-06 Report No. : VEL/W/2207051012

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	22.99	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.35	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	3.74	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.12	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON Pitbuti Nakak 12/07/2022

VARDAN ENVIROLAB Dr Shiv Prakash Singh 12/07/2022 Authorised Signatory

VEL/E/N/TR/PNT0500

Test Report

Sample Number : VEL/W/PZ/06-06 Report No. : VEL/W/2207051012

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS:1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

Remarks: Source of water is Piezowell.

End of Report

(Checked By)

KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB Mohammad Shafi Technical Manager Authorized Signatory

12/07/2022

(Approved By)

VEL/E/N/YR/PN10526

Test Report

Sample Number : VEL/W/01
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051013
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Filed Hostel Tap Water
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.50	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	183.15	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	59.52	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	166.50	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	76.0	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	8.35	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	299.00	mg/l	500	2000

Abhijit Nayak
Lab Tech. Manager
12/07/2022

VEL/E/R/TR-2210457

Test Report

Sample Number : VEL/W/01 Report No. : VEL/W/2207051013

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	15.23	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.28	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	3.95	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.31	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIROLAB GURGAON

VARDAN ENVIROLAB Authorised Signatory

VEL/E/N/TR/PN10456

Test Report

Sample Number : VEL/W/01 Report No. : VEL/W/2207051013

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

End of Report

(Checked By)
KHUSHBU SHARMA
Senior Microbiologist

VARDAN ENVIROLAB
Mohammad Shafi
Technical Manager
Authorized Signatory

(Approved By)

Test Report

Sample Number : VEL/GW/06-02
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/W/2207051014
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.+250 ml
Sampling Type : Grab

Sample Description : WATER (Ground Water)
Location : Near Phillips Office
Sample Collected by : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : APHA & IS

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
1	pH (at 25 °C)	APHA 4500 H+B Electrometric Method:2017	7.55	-	6.5-8.5	No relaxation
2	Colour	APHA 2120 B Visual Comparison Method:2017	BLQ (LOQ-1.0)	Hazen Unit	5	15
3	Turbidity	APHA 2130 B Nephelometric Method:2017	BLQ (LOQ-1.0)	NTU	1	5
4	Odour	APHA 2150 B Threshold Odour Method:2017	Agreeable	-	Agreeable	Agreeable
5	Taste	APHA 2160 B Flavor Threshold Test Method:2017	Agreeable	-	Agreeable	Agreeable
6	Total Hardness (as CaCO3)	APHA 2340 C EDTA Titrimetric Method:2017	222.75	mg/l	200	600
7	Calcium (as Ca)	APHA 3500 Ca B EDTA Titrimetric Method:2017	85.31	mg/l	75	200
8	Total Alkalinity (as CaCO3)	APHA 2320 B Titration Method:2017	189.60	mg/l	200	600
9	Chloride (as Cl)	APHA 4500 Cl B Argentometric Method:2017	64.13	mg/l	250	1000
10	Residual Free Chlorine (RFC)	APHA 3500 Cl B Iodometric Method:2017	BLQ (LOQ-0.15)	mg/l	0.2	1
11	Ammonia (as total ammonia-NH3)	IS 3025 (P-34), RA:2009	BLQ (LOQ-0.3)	mg/l	0.5	No relaxation
12	Cyanide (as CN)	APHA 4500 CN D Titrimetric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
13	Magnesium (as Mg)	APHA 3500 Mg B Calculation Method:2017	2.30	mg/l	30	100
14	Total Dissolved Solids	APHA 2540 C Gravimetric Method:2017	335.00	mg/l	500	2000

Test Report

Sample Number : VEL/GW/06-02 Report No. : VEL/W/2207051014

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
15	Sulphate (as SO4)	APHA 4500 E Turbidimetric Method:2017	20.40	mg/l	200	400
16	Fluoride (as F)	APHA 4500 F D SPADNS Method:2017	0.32	mg/l	1.0	1.5
17	Nitrate (as NO3)	IS:3025 (P-34), Chromotropic Method, RA:2003	5.10	mg/l	45	No relaxation
18	Iron (as Fe)	IS 3025 (Part-65)	0.41	mg/l	1.0	No relaxation
19	Aluminium (as Al)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.03	0.2
20	Boron (as B)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.5	2.4
21	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ (LOQ-0.0004)	mg/l	0.001	0.002
22	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method:2017	BLQ (LOQ-0.05)	mg/l	0.2	1.0
23	Zinc (as Zn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	5	15
24	Copper (as Cu)	IS 3025 (Part-65)	BLQ (LOQ-0.002)	mg/l	0.05	1.5
25	Manganese (as Mn)	IS 3025 (Part-65)	BLQ (LOQ-0.01)	mg/l	0.1	0.3
26	Selenium (as Se)	IS 3025 (Part-65)	BLQ (LOQ-0.001)	mg/l	0.01	No relaxation
27	Total Arsenic (as As)	IS 3025 (Part-65)	BLQ (LOQ-0.005)	mg/l	0.01	No relaxation
28	Mineral Oil	Clause 6 of IS:3025 (P-39)/APHA 5520-C Partition Infra Red:2017	BLQ (LOQ-0.1)	mg/l	1.0	No relaxation
29	Sulphide (as H2S)	APHA 4500 S2-F Iodometric Method:2017	BLQ (LOQ-0.02)	mg/l	0.05	No relaxation
30	Barium (as Ba)	APHA 3111 B Air Acetylene Flame Method:2017	BLQ (LOQ-0.01)	mg/l	0.7	No relaxation

VARDAN ENVIRO LAB GGN

VARDAN ENVIROLAB Authorised Signatory

VEL/E/N/TR/PN10449

Test Report

Sample Number : VEL/GW/06-02 Report No. : VEL/W/2207051014

S.No.	Parameter	Test Mathod	Result	Unit	Requirement as per IS:10500-2012	
					Acceptable Limit	Permissible Limits
Microbiological Analysis:						
31	E.coli	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
32	Total Coliform	IS:15185: 2016	Absent	/100ml	Shall not be detectable in any 100 ml sample	-
33	Faecal Coliform	IS 1622:1981	<2	MPN/100 ml	--	--

#-The submitted sample have above mentioned analytical characteristics ,conforms to IS 10500:2012 Amendment No.4,Nov,2021.

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

End of Report

(Checked By)
KHUSHBU SHARMA
Senior Microbiologist

(Approved By)
Mohammad Sufi
Technical Manager
Authorized Signatory

VEL/E/N/TR/PN10526

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvironet.com, bd@vardanenvironet.com

4.4 Surface water Quality Analysis:-

Figure. No. 6. Plan Showing Surface Water Quality Monitoring Location Map

Surface Water Quality Monitoring Locations

Location Code:-

SW1- Gaitara Pond Water

SW2- Mura Pond Water

SW3- Chicholi Pond Water

SW4- Raikheda Pond Water

SW5- Bengoli Dam

Test Report

Sample Number : VEL/SW/06-01
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/SW/2207051001
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.
Sampling Type : Grab

Sample Description : Surface Water
Location : Gaitara Pond Water
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : IS : 3025 & APHA

S.No.	Test Parameters	Test Method	Results	Units
1	pH (at 25°C)	APHA 4500 H+B Electrometric Method RA:2012	7.75	--
2	Colour	APHA 2120 (B) Visual Comparison Method RA:2012	BLQ(LOQ-1.0)	Hazen
3	Turbidity	APHA 23rd Edition,2130 B	5.0	NTU
4	Odour	APHA 2150 B, Threshold Odour Method	Unobjectionable	--
5	Calcium (as Ca)	APHA 23rd Edition,3500 Ca B	39.68	mg/l
6	Total Hardness	APHA 2340 C,EDTA Titrimetric Method	113.85	mg/l
7	Chloride (as Cl)	APHA 4500 Cl-B Argentometric Method:2017	61.75	mg/l
8	Alkalinity (as CaCO3)	APHA 23rd Edition,2320 B	115.60	mg/l
9	Dissolved Oxygen	APHA 4500 O B Iodometric Method:2017	7.40	mg/l
10	Magnesium (as Mg)	APHA 23rd Edition,3500 Mg B	3.56	mg/l
11	Cyanide (as CN)	APHA 4500 CN-E:2017	BLQ(LOQ-0.02)	mg/l
12	Total Dissolved Solids	APHA 2540 C Gravimetric Method RA:2012	221.00	mg/l
13	Sulphate (as SO4)	APHA 4500 SO4 E Turbidimetric Method RA:2009	17.53	mg/l
14	Fluoride (as F)	APHA 4500 F D Spands Method :2017	0.32	mg/l
15	COD	APHA 5220 B Open Reflux Method	41.0	mg/l
16	BOD (5 Days at 20°C)	APHA 5210 C Ultimate BOD Test:2017	7.0	mg/l
17	Nitrate (as NO3)	IS 3025 (P-34) Reff. 2003 Chromotropic Method :2017	5.38	mg/l
18	Lead (as Pb)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
19	Selenium (Se)	APHA 3114 B:2017	BLQ(LOQ-0.001)	mg/l
20	Iron (as Fe)	APHA 3500 Fe B 1,10 Phenanthroline Method:2017	0.21	mg/l
21	Arsenic (as As)	APHA 3114 B:2017	BLQ(LOQ-0.005)	mg/l

VARDAN ENVIROLAB PVT. LTD. GURGAON

VARDAN ENVIROLAB Shiv Prakash Authorised Signatory

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvironet.com, bd@vardanenvironet.com

Test Report

Sample Number : VEL/SW/06-01 Report No. : VEL/SW/2207051001

S.No.	Test Parameters	Test Method	Results	Units
22	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	BLQ(LOQ-0.4)	mg/l
23	Total Chromium (Cr)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
24	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ(LOQ-0.0004)	mg/l
25	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method	BLQ(LOQ-0.05)	mg/l
26	Zinc (as Zn)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.01)	mg/l
27	Copper (as Cu)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
28	Cadmium (as Cd)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
29	Aluminium (as Al)	APHA 23rd Edition, 3111 B	BLQ(LOQ-0.002)	mg/l
30	Boron (as B)	APHA 23rd Edition, 4500 B C	BLQ(LOQ-0.01)	mg/l
31	Residual Free Chlorine	APHA 3500 Cl B Iodometric Method:2017	BLQ(LOQ-0.15)	mg/l
32	Manganese (as Mn)	APHA 3111 B:2017	BLQ(LOQ-0.01)	mg/l
33	Mercury (as Hg)	APHA 3112 B Cold Vapor AAS Method : 2017	BLQ(LOQ-0.0005)	mg/l

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

End of Report

(Checked By)

(Approved By)

VEL/E/N/TR/PNT0496

Test Report

Sample Number : VEL/SW/06-02
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/SW/2207051002
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.
Sampling Type : Grab

Sample Description : Surface Water
Location : Musa Pond Water
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : IS : 3025 & APHA

S.No.	Test Parameters	Test Method	Results	Units
1	pH (at 25°C)	APHA 4500 H+B Electrometric Method	7.72	--
2	Colour	APHA 2120 (B) Visual Comparison Method	BLQ(LOQ-1.0)	Hazen
3	Turbidity	APHA 23rd Edition,2130 B	4.2	NTU
4	Odour	APHA 2150 B, Threshold Odour Method	Unobjectionable	--
5	Calcium (as Ca)	APHA 23rd Edition,3500 Ca B	37.70	mg/l
6	Total Hardness	APHA 2340 C,EDTA Titrimetric Method	108.90	mg/l
7	Alkalinity (as Al)	APHA 23rd Edition,2320 B	111.00	mg/l
8	Chloride (as Cl)	APHA 4500 Cl-B Argentometric Method:2017	59.38	mg/l
9	Dissolved Oxygen	APHA 4500 O B Iodometric Method:2017	6.2	mg/l
10	Magnesium (as Mg)	APHA 23rd Edition,3500 Mg B	3.26	mg/l
11	Cyanide (as CN)	APHA 4500 CN-E:2017	BLQ(LOQ-0.02)	mg/l
12	Total Dissolved Solids	APHA 2540 C Gravimetric Method RA:2012	210.00	mg/l
13	Sulphate (as SO4)	APHA 4500 SO4 E Turbidimetric Method RA:2009	16.95	mg/l
14	Fluoride (as F)	APHA 4500 F D Spands Method :2017	0.31	mg/l
15	COD	APHA 5220 B Open Reflux Method	37.0	mg/l
16	BOD (5 Days at 20°C)	APHA 5210 C Ultimate BOD Test:2017	6.0	mg/l
17	Nitrate (as NO3)	IS 3025 (P-34) Reff. 2003 Chromotropic Method :2017	4.22	mg/l
18	Lead (as Pb)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
19	Selenium (Se)	APHA 3114 B:2017	BLQ(LOQ-0.001)	mg/l
20	Iron (as Fe)	APHA 3500 Fe B 1,10 Phenanthroline Method:2017	0.22	mg/l
21	Arsenic (as As)	APHA 3114 B:2017	BLQ(LOQ-0.005)	mg/l
22	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	BLQ(LOQ-0.4)	mg/l

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

Test Report

Sample Number : VEL/SW/06-02 Report No. : VEL/SW/2207051002

S.No.	Test Parameters	Test Method	Results	Units
23	Total Chromium (as Cr)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
24	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ(LOQ-0.0004)	mg/l
25	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method	BLQ(LOQ-0.05)	mg/l
26	Zinc (as Zn)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.01)	mg/l
27	Copper (as Cu)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
28	Cadmium (as Cd)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
29	Aluminium (as Al)	APHA 23rd Edition, 3111 B	BLQ(LOQ-0.002)	mg/l
30	Boron (as B)	APHA 23rd Edition, 4500 B C	BLQ(LOQ-0.01)	mg/l
31	Residual Free Chlorine	APHA 3500 Cl B Iodometric Method:2017	BLQ(LOQ-0.15)	mg/l
32	Manganese (as Mn)	APHA 3111 B:2017	BLQ(LOQ-0.01)	mg/l
33	Mercury (as Hg)	APHA 3112 B Cold Vapor AAS Method : 2017	BLQ(LOQ-0.0005)	mg/l

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

End of Report

(Checked By)

(Approved By)

Test Report

Sample Number : VEL/SW/06-03
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/SW/2207051003
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.
Sampling Type : Grab

Sample Description : Surface Water
Location : Chicholi Pond Water
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : IS : 3025 & APHA

S.No.	Test Parameters	Test Method	Results	Units
1	pH (at 25°C)	APHA 4500 H+B Electrometric Method RA:2012	7.54	--
2	Colour	APHA 2120 (B) Visual Comparison Method RA:2012	BLQ(LOQ-1.0)	Hazen
3	Turbidity	APHA 23rd Edition,2130 B	3.5	NTU
4	Odour	APHA 2150 B, Threshold Odour Method	Unobjectionable	--
5	Calcium (as Ca)	APHA 23 rd Edition,3500 Ca B	41.66	mg/l
6	Total Hardness	APHA 2340 C,EDTA Titrimetric Method	148.50	mg/l
7	Alkalinity (as CaCO3)	APHA 23 rd Edition,2320 B	134.10	mg/l
8	Chloride (as Cl)	APHA 4500 Cl-B Argentometric Method:2017	76.00	mg/l
9	Dissolved Oxygen	APHA 4500 O B Iodometric Method:2017	6.3	mg/l
10	Magnesium (as Mg)	APHA 23 rd Edition,3500 Mg B	10.78	mg/l
11	Cyanide (as CN)	APHA 4500 CN-E:2017	BLQ(LOQ-0.02)	mg/l
12	Total Dissolved Solids	APHA 2540 C Gravimetric Method RA:2012	282.00	mg/l
13	Sulphate (as SO4)	APHA 4500 SO4 E Turbidimetric Method RA:2009	15.23	mg/l
14	Fluoride (as F)	APHA 4500 F D Spands Method :2017	0.34	mg/l
15	COD	APHA 5220 B Open Reflux Method	29.0	mg/l
16	BOD (5 Days at 20°C)	APHA 5210 C Ultimate BOD Test:2017	8.0	mg/l
17	Nitrate (as NO3)	IS 3025 (P-34) Reff. 2003 Chromotropic Method :2017	5.58	mg/l
18	Lead (as Pb)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
19	Selenium (as Se)	APHA 3114 B:2017	BLQ(LOQ-0.001)	mg/l
20	Iron (as Fe)	APHA 3500 Fe B 1,10 Phenanthroline Method:2017	0.11	mg/l
21	Arsenic (as As)	APHA 3114 B:2017	BLQ(LOQ-0.005)	mg/l

VARDAN ENVIROLAB PVT. LTD. GURGAON
Dy. Tech. Manager

VARDAN ENVIROLAB PVT. LTD. GURGAON
Reviewed
Authorised Signatory

Test Report

Sample Number : VEL/SW/06-03 Report No. : VEL/SW/2207051003

S.No.	Test Parameters	Test Method	Results	Units
22	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	BLQ(LOQ-0.4)	mg/l
23	Total Chromium (Cr)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
24	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ(LOQ-0.0004)	mg/l
25	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method	BLQ(LOQ-0.05)	mg/l
26	Zinc (as Zn)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.01)	mg/l
27	Copper (as Cu)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
28	Cadmium (as Cd)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
29	Aluminium (as Al)	APHA 23rd Edition, 3111 B	BLQ(LOQ-0.002)	mg/l
30	Boron (as B)	APHA 23rd Edition, 4500 B C	BLQ(LOQ-0.01)	mg/l
31	Residual Free Chlorine	APHA 3500 Cl B Iodometric Method:2017	BLQ(LOQ-0.15)	mg/l
32	Manganese (as Mn)	APHA 3111 B:2017	BLQ(LOQ-0.01)	mg/l
33	Mercury (as Hg)	APHA 3112 B Cold Vapor AAS Method : 2017	0.008	mg/l

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

End of Report

VARDAN ENVIROLAB GURGAON
(Checked By)

VARDAN ENVIROLAB Dr. Shiv Authorised Signatory
(Approved By)

Test Report

Sample Number : VEL/SW/06-04
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/SW/2207051004
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.
Sampling Type : Grab

Sample Description : Surface Water
Location : Raikheda Pond Water
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : IS : 3025 & APHA

S.No.	Test Parameters	Test Method	Results	Units
1	pH (at 25°C)	APHA 4500 H+B Electrometric Method RA:2012	7.38	--
2	Colour	APHA 2120 (B) Visual Comparison Method RA:2012	BLQ(LOQ-1.0)	Hazen
3	Turbidty	APHA 23rd Edition,2130 B	4.0	NTU
4	Odour	APHA 2150 B, Threshold Odour Method	Unobjectionable	--
5	Calcium (as Ca)	APHA 23rd Edition,3500 Ca B	35.71	mg/l
6	Total Hardness	APHA 2340 C,EDTA Titrimetric Method	103.56	mg/l
7	Alkalinity (as CaCO3)	APHA 23rd Edition,2320 B	95.50	mg/l
8	Chloride (as Cl)	APHA 4500 Cl-B Argentometric Method:2017	61.75	mg/l
9	Dissolved Oxygen	APHA 4500 O B Iodometric Method:2017	6.40	mg/l
10	Magnesium (as Mg)	APHA 23rd Edition,3500 Mg B	3.57	mg/l
11	Cyanide (as CN)	APHA 4500 CN-E:2017	BLQ(LOQ-0.02)	mg/l
12	Total Dissolved Solids	APHA 2540 C Gravimetric Method RA:2012	195.00	mg/l
13	Sulphate (as SO4)	APHA 4500 SO4 E Turbidimetric Method RA:2009	11.92	mg/l
14	Fluoride (as F)	APHA 4500 F D Spands Method :2017	0.31	mg/l
15	COD	APHA 5220 B Open Reflux Method	17.0	mg/l
16	BOD (5 Days at 20°C)	APHA 5210 C Ultimate BOD Test:2017	4.0	mg/l
17	Nitrate (as NO3)	IS 3025 (P-34) Reff. 2003 Chromotropic Method :2017	3.13	mg/l
18	Lead (as Pb)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
19	Selenium (as Se)	APHA 3114 B:2017	BLQ(LOQ-0.001)	mg/l
20	Iron (as Fe)	APHA 3500 Fe B 1,10 Phenanthroline Method:2017	0.20	mg/l
21	Arsenic (as As)	APHA 3114 B:2017	BLQ(LOQ-0.005)	mg/l

VARDAN ENVIROLAB GURGAON 12/07/2022

VEL/E/M/TR/PN1491

VARDAN ENVIROLAB Dr. Shiv Prakash Authorised Signatory

Ph: 0124-4343750/752/753, 9810355569, 9953147268 E-mail: lab@vardanenvironet.com, bd@vardanenvironet.com

Test Report

Sample Number : VEL/SW/06-04 Report No. : VEL/SW/2207051004

S.No.	Test Parameters	Test Method	Results	Units
22	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	BLQ(LOQ-0.4)	mg/l
23	Total Chromium (as Cr)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
24	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ(LOQ-0.0004)	mg/l
25	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method	BLQ(LOQ-0.05)	mg/l
26	Zinc (as Zn)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.01)	mg/l
27	Copper (as Cu)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
28	Cadmium (as Cd)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
29	Aluminium (as Al)	APHA 23rd Edition, 3111 B	BLQ(LOQ-0.002)	mg/l
30	Boron (as B)	APHA 23rd Edition, 4500 B C	BLQ(LOQ-0.01)	mg/l
31	Residual Free Chlorine	APHA 3500 Cl B Iodometric Method:2017	BLQ(LOQ-0.15)	mg/l
32	Manganese (as Mn)	APHA 3111 B:2017	BLQ(LOQ-0.01)	mg/l
33	Mercury (as Hg)	APHA 3112 B Cold Vapor AAS Method : 2017	0.001	mg/l

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

End of Report

(Checked By)

(Approved By)

Test Report

Sample Number : VEL/SW/06-05

Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/SW/2207051005
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 5.0 Ltrs.
Sampling Type : Grab

Sample Description : Surface Water
Location : Bengoli Dam
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Sampling and Analysis Protocol : IS : 3025 & APHA

S.No.	Test Parameters	Test Method	Results	Units
1	pH (at 25°C)	APHA 4500 H+B Electrometric Method RA:2012	7.25	--
2	Colour	APHA 2120 (B) Visual Comparison Method RA:2012	BLQ(LOQ-1.0)	Hazen
3	Turbidity	APHA 23rd Edit	2.9	NTU
4	Odour	APHA 2150 B, Threshold Odour Method	Unobjectionable	--
5	Calcium (as Ca)	APHA 23rd Edition,3500 Ca B	45.63	mg/l
6	Total Hardness	APHA 2340 C,EDTA Titrimetric Method	163.25	mg/l
7	Alkalinity (as Al)	APHA 23rd Edition,2320 B	124.90	mg/l
8	Chloride (as Cl)	APHA 4500 Cl-B Argentometric Method:2017	68.88	mg/l
9	Dissolved Oxygen	APHA 4500 O B Iodometric Method:2017	6.40	mg/l
10	Magnesium (as Mg)	APHA 23rd Edition,3500 Mg B	11.97	mg/l
11	Cyanide (as CN)	APHA 4500 CN-E:2017	BLQ(LOQ-0.02)	mg/l
12	Total Dissolved Solids	APHA 2540 C Gravimetric Method RA:2012	202.00	mg/l
13	Sulphate (as SO4)	APHA 4500 SO4 E Turbidimetric Method RA:2009	15.23	mg/l
14	Fluoride (as F)	APHA 4500 F D Spands Method :2017	0.28	mg/l
15	COD	APHA 5220 B Open Reflux Method	25.0	mg/l
16	BOD (5 Days at 20°C)	APHA 5210 C Ultimate BOD Test:2017	9.0	mg/l
17	Nitrate (as NO3)	IS 3025 (P-34) Reff. 2003 Chromotropic Method :2017	5.38	mg/l
18	Lead (as Pb)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
19	Selenium (as Se)	APHA 3114 B:2017	BLQ(LOQ-0.001)	mg/l
20	Iron (as Fe)	APHA 3500 Fe B 1,10 Phenanthroline Method:2017	0.24	mg/l
21	Arsenic (as As)	APHA 3114 B:2017	BLQ(LOQ-0.005)	mg/l

Dy. Tech. Manager

Authorised Signatory

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Test Report

Sample Number : VEL/SW/06-05 Report No. : VEL/SW/2207051005

S.No.	Test Parameters	Test Method	Results	Units
22	Oil & Grease	APHA 5520 B Partition Gravimetric Method:2017	BLQ(LOQ-0.4)	mg/l
23	Total Chromium (Cr)	APHA 3111 B Direct Air Acetylene Flame Method:2017	0.003	mg/l
24	Phenolic Compounds (as C6H5OH)	APHA 5530 C Chloroform Extraction Method:2017	BLQ(LOQ-0.0004)	mg/l
25	Anionic Detergents (as MBAS)	APHA 5540 C MBAS Method	BLQ(LOQ-0.05)	mg/l
26	Zinc (as Zn)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.01)	mg/l
27	Copper (as Cu)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
28	Cadmium (as Cd)	APHA 3111 B Direct Air Acetylene Flame Method:2017	BLQ(LOQ-0.002)	mg/l
29	Aluminium (as Al)	APHA 23rd Edition, 3111 B	BLQ(LOQ-0.002)	mg/l
30	Boron (as B)	APHA 23rd Edition, 4500 B C	BLQ(LOQ-0.01)	mg/l
31	Residual Free Chlorine	APHA 3500 Cl B Iodometric Method:2017	BLQ(LOQ-0.15)	mg/l
32	Manganese (as Mn)	APHA 3111 B:2017	BLQ(LOQ-0.01)	mg/l
33	Mercury (as Hg)	APHA 3112 B Cold Vapor AAS Method : 2017	BLQ(LOQ-0.0005)	mg/l

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

End of Report

VARDAN ENVIROLAB GURGAON

(Checked By)

VARDAN ENVIROLAB Authorised Signatory

(Approved By)

VEL/E/N/TR/PN10488

4.5 Soil Quality Analysis:-

Figure No. 8. Plan Showing Soil Sample Monitoring Location Map

Soil Quality Monitoring Locations

Location Code:-

S1- Near Field Hostel Area

S2- Village - Raikheda

S3- Village - Musa

S4- Village - Gaitara

S5- Village - Chicholi

Vardan EnviroLab

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

ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number : VEL/S0/01

Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : Soil Sample
Location : Near Field Area
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Parameter Required : As per work order
Sampling and Analysis Protocol : IS 2720, SOP & USEPA 3050

Report No. : VEL/S0/2207051001A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-11/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 2.0 KG
Sampling Type : Composite

S.No	Parameters	Test Method	Results	Units
1	pH (at 25°C)	IS : 2720 (P-26):1987	7.37	-
2	Electrical Conductivity	IS :14767:2000	0.263	mS/cm
3	Colour	SOP, SP-85,Issue No.-01	Brownish Black	-
4	Water holding capacity	SOP, SP-81,Issue No.-01	35.23	%
5	Bulk density	SOP, SP-80,Issue No.-01	1.34	gm/cc
6	Chloride	SOP, SP-85,Issue No.-01	258.13	mg/kg
7	Calcium (as Ca)	SOP, SP-82,Issue No.-01	263.19	mg/kg
8	Sodium (as Na)	SOP, SP-84,Issue No.-01	141.72	mg/kg
9	Potassium (as K)	SOP, SP-84,Issue No.-01	87.34	kg. /hec.
10	Organic Matter	IS:2720 (P-22):1972	0.61	%
11	Magnesium (as Mg)	SOP, SP-83,Issue No.-01	143.48	mg/kg
12	Available Nitrogen (as N)	IS 14648,Distillation Method	240.73	kg. /hec.
13	Available Phosphours	SOP, SP-86, Issue No.01:2013	41.44	kg. /hec.
14	Total Zinc (as Zn)	USEPA 3050 B	45.63	mg/kg
15	Total Manganese (as Mn)	USEPA 3050 B	179.67	mg/kg
16	Total Chromium (as Cr)	USEPA 3050 B	3.82	mg/kg
17	Total Lead (as Pb)	USEPA 3050 B	8.27	mg/kg
18	Total Cadmium (as Cd)	USEPA 3050 B	12.63	mg/kg
19	Total Copper (as Cu)	USEPA 3050 B	19.35	mg/kg
20	Soil Texture	IS 2720 (P-4)	Silty clay	--

Remark- This report replaces our earliar report No. VEL/S0/2207051001 dated 11/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022.

End of Report

(Checked By)

(Approved By)

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

Test Report

Sample Number : VEL/S0/02
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village- Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : Soil Sample
Location : Raikheda Village
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Parameter Required : As per work order
Sampling and Analysis Protocol : IS 2720, SOP & USEPA 3050

Report No. : VEL/S0/2207051002 A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-11/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 2.0 KG
Sampling Type : Composite

S.No	Parameters	Test Method	Results	Units
1	pH (at 25°C)	IS : 2720 (P-26):1987	7.51	-
2	Electrical Conductivity	IS :14767:2000	0.236	mS/cm
3	Colour	SOP, SP-85,Issue No.-01	Brownish Black	-
4	Water holding capacity	SOP, SP-81,Issue No.-01	36.39	%
5	Bulk density	SOP, SP-80,Issue No.-01	1.22	gm/cc
6	Chloride	SOP, SP-85,Issue No.-01	75.09	mg/kg
7	Calcium (as Ca)	SOP, SP-82,Issue No.-01	396.69	mg/kg
8	Sodium (as Na)	SOP, SP-84,Issue No.-01	175.96	mg/kg
9	Potassium (as K)	SOP, SP-84,Issue No.-01	260.91	kg. /hec.
10	Organic Matter	IS:2720 (P-22):1972	0.54	%
11	Magnesium (as Mg)	SOP, SP-83,Issue No.-01	127.19	mg/kg
12	Available Nitrogen (as N)	IS 14648,Distillation Method	220.43	kg. /hec.
13	Available Phosphours	SOP, SP-86, Issue No.01:2013	48.58	kg. /hec.
14	Total Zinc (as Zn)	USEPA 3050 B	48.96	mg/kg
15	Total Manganese (as Mn)	USEPA 3050 B	189.79	mg/kg
16	Total Chromium (as Cr)	USEPA 3050 B	6.82	mg/kg
17	Total Lead (as Pb)	USEPA 3050 B	15.13	mg/kg
18	Total Cadmium (as Cd)	USEPA 3050 B	10.56	mg/kg
19	Total Copper (as Cu)	USEPA 3050 B	15.39	mg/kg
20	Soil Texture	IS 2720 (P-4)	Silty clay	--

Remark- This report replaces our earliar report No. VEL/S0/2207051002 dated 11/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022.

End of Report

(Checked By) Kushal Sharma

(Approved By) Authorised Signatory

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

Test Report

Sample Number : VEL/S0/03
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : Soil Sample
Location : Musa Village
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Parameter Required : As per work order
Sampling and Analysis Protocol : IS 2720, SOP & USEPA 3050

Report No. : VEL/S0/2207051003 A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-11/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 2.0 KG
Sampling Type : Composite

S.No	Parameters	Test Method	Results	Units
1	pH (at 25°C)	IS : 2720 (P-26):1987	7.64	-
2	Electrical Conductivity	IS :14767:2000	0.291	mS/cm
3	Colour	SOP, SP-85,Issue No.-01	Browish Black	-
4	Water holding capacity	SOP, SP-81,Issue No.-01	42.20	%
5	Bulk density	SOP, SP-80,Issue No.-01	1.32	gm/cc
6	Chloride	SOP, SP-85,Issue No.-01	70.40	mg/kg
7	Calcium (as Ca)	SOP, SP-82,Issue No.-01	385.25	mg/kg
8	Sodium (as Na)	SOP, SP-84,Issue No.-01	154.44	mg/kg
9	Potassium (as K)	SOP, SP-84,Issue No.-01	258.61	kg. /hec.
10	Organic Matter	IS:2720 (P-22):1972	0.66	%
11	Magnesium (as Mg)	SOP, SP-83,Issue No.-01	136.44	mg/kg
12	Available Nitrogen (as N)	IS 14648,Distillation Method	223.29	kg. /hec.
13	Available Phosphours	SOP, SP-86, Issue No.01:2013	51.47	kg. /hec.
14	Total Zinc (as Zn)	USEPA 3050 B	44.36	mg/kg
15	Total Manganese (as Mn)	USEPA 3050 B	207.18	mg/kg
16	Total Chromium (as Cr)	USEPA 3050 B	8.13	mg/kg
17	Total Lead (as Pb)	USEPA 3050 B	11.51	mg/kg
18	Total Cadmium (as Cd)	USEPA 3050 B	10.90	mg/kg
19	Total Copper (as Cu)	USEPA 3050 B	22.59	mg/kg
20	Soil Texture	IS 2720 (P-4)	Silty clay	--

Remark- This report replaces our earliar report No. VEL/S0/2207051003 dated 11/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022.

End of Report

(Checked By) Kushal Sharma

(Approved By) Dr. Shiv

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

TC-6299

Test Report

Sample Number : VEL/S0/04

Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : Soil Sample
Location : Village-Gaitara
Sample Collected By : VEL Representative (Mr.Rahul)
Environmental Condition : OK
Parameter Required : As per work order
Sampling and Analysis Protocol : IS 2720, SOP & USEPA 3050

Report No. : VEL/S0/2207051004A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-11/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 2.0 KG
Sampling Type : Grab

S.No	Parameters	Test Method	Results	Units
1	pH (at 25°C)	IS : 2720 (P-26):1987	7.52	-
2	Electrical Conductivity	IS :14767:2000	0.281	mS/cm
3	Colour	SOP, SP-85,Issue No.-01	Brownish Black	-
4	Water holding capacity	SOP, SP-81,Issue No.-01	35.89	%
5	Bulk density	SOP, SP-80,Issue No.-01	1.38	gm/cc
6	Chloride	SOP, SP-85,Issue No.-01	65.71	mg/kg
7	Calcium (as Ca)	SOP, SP-82,Issue No.-01	415.76	mg/kg
8	Sodium (as Na)	SOP, SP-84,Issue No.-01	150.26	mg/kg
9	Potassium (as K)	SOP, SP-84,Issue No.-01	214.69	kg. /hec.
10	Organic Matter	IS:2720 (P-22):1972	0.63	%
11	Magnesium (as Mg)	SOP, SP-83,Issue No.-01	194.26	mg/kg
12	Available Nitrogen (as N)	IS 14648,Distillation Method	205.93	kg. /hec.
13	Available Phosphours	SOP, SP-86, Issue No.01:2013	53.85	kg. /hec.
14	Total Zinc (as Zn)	USEPA 3050 B	46.98	mg/kg
15	Total Manganese (as Mn)	USEPA 3050 B	195.90	mg/kg
16	Total Chromium (as Cr)	USEPA 3050 B	6.74	mg/kg
17	Total Lead (as Pb)	USEPA 3050 B	8.90	mg/kg
18	Total Cadmium (as Cd)	USEPA 3050 B	9.99	mg/kg
19	Total Copper (as Cu)	USEPA 3050 B	19.41	mg/kg
20	Soil Texture	IS 2720 (P-4)	Silty clay	--

Remark- This report replaces our earliar report No. VEL/S0/2207051004 dated 11/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022.

End of Report

(Checked By)

(Approved By)

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

Test Report

Sample Number : VEL/S0/05

Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : Soil Sample
Location : Village-Chicholi
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Parameter Required : As per work order
Sampling and Analysis Protocol : IS 2720, SOP & USEPA 3050

Report No. : VEL/S0/2207051005A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-11/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 2.0 KG
Sampling Type : Composite

S.No	Parameters	Test Method	Results	Units
1	pH (at 25°C)	IS : 2720 (P-26):1987	7.69	-
2	Electrical Conductivity	IS :14767:2000	0.259	mS/cm
3	Colour	SOP, SP-85,Issue No.-01	Brownish Black	-
4	Water holding capacity	SOP, SP-81,Issue No.-01	40.94	%
5	Bulk density	SOP, SP-80,Issue No.-01	1.32	gm/cc
6	Chloride	SOP, SP-85,Issue No.-01	84.48	mg/kg
7	Calcium (as Ca)	SOP, SP-82,Issue No.-01	369.99	mg/kg
8	Sodium (as Na)	SOP, SP-84,Issue No.-01	178.83	mg/kg
9	Potassium (as K)	SOP, SP-84,Issue No.-01	286.44	kg. /hec.
10	Organic Matter	IS:2720 (P-22):1972	0.52	%
11	Magnesium (as Mg)	SOP, SP-83,Issue No.-01	166.51	mg/kg
12	Available Nitrogen (as N)	IS 14648,Distillation Method	229.14	kg. /hec.
13	Available Phosphours	SOP, SP-86, Issue No.01:2013	54.85	kg. /hec.
14	Total Zinc (as Zn)	USEPA 3050 B	50.85	mg/kg
15	Total Manganese (as Mn)	USEPA 3050 B	206.94	mg/kg
16	Total Chromium (as Cr)	USEPA 3050 B	7.69	mg/kg
17	Total Lead (as Pb)	USEPA 3050 B	9.50	mg/kg
18	Total Cadmium (as Cd)	USEPA 3050 B	10.56	mg/kg
19	Total Copper (as Cu)	USEPA 3050 B	23.32	mg/kg
20	Soil Texture	IS 2720 (P-4)	Silty clay	--

Remark-This report replaces our earliar report No.VEL/S0/2207051005 dated 11/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022.

End of Report

(Checked By)

(Approved By)

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4.6 Waste Water Sample Analysis Report:-

Figure No. 9. Plan Showing Waste Water Sample Monitoring Location Map

Waste Water Quality Monitoring Locations

Location Code:-

WW1- ETP Outlet (ETP Plant)

WW2- STP Outlet (STP Plant)

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

Test Report

Sample Number : VEL/WW/02
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Report No. : VEL/WW/2207051002
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 12/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 2.0 Ltrs.
Sampling Type : Grab

Sample Description : Waste Water (ETP Outlet)
Location : ETP Outlet
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Parameter Required : As per work order
Analysis Protocol : APHA & IS

S.No.	Test Parameters	Test Method	Result	Unit	Limits as Per EPA (Sche.-VI)		
					Inland Surface Water	Public Sewers	Land for Irrigation
1	pH	APHA 4500 H+B Electrometric Method:2017	8.12	--	5.5 - 9.0	5.5 - 9.0	5.5 - 9.0
2	Total Suspended Solids, max.	APHA 2540 D Gravimetric Method	7.60	mg/l	100.0	600.0	200.0
3	Oil & Grease, Max.	APHA 5520 B Partition Gravimetric Method:2017	0.40	mg/l	10.0	20.0	10.0
4	BOD (5 days @ 20°C) max.	APHA 5210 C Ultimate BOD Test:2017	16.0	mg/l	30.0	350.0	100.0
5	COD, Max.	APHA 5220 B Open Reflux Method:2017	66.0	mg/l	250.0	--	--

Note:-The submitted sample have above mentioned analytical characteristics ,conforms to EPA (Sche.VI)

End of Report

VARDAN ENVIROLAB GURGAON 21/07/2022
(Checked By)

VARDAN ENVIROLAB Authorised Signatory
(Approved By)

VEL/E/17TR/PN30860

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Vardan EnviroLab
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ISO 9001 | ISO 14001 | ISO 45001

Test Report

Sample Number : VEL/WW/01
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : Waste Water (STP Outlet)
Location : STP Outlet
Sample Collected By : VEL Representative (Mr. Rahul)
Environmental Condition : OK
Parameter Required : As per work order
Analysis Protocol : APHA & IS

Report No. : VEL/WW/2207051001A
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 23/07/2022
Period of Analysis : 05/07/2022-12/07/2022
Receipt Date : 05/07/2022
Sampling Date : 16/06/2022
Sampling Quantity : 2.0 Ltrs.
Sampling Type : Grab

S.No.	Test Parameters	Test Method	Result	Unit	Limits as Per EPA (Sche.-VI)		
					Inland Surface Water	Public Sewers	Land for Irrigation
1	pH	APHA 4500 H+B Electrometric Method:2017	7.47	--	5.5 - 9.0	5.5 - 9.0	5.5 - 9.0
2	Total Suspended Solids, max.	APHA 2540 D Gravimetric Method	20.40	mg/l	100.0	600.0	200.0
3	Oil & Grease, Max.	APHA 5520 B Partition Gravimetric Method:2017	0.40	mg/l	10.0	20.0	10.0
4	BOD (5 days @ 20°C) max.	APHA 5210 C Ultimate BOD Test:2017	23.0	mg/l	30.0	350.0	100.0
5	COD, Max.	APHA 5220 B Open Reflux Method:2017	91.0	mg/l	250.0	--	--

Note:-The submitted sample have above mentioned analytical characteristics ,conforms to EPA (Sche.VI)
Remark- This report replaces our earliar report No. VEL/WW/2207051001 dated 12/07/2022 due to typing error in the name of sample drawn representative. Test report re-issued with Amendment on dated 23/07/2022

End of Report

(Checked By) 23/07/2022

(Approved By) 23/07/2022

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4.7 Stack Emission Monitoring Analysis Report:-

Figure No. 10. Plan Showing Stack Emission Monitoring Location Map

Stack Emission Monitoring Locations

Location Code:-

TPP (Unit-1)

TPP (Unit-2)

Test Report

Sample Number : VEL/S/2207051001
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : Stack Emission Monitoring

Report No. : VEL/S/2207051001
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	TPP (Unit-I)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Date of Sampling	:	17/06/2022
Sampling duration (Minutes)	:	35.0
Stack attached to	:	ESP
Make of stack	:	MS
Diameter of stack(m)	:	7.50 Mtr.
Height of stack(m)	:	275.0 Mtr.
Instrument calibration status	:	Calibrated
Meteorological Condition	:	Clear Sky
Ambient Temperature - Ta (°C)	:	30.0
Temperature of Stack Gases - Ts (°C)	:	127.0
Velocity of Stack Gases (m/sec.)	:	21.4
Flow rate of PM (LPM)	:	18.0
Flow rate of Gas (LPM)	:	2.0
Sampling condition	:	Isokinetic
Protocol used	:	IS 11255 & EPA

S.No.	Test Parameters	Test Method	Results	Units	Limits as per CPCB
1	Particulate Matter (as PM)	IS:11255 (P-1), Gravimetric Method, RA:2003	46.82	mg/Nm3	50.0
2	Sulphur Dioxide (as SO2)	IS:11255 (P-2), Titrimetric Method, RA:2003	1134.54	mg/Nm3	--
3	Oxide of Nitrogen (as NOX)	IS:11255 (P-7), Colorimetric Method, RA:2012	262.39	mg/Nm3	--
4	Total Hydrocarbon (as Methane)	SOP, SP-194, Issue No.01:2018	52.61	mg/Nm3	--

Volumetric Flow Rate (Nm3/hr) - 2536760.48

End of Report

SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER
(Checked By)

(Approved By)

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

Test Report

Sample Number : VEL/S/2207051002
Name & Address of the Party : M/s Raipur Energen Limited
Formerly GMR Chhattisgarh Energy Ltd., Village-Raikheda, Block- Tilda, Dist-Raipur, Chhattisgarh.

Sample Description : **Stack Emission Monitoring**

Report No. : VEL/S/2207051002
Format No : 7.8 F-03
Party Reference No : By Mail
Reporting Date : 09/07/2022
Period of Analysis : 05/07/2022-09/07/2022
Receipt Date : 05/07/2022

General Information

Sampling Location	:	TPP (Unit-II)
Sample Collected By	:	VEL Representative (Mr. Rahul)
Date of Sampling	:	17/06/2022
Sampling duration (Minutes)	:	30.0
Stack attached to	:	ESP
Make of stack	:	MS
Diameter of stack(m)	:	7.50 Mtr.
Height of stack(m)	:	275.0 Mtr.
Instrument calibration status	:	Calibrated
Meteorological Condition	:	Clear Sky
Ambient Temperature - Ta (°C)	:	30.0
Temperature of Stack Gases - Ts (°C)	:	132.0
Velocity of Stack Gases (m/sec.)	:	22.8
Flow rate of PM (LPM)	:	17.0
Flow rate of Gas (LPM)	:	2.0
Sampling condition	:	Isokinetic
Protocol used	:	IS 11255 & EPA

S.No.	Test Parameters	Test Method	Results	Units	Limits as per CPCB
1	Particulate Matter (as PM)	IS:11255 (P-1), Gravimetric Method, RA:2003	43.03	mg/Nm3	50.0
2	Sulphur Dioxide (as SO2)	IS:11255 (P-2), Titrimetric Method, RA:2003	1092.22	mg/Nm3	--
3	Oxide of Nitrogen (as NOX)	IS:11255 (P-7), Colorimetric Method, RA:2012	315.30	mg/Nm3	--
4	Total Hydrocarbon (as Methane)	SOP, SP-194, Issue No.01:2018	43.84	mg/Nm3	--

Volumetric Flow Rate (Nm3/hr) - 2669349.90

End of Report

(Checked By)
SUBODH SHEKHAWAT
DY. TECHNICAL MANAGER

VARDAN ENVIROLAB Authorised Signatory
Dr. Shiv
(Approved By)
09/07/2022

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Chapter – 5.0
CONCLUSIONS

M/s RAIPUR ENERGEN LIMITED., authorities have been taken successful steps in controlling environmental pollution in and around the project. This fact is clear from analytical results of different environmental parameters. A brief conclusion is as follows.

S. No.	Environmental Parameters	Conclusions
5.1	Ambient Air Quality Environment	After analysis of the samples from five different locations it is observed that both the individuals and average concentration of air pollutants in respect of PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, C_6H_6, NH_3, O_3, Pb, As, Ni, BaP, TSPM and Mercury are well within the prescribed limits of NAAQ Standards. People of township and of surrounding villages do not have any problems regarding the airqualityand have no grievances because of Thermal Power Plant activities.
5.2	Noise Environment	The observations taken at eight villages location during Day and Night Time shows that the noise level are well within prescribed limits of CPCB. Hence there is no possibility of any adverse effect of noise generated due to Thermal Power Plant activities on peoples of Surrounding areas.
5.3	Ground, Surface & Waste Water Environment	The analytical result of the samples from the Ground Water of Villages, Surface Water from Pond & Dam, and Domestic & Industrial Effluent after treatment shows that the concentrations of different water parameters are well within prescribed limits and will not cause any adverse impact on human health and on surrounding area. People of Surrounding areas express satisfaction about the water quality of that area.
5.4	Soil Environment	The analytical result of the samples from the Soil shows that the concentrations of different soil parameters are well within prescribed limits and will not cause any adverse impact on surrounding area. People of Surrounding areas express satisfaction about the soil quality of that area.

5.5	Stack Emission Environment	The analytical result of the samples from the TPP (Unit-1 & Unit-2) shows that the concentrations of different stack parameters are well within prescribed limits and will not cause any adverse impact on surrounding area.

All the above details show that Thermal Power Plant of M/s RAIPUR ENERGEN LIMITED is not causing any adverse impact on the human health and ecological balance.

END OF THE REPORT

Rainwater Harvesting Ponds at our Site

Annexure -IV

Name of Power Utility / Company: Raipur Energen Limited

NAME OF THERMAL POWER PLANT : Raipur Energen Limited
Village: Raikheda
Block: Tilda, District: Raipur
Chhattisgarh

INSTALLED CAPACITY (Total): 1370 MW

PERIOD OF REPORT: 1st April 2022 to 30th September 2022

Sl. No.	ASH GENERATION AND UTILIZATION (in LMT)						MODE OF ASH UTILIZATION AND UTILIZATION IN EACH MODE (in LMT)									
	Month	Coal Consumption	Ash Content of Coal %	Ash Generation	Ash Utilization	% age Utilization	In making of Fly Ash based Bricks / Blocks / Tiles etc.	In construction of Portland Pozzolana Cement	In construction of Highways & Roads including Flyovers	Part replacement of cement in concrete	In Hydro Power Sector in RCC Dam Construction	In Ash Dyke raising	In Reclamation of Low Lying Area	In Mine Filing	In Agriculture /Waste Land Development	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	April-22	5.08861	38.40	1.95377	1.95377	100.00	0.02512	0.88128	0.02271	0.00000	0.00000	0.00000	0.15470	0.86996	0.00000	0.00000
2	May-22	4.72315	38.30	1.80873	1.80873	100.00	0.02328	0.87927	0.01288	0.00000	0.00000	0.00000	0.14750	0.74580	0.00000	0.00000
3	Jun-22	4.56584	38.68	1.76584	1.76584	100.00	0.02333	1.05651	0.00974	0.00000	0.00000	0.00000	0.11878	0.55748	0.00000	0.00000
4	Jul-22	3.63813	38.45	1.39886	1.30459	93.26	0.01344	0.97439	0.00676	0.00000	0.00000	0.00000	0.02720	0.28280	0.00000	0.00000
5	Aug-22	3.00506	37.85	1.13726	1.06331	93.50	0.01772	0.90852	0.00264	0.00000	0.00000	0.00000	0.01800	0.11644	0.00000	0.00000
6	Sep-22	3.71054	38.08	1.41279	1.30683	92.50	0.02210	1.05624	0.00430	0.00000	0.00000	0.00000	0.01820	0.20600	0.00000	0.00000
TOTAL		**24.73134**	**38.32**	**9.47726**	**9.20307**	**97.11**	**0.12498**	**5.75621**	**0.05903**	**0.00**	**0.00**	**0.00**	**0.48438**	**2.77848**	**0.00**	**0.00**

Raipur Energen Limited

1370 MW (2x685 MW) Coal Based Thermal Power Plant

Green Belt Development Details at Raipur Energen Limited, Raikheda 2022-23 (till 30.09.2022)

Sl. No.	Description	Quaintly / Unit
1	Plantation on 33% land of 850 acres	280 acres
2	Density of plantation	2500 plants / Hectare
3	Area required per plant	4.0 SQM
4	Total no. of plantation in FY 2020-21	9718 Nos.
5	Total no. of plantation in FY 2021-22	6714Nos.
6	Total no. of plantation in FY 2022-23 (till 30.09.2022)	12905 Nos.
7	Survival Rate	>90%

Plant species planted at Raipur Energen Limited, Raikheda 2022-23 (From 01.04.2022 to 30.09.2022)

Sr. No.	Location	Area in (Hect.)	Tree Spp.	Tree (No.)
1	Plantation at Nursery and CHP surrounding area.	0.173	Ficus religiosa	12
		0.173	Ficus bengalensis	12
		0.098	Conocarpus	41
	Plantation at Guest House Premises.	0.080	Mimusoaps illengii	50
		0.080	Pongamia pinnata	50
		0.080	Azadirachta indica	50
	Stacker - I South	0.016	Conocarpus	80
	Nursery Surrounding	0.038	Anthocephalus cadamba	24
		0.038	Cassia fistula	24
		0.038	Mimusoaps illengii	24
		0.038	Delonix regia	24
	Phillips yard premises	0.010	Ficus bengalensis	6
	CSR area	0.013	Mimusoaps illengii	8
	Phillips Workshop back side	0.144	Tectona grandis	360
	Brick Plant approach and surrounding	0.074		186
	Guest House Premises	0.048		120
	Guest House Premises	0.014		34
	Guest House Premises periphery	0.040		100
	Scrap yard to NDCT internal roadside.	0.085		213
	Scrap yard to NDCT internal roadside.	0.200		500
	Helipad & Scrap yard area	0.776		1940
	CHP: WTP & Phillips office area	0.584		1460
2	CWPH & SYCR area.	0.047	Phoenix Palm	5
		0.140	Cycus palm	10
		0.099	Bauhinia blackiana	62
		0.099	Cassia fistula	62
		0.128	Conocarpus	80
3	All internal approach roads of plant premises.	2.947	Teak	7368
Total Plantation 2022-2023 (till Sep 2022)		**6.302**		**12905**

adani
Foundation

Six Monthly CSR REPORT

(2022-23)

Adani foundation, Raipur

Raipur Energen Limited, Raikheda

Contents: -

INTRODUCTION

Raipur Energen Limited (REL) in Chhattisgarh are focused in 16 villages near to REL 2x685 MW Super critical Thermal Power Project and its Railway Corridor in Tilda Block of Raipur district. The villages covered under CSR activity is namely Raikheda, Bhatapara, Chicholi, Gaitra, Gaurkheda and Murra (Project Affected Villages) and Tulsi, Bahesar, Khamharia, Konari, Bartori, Tarashiv, Chhattod. (Railway siding Village). Approximate population of these villages is 37,000. While the rapport building activities in the project area started in March 2009, the actual work started in June 2009. Till March 2022 CSR Activities of REL is focused in 16 Project affected Villages. RELVF Team at Chhattisgarh comprises of Program Manager, One Senior Project officer, three Project officer, 7 field volunteers.

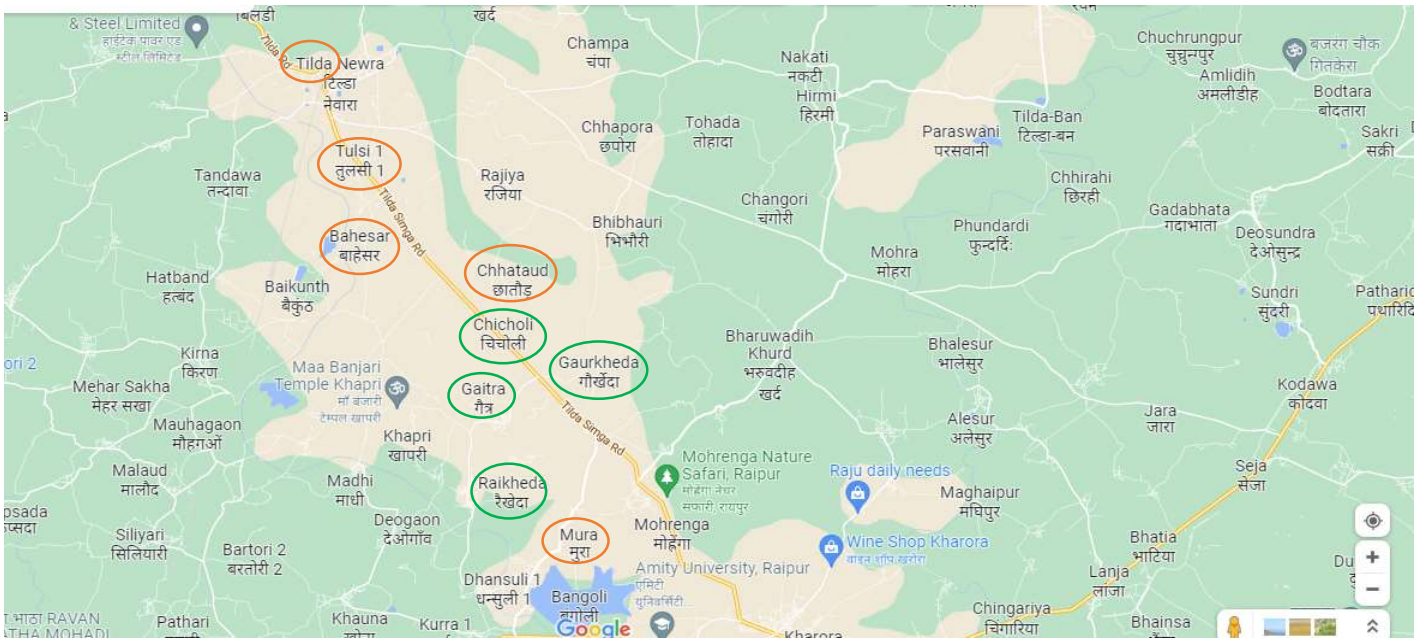
Vision: -

To accomplish a passionate commitment to social obligations towards communities, fostering sustainable and integrated development, thus improving quality of life"

Mission: -

"To play the role of a facilitator for the benefit of the people without distinction of caste or community, sector, religion, class, or creed, in the field of education, community health and promotion of social and economic welfare and upliftment of the people in general"

Demographic Profile of the Project: -



Raipur Energen Limited (REL) is located at village Raikheda which is about 20 Kms from Tilda & comes between Tilda Kharora Road. The nearest railway station, Bus stand CHC, Degree college is located at Tilda Town. Tilda is well connected with state Capital Raipur by rail & road route. Block administration officials like SDM, Tehsildar, BMO, BEO, BMO offices are located at Tilda.

Details of Action Taken Under CSR Initiatives

EDUCATION

NAVODAYA COACHING CENTER: In view of the Jawahar Navodaya school entrance examination, foundation has established 12 Navodaya Coaching Centers at villages Raikheda, Bhatpara, Gaitara, Khapari, Tarashiv, Chhatoud, Sontara, Mura, Konari, Khamharia, Gaurkheda and Chicholi. Since inception of the program, total 55 students from our coaching centers have secured their seats and currently studying in Jawahar Navodaya school–Mana. Total of 120 Students are registered for the Navodaya Coaching in 2022-23 session at Adani Foundation's running Navodaya Coaching Center. Online classes as well as offline center-based classes are continued in our 12 centers. Navodaya faculties conclude students counselling, parents counselling & extended service of individual's child home visit.

Navodaya Vidyalaya Coaching Centre -Successful Students

Laxman Verma (Konari)

Shital Sen (Tarashiv)

Ragini Dhruv (Gourkheda)

Arpit Harvansh (Tarashiv)

Ghanisht Verma (Gaitra)

Ayush Verma (Tarashiv)

Sakshi Verma (Tarashiv)

Prachi Verma (Raikheda)

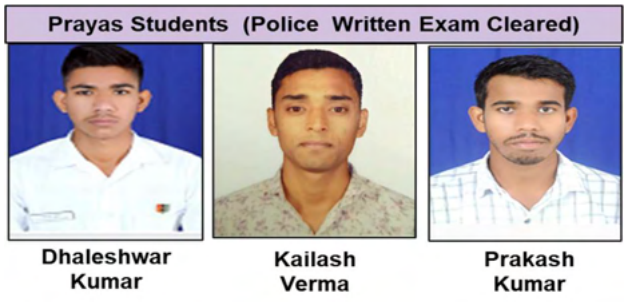
Kavya Sahu (Chhatoud)

Jattin Verma (Chhatoud)

Total Seat at Navodaya School (Raipur District)	Total Seat (Tilda Block)	Total Seats (Urban– Tilda)	Total Seats (Rural-Tilda)	Adani Foundation Navodaya Successful Candidates. (2021-22)	Success (%) (Under Rural Quota Base)
80 Nos.	**20 Nos.**	**6 Nos.**	**14 Nos.**	**8 Nos.**	**57.14%**

NONI LAARI: - Transportation facility "Noni Laari" exclusively for girls for their further studies from our 6 Project Affected Villages (PAV), The girl students who desire to pursue their higher education can opt for this facility for commuting to PG College-Tilda, which is about 25 kms. away from PAV.400 girls from PAV's have completed their graduation from PG College so far as there was no transport facility available to reach out for college & peruse their studies. The connection between the girls' students & their studies was re-established by adani foundation. Availing this free facility by girls, in return they are providing free coaching to children at their village. Each girl will provide education to minimum 5 students as **"Swa-daan".** It will help in raising the primary level education standard in villages. Swa-Daan benefits approximately 250 -300 primary & Middle school students of local communities.

PRAYAS: - Prayas career coaching center was established at village Tarashiv with a motive to benefit the job aspirant's youth who are preparing for competitive exams. A batch of "Prayas-30" was made by selection of 20 students from an entrance exam. 30 students from local villages are preparing for Defense/ Police Force entrance exam from our Prayas Coaching center located in Tarashiv Village.



Awareness Programs: - ***It is well known That Aware & Educated citizens are pillars of Developed Nation.*** Adani Foundation believe in raising the awareness levels of students with regards to disciplined life, social thought, community -Health & Safety awareness. Planet Earth, natural resources management, forest protection, Handwash day & environment safeguards. Continuation to it, several awareness sessions & programs were organized to raise students' curiosity regarding

Domestic 5S training by QCFI team, Community Road Safety trainings. Approximately 1600 students benefitted from awareness programs.

S.L	Activity: -	No. Of Beneficiary	Target Group
1.	Safety training for Community & Students	30 Nos.	Students
2.	5S training for community students	90 Nos.	Students
3.	Earth Day celebration & awareness session	80 nos.	Primary School Students
4.	Organized first Aid safety training for Community Students	80 Nos.	Students
5.	Environment Day Celebration at School	100 Nos.	Students
4.	International Yoga Day Celebration	100 Nos.	Community
5.	**Shala Parvesh Utsav-** School Bag distribution at Primary School, Raikheda, Bhatapara, Gaitara, Chicholi, Gaurkheda & Mura	800 Nos.	Students
6.	Inauguration of Renovated School Building, Raikheda by REL HR Head, Stakeholders.	100 Nos.	Students, Raikheda
7.	**Fire safety training** for School teacher's at Raikheda, Gaitra & Chicholi under "*Mukhyamantri Suraksha Avm Apda Prabandhan Prasikshan Karyashala*	35 Nos.	Government School Teachers
8.	**Electrical Safety Talk** & awareness session	60 Nos.	Students and community members
9.	**Community safety awareness program** for school children at High School, Raikheda	50 Nos.	Students
10.	**Plant Exposure visit & Awareness Session: -**	40 Nos. Students	Briton International School, Raipur

Glimpse of Programs: -

Six Monthly CSR Report 2022-23

COMMUNITY HEALTH

Mobile Medical Health Unit Clinic – "Swasthya apke dwaar": - To provide best primary medical facilities to community majorly addressing on women, child & old age's health issues, area specific dieses like diabetes, hypertension, BP & general health problems. Below table gives a glimpse of monthly patients diagnosed with disease category wise.

Adani Foundation operates Mobile Medical Health Clinic Van in and around 16 villages of REL site areas. The mobile clinic visits villages on daily basis & Medical team consists of doctor; pharmacist & Nurse provide free primary medical treatment to patients & medicines are given free of cost. Total patients benefitted through Mobile Medical Health Care Unit during the months April' 21- September' 22 is ***15,250 nos***.







Apart from regular mobile medical health Care unit, Adani Foundation organizes several Health initiatives like specialized health Camps like Gynecology, Pediatric & Orthopedic health Camps. Focusing more on women & child health care services & also organized health talk session for community targeting old age, women, child, cardiac patients. Adani Foundation organized Blood Donation Camp to support critical blood required patients with support of Red Cross Society, REL employee, business associates & community people. Total of 635 units of blood units collected & handed over to Red Cross Society Raipur.

S. L	Annual Health Camps	Units (No)	Beneficiaries	Villages: -
1.	**Gynecology Camp**	06	636	Raikheda, Bhatapara, Gaitra, Chicholi, Gourkheda
2.	**Multispecialty Camp**	1	275	Raikheda
3.	**Blood Donation Camp**	1	635	REL Staff, Business Associates,
4.	**Cardiac Health Talk with community**	1	50	Raikheda, Bhatapara, Gaitra, Chicholi, Gourkheda
	Total Beneficiaries: -		**1596**	

Sustainable Livelihood Development (SLD)

Systematic Rice Intensification- (SRI) Chhattisgarh being a rice cultivation state is so called **"rice bowl"** of the country. The state has more than 20000 types of rice variety & state economy depends on it. Systematic Rice Intensification (SRI) is a method to enhance productivity of rice per acre. Adani foundation Raipur with an objective to enhance rice production & income of farmers, foundation collected information by surveying the farmers of the area, the method of agriculture and the status of irrigation. From this it became known that there are more marginal farmers in the area, who cultivate paddy by their traditional method. There is also not enough means of irrigation, farmers are able to do their farming only during the rainy season. Since the cultivation of paddy by traditional method requires more amount of water, for which it is necessary to have a means of irrigation. The farmer of this area was not aware of Shri Vidhi and did not want to change his old method. Keeping all these circumstances in mind, agriculture, bringing changes in the way of cultivating paddy. To fulfill this objective, we undergo with 50 farmers of 6

panchayats Raikheda, Chicholi and Gaitra, Bartori, Khamariya, cultivated paddy in total 50 acres by SRI method.





The main objective of this program was to increase productivity by providing information about the scientific method of training to farmers through the support of Agriculture Department and Krishi Vigyan Kendra, all information about SRI Vidhi was made available. During the training, they were given the name of the improved seed, treatment method of seed, making nursery beds, plowing the land, method of planting and planting seedlings from the nursery, Application of manure, Date of planting and transplanting plant from nursery, Plant to plant distance, Planting from Qatar, The use of paddy wider for weeding, the consumption of water in the ground and proper care of the crop, etc. subject were made aware by the Department of Agriculture. In this way, those farmers got complete information regarding the cultivation of paddy through scientific method. Inspired by this, 50 out of 55 farmers have cultivated paddy in the 50-acre land by SRI method. The average estimation of total production of cultivation done by this method increased the crop production 30-40 percent in comparison to the traditional method. Farmers have started their crop harvesting at their farm fields.

Backyard BADI Development: -

Chhattisgarh state is a land of forest, eco- tourism & paddy, but horticulture activities are kept behind due to negligence. Chhattisgarh stands with low nutrition level in India, where Chhattisgarh 39.6% of children under five years are stunted and 39.2% of children are underweight due to chronic malnutrition. Backyard BADI can play a pivotal role in this issue. Nutrition level of children can be raised through Badi development. Like development of kitchen garden, backyard farming, small horticulture development ectrs. Chhattisgarh is well known for its different varieties of green leafy vegetables, which contributes to rich source of

nutrients, vitamins & minerals. Household family can raise Badi & cultivate various varieties of fruits as main crop & green leafy vegetables as intercrop.


Adani foundation team identifies 50 household families in Gourkheda, Bhatapara, Chicholi, Gaitra & Raikheda village & provided support in terms of fruits (Jackfruit & lemon) saplings & green leafy vegetable hybrid seeds. Cultivating nutritional kitchen garden will certainly add their family nutritional level & additional income for household. Organized various agricultural trainings at KVK Raipur, SHG's exposure visit for Badi Vikas at model gothans in villages Saddu & Tarpongi.

CSR Production Centre: -

Saheli Mahila Shashakt Silai Samuh

(Supported By Adani Foundation REL, Raikheda)

REL under the scope of CSR activities operates SAKSHAM Sewing training center at REL plant fence area. During the year 2021, 15 women & girls' trainees of sewing center constitute together to form Self Help Group under the core guidance of Adani Foundation, named as Saheli Mahila Shashkt Silai Samuh, Raikheda. With the common interest to collectively involve in sewing work as an economic activity & earn their livelihood. Saheli Mahila Shashkt Silai Samuh was formed on dated 25.06. 2021

Adani Foundation Raipur team provided them sewing & embroidery artwork & also supported them with clothes amount to Rs. 2 Lakhs as raw material for their initial startup cost. SHG opened their bank account at nearest IDBI bank with small saving of Rs. 5000.00. All the SHG members are from REL core villages like Raikheda,

Gaitra, Chicholi, Gourkheda. SHG identified & selected their core representatives as President, Secretary & treasurer & fixed their roles & responsibility by themselves. With initial support & guidance from Adani Foundation team, SHG manufactured various types of materials like Bags, school Bags, women garments, nose masks, uniforms.

SHG PRODUCTS

They started to participate in exhibition cum sale at various local events, state rajyotsov, melas & local festival celebration. SHG earned good amount of profit through local exhibitions & sale. SHG focuses on priority consumable material for manufacturing which is more demanding in market & customer oriented. Since SHG has completed their one-year, various training & marketing capacity buildings programs have strengthened SHG to operate its functionals more in professional way. SHG is engaged in stitching women dress material, supplied by a private vendor. The cut dress material is supplied by vendor in thousands quantity which is stitched & returned to vendor. Vendor deposits stitching charges to SHG bank account number which is further distributed to each individual member who stitches according to their quantity stitched. Since April' 22 total 62,000 dress

material till date. SHG women conduct monthly meeting & various training & Handhold support is provided by Adani Foundation team members.

Community Infrastructure Development: -

Adani Foundation contributes as CSR arm of Adani Group of Companies. Adani Foundation operates CSR activities in the field of Education, Health, Sustainable Livelihood programs & Community Infrastructure development activities in project villages of Raipur Energen Limited, Thermal Plant (Capacity- 13,70 MW- 2* 685 MW) located in village Raikheda, Block Tilda, District Raipur of Chhattisgarh State. The site is located approx. 40 Kms from state Capital Raipur city & lies between Tilda Kharora Road.

Chhattisgarh state registers approximately 1292 mm annual rainfall, but due to uneven rainfall since last year in Tilda area, the situation of water crises is raising affecting ground water table, agriculture, animal husbandry at large. In Chhattisgarh, community ponds are the essence of local tradition & culture with daily routine life starts & ends with it. Essential water requirement is affected due to less rainfall & ponds silt deposition effects the water holding capacity of ponds.

Gram Panchayat PRIs have not given much stress on deepening & desilting of ponds since past years. Gram Panchayat PRIs requested Adani Foundation to undergo pond deepening activities in villages. On request from Gram Panchayat, Adani Foundation team conducted the survey of ponds & farms fields & household families located near ponds.

Raikheda Bandha Talab was identified for pond deepening. Bandha Talab lies in 99 acres of catchment area, located near to community. Many villagers depend on this pond for their source of Income & daily routine activity.

S.L	Activity	Gram Panchayat	Beneficiaries (Approx.)

1.	Pond Deepening & Desilting "Bandha Talab"	Raikheda	5000
2.	Pond Deepening & Desilting "Dabri Talab"	Gaitra	2000
3.	Pond Deepening & Desilting "Bakshi Talab"	Chicholi	2500
4.	Pond Deepening & Desilting "Khadan Talab & Naya Talab"	Murra (2)	2000
5.	Pond Deepening & Desilting "Bandha Talab"	Tulsi	7000
6.	Goushala Shed Construction at Banjari Community Place	Khapri	Local Community
7.	Drinking Water Facilitation at Govt. Middle School	Raikheda	500
8.	Murra Bhatapara Road Repair & Culvert Construction	Bhatapara	Entire village Population

Raikheda Bandha Talab is spread over the size of 35 acres & catering the needs of water usages for 5000 population for their domestic water usages. Pond is surrounded by community household & farmlands & Bhatapara village road. Approx. 6480 cum soil excavated to deepen the pond. Tulsi Bandha Talab is spread over the size of 22 acres & catering the needs of water usages for 5000 population for their domestic water usages. Approx. 6553 cum soil excavated to deepen the pond.

Murra Khadaan Talab is located at Khadaan Mohalla & spread over 2 acres of area, but major area of land is encroached by farmers whose farmland lies adjacent to pond. Another pond excavated was Naya Talab located near Murra Bhatpara road & spread over 2.5 acres. Approx. 400 families will get benefitted from the above activity. Approx. 2154 cum soil excavated to deepen the pond. Gaitra Dabri Talab & Chicholi Bakshi Bandh is spread over 4.5 acres & 10 acres respectively. Local community residing near the pond uses pond for their domestic water usages like bathing, clothes & utensils washing, animal rearing ectrs. Approx. 3625 cum soil excavated to deepen the pond. Bakshi Talab Chicholi is spread over 3 acres of land

with murrum based (Red) soil texture & located at the entry point of village. It is covered from three sides through school para community & one side through Farm field. Approx. 3631 cum soil excavated to deepen the pond.

Pond Deepening- Raikheda

Pond Deepening, Chicholi

Pond Deepening Murra 1

Pond Deepening, Murra 2

Water Facilitation at Govt. Middle School-

Raikheda

Gaushala shed at Banjari Place

Murra Bhatapara Road

Events Celebration: -

Adani Foundation is always striving hard to strengthen those values & principles of the society. We respect the co-factors in the development of the society. Therefor we organize events celebration at schools & communities to honor the hands who laid support for society welfare & development. We organized various events as below: -

- World Environment/ Ozone/ Global Handwash/ Earth Day
- International Youth Day by supporting Sports Tournament at Kharora.
- School Sports Tournament "Chhattisgarh Olympics at Raikheda.
- Football Tournament at Gram Panchayat Bahesar.

Case Studies: -

Yogita Nishad D/o Sh. Mukhiram Nishad: -

"Desire to Touch the Sky"

1) Yogita Nishad age 23 years is a resident of village Gourkheda, a dependent village of Chicholi Gram Panchayat. She completed BA from local government college, Tilda. Her father is a farmer by occupation, holds 3 acres of land & cultivates only paddy to feed his family which is negligence while compared to cost vs income. Yogita's mother Smt. Amrika Nishad works as labor & earns on daily wages. She finds difficulty in getting year-round work in her surrounding area. Sometimes they find difficulty in getting daily income for their family either from farming or labor. She is the only girl between her two brothers. Both the brothers are seasonal labors.

During the year 2021-22, yogita came to know about sewing training from one of her friend about the adani Foundation's sewing training program which was operation at CSR campus at Raipur Energen Limited. Raikheda. Training venue was approx. 5 kms from her residents & it was difficult for a girl to allowance from her family to attend the training on daily basis. Many stigmata like sending girl alone to training center was not prevailing in local villages. But during the initial, her family supported her to undergo the sewing art training at adani Foundation training center. She usually comes together with her friends in the village. She undergoes initial sewing training for 6 months & post completion she retains in production center to earn livelihood for her family. She learnt various things like; selection of cloths, measurement, drawing & sketching on paper, scaling, cutting, neck design, stitching on normal machine & industrial machines. During the initial phase of training, sometimes due to household occupancies she was irregular in training sessions but adani foundation team motivated her to regular attend her training and avoid loss or missing of course content. All the infrastructure pertaining to training like cloths, raw materials, machine was facilitated by adani foundation at the center. She started with normal sewing machine & now working uninterruptable on industrial machine. Now she stitches approx.. 50-60 women garments per day (6 hours) at CSR production center. Women garments like nighties, ethnic wear, baby suits are stitched at CSR production center & available for sale at local market. It is one stop facility for local communities to learn stitching, become employable & earn handsome livelihood for them

consequently for their family. During the season she ables to earn 4000-6000 per month from stitching center which is being operated by Saheli Mahila Shashakt Silai Samuh (Chirag). AF team facilitated her in opening bank account, now she learned banking account operation also. Yogita reveals during a medical emergency in his family father got admitted at hospital at tilda. Their family faced severe financial crises at that time. Her savings in bank account make her family to get out of that puzzled situation. Her father feels very proud of her & says "he has three sons". Yogita thanks Adani Foundation (Raipur Energen Limited) for arranging sewing training/ production center facility near to her village & the consistence support driven from Adani Foundation REL team. It would have not been possible for her to financially support her family. This makes a woman a true Lakshmi.

2) **Nooni Laari-** For many girls living in remote villages of rural India, the single biggest problem in continuing their education is the commute. During our need assessment for education programme in Raipur, Chhattisgarh, it came to our notice that the enrollment of girls in the villages' government school was equal to boys. However, very few girls were enrolled for college education compared boys and even if enrolled, the dropout rate is higher for girls than boys.

In the villages of Raipur, parents send their children to school simply so that they get their meals. Most of them belong underprivileged section of the society who work as daily wage laborer. For such families, the quality or continuity of education is not really a priority even for boys, leave alone girls. The nearest Government PG College in Tilda is an average of 20 km away, one-way, from the villages where they live. Even if public transport is available, affordability and safety are a big concern for parents.

After a lot of deliberation among the Adani Foundation management, site team, parents, and students it was decided that we must support the girls to start and complete of their college education. The solution was a regular, cost-free bus service called Noni Laari. "Noni" in local parlance is used to address a young, sweet girl. The designated driver was a local and hence known to many parents. All the college girls would commute together and would be given their individual travel pass. However, this was not all. To make this intervention more fruitful, an appeal was made to the beneficiaries.

For availing this bus service, each girl had to devote an hour of her time, six days a week, towards teaching students of classes 1-5. This arrangement of free tuition was conceptualized and titled “Swadaan”, with a vision to create a ripple effect in the community. So, when Noni Laari was officially flagged off in December 2021, 60 girls began their teaching journey. After returning from college every evening, they teach the primary school children (classes 1 – 5) in their neighborhood. They conduct the classes at their own home and are monitored regularly by the Adani Foundation team.

The girls have been instructed to focus on foundational literacy and numeracy in the evening classes and not necessarily adhere to the school syllabus. The priority is to help these children get their basics right, like tables, basic calculations, the alphabet, reading and writing etc. Together, these 60 girls are teaching 300 kids in their villages! Some enjoyed it right from the beginning, others took a while to gain confidence in their abilities.

Take for instance, 20-year-old Radhika Sinha, is a third-year student of B.Sc (Mathematics). She lives in Chicholi village, and her father is a farmer. She teaches 8 children from her village and wants to continue her teaching journey in the future too while pursuing M.Sc. Ekta Sahu, a 19-year-old student at ITI Tilda who wants to become a computer operator didn’t think that teaching is a skill she had. For Mahima Rajput, the 19-year-old B.Sc student who is in her second year of college, teaching the kids in her village ensures that her basics are constantly being revised. She finds this helpful as she is preparing for civil services examination.

For parents of many such girls like Radhika, Ekta and Mahima, it is a relief that their daughters are commuting safely but it is also a matter of great pride that they are helping younger children in their studies. Getting guidance from these girls has sparked an interest in kids towards academics and ignited a hope that it may lead them to a brighter future. The community members, including the village Panchayat members have appreciated the Foundation’s efforts. Education is the single most powerful tool that can change lives. With support from the Adani Foundation, these girls are writing their own life story, and positively influencing the society around them.

Press Releases: -

विश्व पर्यावरण दिवस पर पेंटिंग प्रश्नोत्तरी प्रतियोगिता का आयोजन

मानसून तक 10 हजार पेड़ लगाने का लक्ष्य

खरोरा-तिल्दा। अदाणी फाउंडेशन द्वारा रायखेड़ा में विश्व पर्यावरण दिवस के अवसर पर ग्राम पंचायत चिचोली के स्कूल परिसर में "केवल एक पृथ्वी" थीम पर पेंटिंग प्रतियोगिता का आयोजन किया गया। रायपुर एनर्जेन लिमिटेड (आरईएल), रायखेड़ा सयंत्र के इस कार्यक्रम में ग्राम पंचायत रायखेड़ा, गैतरा, चिचोली, गौरखेड़ा, तारशिव, मुरा एवं छतौद के नवोदय कोचिंग क्लास के सौ से अधिक छात्रों ने भाग लिया। इसके पूर्व सयंत्र के आसपास के क्षेत्रों में मानसून तक हरियर छत्तीसगढ़ के अंतर्गत दस हजार से ज्यादा पौधों को रोपित करने का लक्ष्य निर्धारण कर आज पांच सौ से ज्यादा पौधे लगाए गए।

कार्यक्रम का मुख्य उद्देश्य पर्यावरण एवं जनजीवन के बीच आपसी संबंध व महत्व के बारे में जागरूकता प्रदान करना था। कार्यक्रम में छात्रों के द्वारा बनाए गए पर्यावरण पर आधारित चित्रों की प्रदर्शनी की गई और इसी विषय में प्रश्नोत्तरी कार्यक्रम का आयोजन भी किया गया, जिसमें छात्रों द्वारा पूरी तन्मयता के साथ सभी प्रश्नों की सटीक जानकारी प्रदान की। प्रतियोगिता में उत्कृष्ट प्रदर्शन पर छात्रों को पुरस्कार प्रदान किया गया।

विश्व पर्यावरण दिवस के बारे में विस्तृत जानकारी देते हुए आरईएल के श्री अमित श्रीवास्तव ने उपस्थित छात्रों को संबोधित करते हुए कहा कि, "संयुक्त राष्ट्र द्वारा जून 5,1972 को स्टाकहोम कांफ्रेंस दौरान वातावरण सुरक्षा की कार्रवाई को अमल में लाया गया था,जोकि पर्यावरण संरक्षण की दिशा में पहला कदम था। इसलिए हर वर्ष यह दिवस पांच जून को मनाया जाता है। उन्होंने कहा कि पर्यावरण संरक्षण के लिए हर किसी को अपना दायित्व समझते हुए आगे आना होगा। जिसमें युवाओं का योगदान सबसे महत्वपूर्ण होने वाला है। हमारी युवा पीढ़ी को अपने लिए और अपने आने वाले कल को सुरक्षित करने हेतु जागरूक होना होगा।"

उल्लेखनीय है कि अदाणी फाउंडेशन के लिए स्वास्थ्य, शिक्षा व स्वरोजगार सर्वोपरि है और इसके लिए फाउंडेशन की टीम पूरी तरह प्रतिबद्ध है और उनके द्वारा समय समय पर जागरूकता कार्यक्रम व स्वास्थ्य शिविरों का आयोजन कर के स्थानिकों को बेहतर लाइफ स्टाइल से जोड़ने की दिशा में कार्य कर रही है।कार्यक्रम में आरईएल के वरिष्ठ प्रबंधक श्री अमित श्रीवास्तव एवं श्री पृथ्वीराज लाहिरी सहित अदाणी फाउंडेशन से श्री दीपक कुमार सिंह , श्रीमती प्रीति प्रजापति,श्री दाऊलाल कौशले, कोचिंग क्लास के शिक्षक गण एवं गांव के अन्य स्कूल के छात्र एवं महिलायें उपस्थित रहे।

विश्व पर्यावरण दिवस पर पेंटिंग प्रश्नोत्तरी प्रतियोगिता का आयोजन

मानसून तक 10 हजार पेड़ लगाने का लक्ष्य

खरोरा-तिल्दा। अदाणी फाउंडेशन द्वारा रायखेड़ा में विश्व पर्यावरण दिवस के अवसर पर ग्राम पंचायत चिचोली के स्कूल परिसर में केवल एक पृथ्वी थीम पर पेंटिंग प्रतियोगिता का आयोजन किया गया। रायपुर एनर्जेन लिमिटेड (आरईएल), रायखेड़ा सयंत्र के इस कार्यक्रम में ग्राम पंचायत रायखेड़ा, गैतरा, चिचोली, गौरखेड़ा, तारशिव, मुरा एवं छतौद के नवोदय कोचिंग क्लास के सौ से अधिक छात्रों ने भाग लिया। इसके पूर्व सयंत्र के आसपास के क्षेत्रों में मानसून तक हरियर छत्तीसगढ़ के अंतर्गत दस हजार से ज्यादा पौधों को रोपित करने का लक्ष्य निर्धारण कर आज पांच सौ से ज्यादा पौधे लगाए गए।

कार्यक्रम का मुख्य उद्देश्य पर्यावरण एवं जनजीवन के बीच आपसी संबंध व महत्व के बारे में जागरूकता प्रदान करना था। कार्यक्रम में छात्रों के द्वारा बनाए गए पर्यावरण पर आधारित चित्रों की प्रदर्शनी की गई और इसी विषय में प्रश्नोत्तरी कार्यक्रम का आयोजन भी किया गया, जिसमें छात्रों द्वारा पूरी तन्मयता के साथ सभी प्रश्नों की सटीक जानकारी प्रदान की। प्रतियोगिता में उत्कृष्ट प्रदर्शन पर छात्रों को पुरस्कार प्रदान किया गया।

विश्व पर्यावरण दिवस के बारे में विस्तृत जानकारी देते हुए आरईएल के श्री अमित श्रीवास्तव ने उपस्थित छात्रों को संबोधित करते हुए कहा कि, सयुंक्त राष्ट्र द्वारा जून 5,1972 को स्टाकहोम कांफ्रेंस दौरान वातावरण सुरक्षा की कार्रवाई को अमल में लाया गया था,जोकि पर्यावरण संरक्षण की दिशा में पहला कदम था। इसलिए हर वर्ष यह दिवस पांच जून को मनाया जाता है। उन्होंने कहा कि पर्यावरण संरक्षण के लिए हर किसी को अपना दायित्व समझते हुए आगे आना होगा। जिसमें युवाओं का योगदान सबसे महत्वपूर्ण होने वाला है। हमारी युवा पीढ़ी को अपने लिए और अपने आने वाले कल को सुरक्षित करने हेतु जागरूक होना होगा।

उल्लेखनीय है कि अदाणी फाउंडेशन के लिए स्वास्थ्य, शिक्षा व स्वरोजगार सर्वोपरि है और इसके लिए फाउंडेशन की टीम पूरी तरह प्रतिबद्ध है और उनके द्वारा समय समय पर जागरूकता कार्यक्रम व स्वास्थ्य शिविरों का आयोजन कर के स्थानिकों को बेहतर लाइफ स्टाइल से जोड़ने की दिशा में कार्य कर रही है।

कार्यक्रम में आरईएल के वरिष्ठ प्रबंधक श्री अमित श्रीवास्तव एवं श्री पृथ्वीराज लाहिरी सहित अदाणी फाउंडेशन से श्री दीपक कुमार सिंह , श्रीमती प्रीति प्रजापति,श्री दाऊलाल कौशले, कोचिंग क्लास के शिक्षक गण एवं गांव के अन्य स्कूल के छात्र एवं महिलायें उपस्थित रहे।

अदाणी फाउंडेशन के नवोदय कोचिंग से 10 बच्चों का नवोदय विद्यालय में चयन

रायपुर। केंद्र सरकार की बोर्डिंग स्कूल जवाहर नवोदय विद्यालय के प्रवेश परीक्षा में अदाणी फाउंडेशन के नवोदय कोचिंग के दस विद्यार्थियों ने बाजी मारी है। प्रवेश परीक्षा में इस कोचिंग संस्थान के कुल 10 बच्चों में से चार लड़कियों और छः लड़कों का चयन जवाहर नवोदय विद्यालय, माना-रायपुर में हुआ है। जवाहर नवोदय विद्यालय, माना कैंप, रायपुर का परिणाम पिछले शुक्रवार को घोषित किया गया। रायपुर एनेर्जेन लिमिटेड (आरईएल) के अदाणी फाउंडेशन द्वारा प्रतिभाशाली जरूरतमंद बच्चों को गुणवत्तापूर्ण शिक्षा प्रदान करने के उद्देश्य से शुरू किये गए जवाहर नवोदय कोचिंग केंद्र को आसपास के ग्राम रायखेड़ा, गैतरा, चिचोली, ताराशिव, गौरखेड़ा इत्यादि सहित कुल बारह अलग-अलग ग्रामों में संचालित किया जा रहा है। नवोदय प्रवेश परीक्षा के चयनित बच्चों में ग्राम ताराशिव से चार बच्चों जिनके नाम कुमारी शाक्षी वर्मा, कुमारी शीतल सेन, आयुष वर्मा और अर्पित हरवंश वहीं ग्राम छतौद से दो बच्चों के नाम क्रमशः कुमारी काव्या साहू, जतिन वर्मा जबकि ग्राम रायखेड़ा, गैतरा, कोनारी और गौरखेड़ा से एक-एक बच्चे क्रमशः कुमारी प्राची वर्मा, घनिष्ट वर्मा, लक्ष्मण वर्मा और कुमारी रागिनी ध्रुव का चयन हुआ।

अदाणी फाउंडेशन द्वारा संचालित नवोदय कोचिंग के 10 बच्चों का नवोदय विद्यालय में चयन

अमृत संदेश । अंबिकापुर

केंद्र सरकार की बोर्डिंग स्कूल जवाहर नवोदय विद्यालय के प्रवेश परीक्षा में अदाणी फाउंडेशन के नवोदय कोचिंग के दस विद्यार्थियों ने बाजी मारी है। प्रवेश परीक्षा में इस कोचिंग संस्थान के कुल 10 बच्चों में से चार लड़कियों और छः लड़कों का चयन जवाहर नवोदय विद्यालय, माना-रायपुर में हुआ है। जवाहर नवोदय विद्यालय, माना कैंप, रायपुर का परिणाम पिछले शुक्रवार को घोषित किया गया। रायपुर एनेर्जेन लिमिटेड (आरईएल) के अदाणी फाउंडेशन द्वारा प्रतिभाशाली जरूरतमंद बच्चों को गुणवत्तापूर्ण शिक्षा प्रदान करने के उद्देश्य से शुरू किये गए जवाहर नवोदय कोचिंग केंद्र को आसपास के ग्राम रायखेड़ा, गैतरा, चिचोली, ताराशिव, गौरखेड़ा इत्यादि सहित कुल बारह अलग-अलग ग्रामों में संचालित किया जा रहा है।

नवोदय प्रवेश परीक्षा के चयनित बच्चों में ग्राम ताराशिव से चार बच्चों जिनके नाम कुमारी शाक्षी वर्मा, कुमारी शीतल सेन, आयुष वर्मा और अर्पित हरवंश वहीं ग्राम छतौद से दो बच्चों के नाम क्रमशः कुमारी काव्या साहू, जतिन वर्मा जबकि ग्राम रायखेड़ा, गैतरा, कोनारी और गौरखेड़ा से एक-एक बच्चे क्रमशः कुमारी प्राची वर्मा, घनिष्ट वर्मा, लक्ष्मण वर्मा और कुमारी रागिनी ध्रुव का चयन हुआ।

उल्लेखनीय है कि आरईएल, अदाणी फाउंडेशन द्वारा आस पास के 14 ग्राम पंचायतों में शिक्षा, स्वास्थ्य, आजीविका संवर्धन और संरचना विकास के कई कार्यक्रम संचालित करता है। उत्कृष्ट शिक्षा के लिए इन नवोदय कोचिंग केंद्रों की स्थापना 10 वर्ष पूर्व तीन ग्रामों रायखेड़ा, गैतरा और चिचोली से की गई थी। जिसकी संख्या वर्ष 2021 तक बारह ग्रामों तक बढ़ायी गयी।

गत वर्ष तक कुल 45 बच्चे नवोदय स्कूल में पढ़ाई कर रहें हैं जहां सभी बच्चों को कक्षा 6 वीं से 12 वीं तक निःशुल्क शिक्षा के साथ-साथ रहने और खाने की भी सुविधा मुफ्त में प्रदान की जाती है। इससे गरीब माता पिता को उनके प्रतिभाशाली बच्चों के शिक्षा की चिंता नहीं रहती है। यही नहीं जो बच्चे इस केंद्र में पढ़ाई करते हैं उनका भी उनकी कक्षा में प्रदर्शन भी उत्कृष्ट हो जाता है। इसके अलावा अभी हाल ही में इस संस्थान द्वारा युवाओं के प्रतिस्पर्धात्मक सफलता के लिए किये जा रहे प्रयासों के बदौलत कोचिंग केंद्र से दो छात्रों का चयन छत्तीसगढ़ पुलिस बल सेवा में भी हुआ है।

'केवल एक पृथ्वी' थीम पर पेंटिंग स्पर्धा

सौ से अधिक छात्रों ने भाग लिया

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विश्व पर्यावरण दिवस पर ग्राम पंचायत चिचोली के स्कूल परिसर में 'केवल एक पृथ्वी' थीम पर पेंटिंग प्रतियोगिता का आयोजन किया गया. कार्यक्रम में ग्राम पंचायत रायखेड़ा, गैतरा, चिचोली, गौरखेड़ा, ताराशिव, मुरा एवं छतौद के नवोदय कोचिंग क्लास के सौ से कार्यक्रम में छात्रों के द्वारा बनाए गए पर्यावरण पर आधारित चित्रों की प्रदर्शनी आयोजित की गई. साथ ही इस विषय पर प्रश्नोत्तरी कार्यक्रम का आयोजन भी किया गया, जिसमें छात्रों द्वारा पूरी तन्मयता के साथ सभी प्रश्नों के सटीक उत्तर दिए गए. प्रतियोगिता में उत्कृष्ट प्रदर्शन करने वाले छात्रों को पुरस्कार प्रदान किए गए. इस अवसर पर विश्व

ने किया लोगों को जागरूक

रायपुर (विश्व परिवार)। ओजोन संरक्षण के प्रति अधिक से अधिक लोगों को जागरूक करने के उद्देश्य से रायपुर एनेर्जेन लिमिटेड (आरईएल) के पर्यावरण विभाग द्वारा शासकीय उच्चत्तर माध्यमिक विद्यालय, रायखेड़ा में शुक्रवार को विश्व ओजोन दिवस मनाया गया। अदाणी फाउंडेशन के सहयोग से आयोजित इस जागरूकता कार्यक्रम में 300 से अधिक विद्यार्थियों ने हिस्सा लिया। इस विषय पर आयोजित चित्रकला प्रतियोगिता में 35 छात्राओं ने बढ़-चढ़कर भाग लिया। विश्व ओजोन दिवस के मुख्य उद्देश्यों का जिक्र करते हुए आरईएल के पर्यावरण विभाग प्रमुख अमित श्रीवास्तव ने उपस्थित विद्यार्थियों को बताया कि, सन 1913 में फ्रांस के भौतिक शास्त्री फैबरी चार्ल्स और हेनरी बोसोन ने ओजोन परत की खोज की थी। ओजोन पृथ्वी के वायुमंडल का एक परत है, जो सूर्य से आने वाली अल्ट्रावायलेट किरणों से हमें बचाती है। वहीं कार्यक्रम में उपस्थित प्राचार्य जी.के.वर्मा ने बताया कि,ओजोन परत को मजबूत और सुरक्षित बनाए रखने के लिए

उन्नत धान बीज वितरण कार्यक्रम में सात गांव के किसान हुए लाभान्वित

दबंग रिपोर्टर » रायपुर

रायपुर एनेर्जेन लिमिटेड (आरईएल) की अदाणी फाउंडेशन द्वारा किसानों को उन्नत किस्म के बीजों का वितरण किया जा रहा है। इसमें अब तक संयंत्र के आस पास के ग्राम पंचायतों रायखेड़ा, चिचोली, गैतरा, तराशिव, खम्हरिया, बरतोरी और कोनारी सहित सात ग्रामों के किसानों को उन्नत किस्म की धान बीज का निःशुल्क वितरण किया गया। आरईएल के सामाजिक सहभागिता के अंतर्गत अदाणी फाउंडेशन का मुख्य उद्देश्य क्षेत्र के

किसानों का पारम्परिक विधि में परिवर्तन कर उन्नत किस्म के धान का उत्पादन और वृद्धि तथा खेती की लागत में कमी कराना है। बीजों के वितरण के पूर्व सभी किसानों को कृषि की आधुनिक विधि श्री विधि अर्थात सघन धान रोपण पद्धति से उन्नत खेती का दो दिवसीय प्रशिक्षण का आयोजन कृषि विज्ञान केंद्र, रायपुर के सहयोग से किया गया। जिसमें उपरोक्त सभी ग्रामों के किसानों ने भाग लिया। अदाणी फाउंडेशन के ऑफिस परिसर में आयोजित इस कार्यक्रम में श्री ओम प्रकाश सेन (कृषि विज्ञान केंद्र के मास्टर ट्रेनर एवं प्रेसिडेंट- आरुग फार्मस प्रोड्सर कम्पनी, आरंग) ने किसानों को श्री विधि की संपूर्ण तकनीकियों की जानकारी दी और इसे अपनाने के फायदों को भी बताया। प्रशिक्षण के बाद सभी किसान कम पानी में धान की उपज और इसके उत्पादन की जानकारी पाकर संतुष्ट नजर आये और प्रशिक्षण एवं बीजों के लिए अदाणी फाउंडेशन और आरईएल को धन्यवाद दिया।

उल्लेखनीय है कि आरईएल, अदाणी फाउंडेशन द्वारा आस पास के 14 ग्राम पंचायतों में शिक्षा, स्वास्थ्य, आजीविका संवर्धन और संरचना विकास के कई कार्यक्रम संचालित करता है। वहीं समय-समय पर उत्कृष्ट कृषि के क्षेत्र में किसानों के आय में वृद्धि के लिए खेती के आधुनिक तकनीकों की जानकारी के साथ-साथ उनके पशुधन की पौष्टिक आहार को बनाने का प्रशिक्षण और चिकित्सकीय शिविर का आयोजन भी कराता रहता है।

धान के उन्नत बीज का किसानों को किया गया निःशुल्क वितरण

हरिभूमि न्यूज ⏭ तिल्दा नेवरा

रायखेड़ा स्थित एनेर्जेन लिमिटेड आरईएल की अदाणी फाउंडेशन द्वारा किसानों को उन्नत किस्म के बीजों का वितरण किया जा रहा है। इसमें अब तक संयंत्र के आस-पास के ग्राम पंचायतों रायखेड़ा, चिचोली, गैतरा, तराशिव, खम्हरिया, बरतोरी और कोनारी सहित सात ग्रामों के किसानों को उन्नत किस्म की धान बीज का निःशुल्क वितरण किया। आरईएल के सामाजिक सहभागिता के अंतर्गत अदाणी फाउंडेशन का मुख्य उद्देश्य क्षेत्र के किसानों का पारम्परिक विधि में परिवर्तन कर उन्नत किस्म के धान का उत्पादन और वृद्धि तथा खेती की लागत में कमी कराना है। बीजों के वितरण के पूर्व सभी किसानों को कृषि की आधुनिक विधि अर्थात सघन धान रोपण पद्धति से उन्नत खेती का दो दिवसीय प्रशिक्षण का आयोजन कृषि विज्ञान केंद्र, रायपुर के सहयोग से किया जिस पर उपरोक्त सभी ग्रामों के किसानों ने भाग लिया।

अदाणी फाउंडेशन के ऑफिस परिसर में आयोजित इस कार्यक्रम में ओम प्रकाश सेन कृषि विज्ञान केंद्र के मास्टर ट्रेनर एवं प्रेसिडेंट आरुग फार्मस प्रोड्सर कम्पनी ने किसानों को श्रीविधि की संपूर्ण तकनीकियों की जानकारी दी और इसे अपनाने के फायदों को भी बताया गया। प्रशिक्षण के बाद सभी किसान कम पानी में धान की उपज और इसके उत्पादन की जानकारी पाकर संतुष्ट नजर आए।

उन्नत धान बीज का नि:शुल्क वितरण कार्यक्रम सात गांव के किसान हुए लाभान्वित

रायपुर। रायपुर एनेर्जेन लिमिटेड (आरईएल) की अदाणी फाउंडेशन द्वारा किसानों को उन्नत किस्म के बीजों का वितरण किया जा रहा है। इसमें अब तक संयंत्र के आस पास के ग्राम पंचायतों रायखेड़ा, चिचोली, गैतरा, तराशिव, खम्हरिया, बरतोरी और कोनारी सहित सात ग्रामों के किसानों को उन्नत किस्म की धान बीज का निःशुल्क वितरण किया गया। आरईएल के सामाजिक सहभागिता के अंतर्गत अदाणी फाउंडेशन का मुख्य उद्देश्य क्षेत्र के किसानों का पारम्परिक विधि में परिवर्तन कर उन्नत किस्म के धान का उत्पादन और वृद्धि तथा खेती की लागत में कमी कराना है।

बीजों के वितरण के पूर्व सभी किसानों को कृषि की आधुनिक विधि "श्री विधि" अर्थात सघन धान रोपण पद्धति से उन्नत खेती का दो दिवसीय प्रशिक्षण का आयोजन कृषि विज्ञान केंद्र, रायपुर के सहयोग से किया गया। जिसमें उपरोक्त सभी ग्रामों के किसानों ने भाग लिया। अदाणी फाउंडेशन के ऑफिस परिसर में आयोजित इस कार्यक्रम में श्री ओम प्रकाश सेन (कृषि विज्ञान केंद्र के मास्टर ट्रेनर एवं प्रेसिडेंट- आरुग फार्मस प्रोड्सर कम्पनी, आरंग) ने किसानों को श्री विधि की संपूर्ण तकनीकियों की जानकारी दी और इसे अपनाने के फायदों को भी बताया। प्रशिक्षण के बाद सभी किसान कम पानी में धान की उपज और इसके उत्पादन की जानकारी पाकर संतुष्ट नजर आये और प्रशिक्षण एवं बीजों के लिए अदाणी फाउंडेशन और आरईएल को धन्यवाद दिया।

उल्लेखनीय है कि आरईएल, अदाणी फाउंडेशन द्वारा आस पास के 14 ग्राम पंचायतों में शिक्षा, स्वास्थ्य, आजीविका संवर्धन और संरचना विकास के कई कार्यक्रम संचालित करता है। वहीं समय-समय पर उत्कृष्ट कृषि के क्षेत्र में किसानों के आय में वृद्धि के लिए खेती के आधुनिक तकनीकों की जानकारी के साथ-साथ उनके पशुधन की पौष्टिक आहार को बनाने का प्रशिक्षण और चिकित्सकीय शिविर का आयोजन भी कराता रहता है।

उन्नत धान बीज का नि:शुल्क वितरण कार्यक्रम में 7 गांव के किसान लाभान्वित

अमन पथ न्यूज

रायपुर। रायपुर एनेर्जेन लिमिटेड (आरईएल) की अदाणी फाउंडेशन द्वारा किसानों को उन्नत किस्म के बीजों का वितरण किया जा रहा है। इसमें अब तक संयंत्र के आस पास के ग्राम पंचायतों रायखेड़ा, चिचोली, गैतरा, तराशिव, खम्हरिया, बरतोरी और कोनारी सहित सात ग्रामों के किसानों को उन्नत किस्म की धान बीज का निःशुल्क वितरण किया गया। आरईएल के सामाजिक सहभागिता के अंतर्गत अदाणी फाउंडेशन का मुख्य उद्देश्य क्षेत्र के किसानों का पारम्परिक विधि में परिवर्तन कर उन्नत किस्म के धान का उत्पादन और वृद्धि तथा खेती की लागत में कमी कराना है।

बीजों के वितरण के पूर्व सभी किसानों को कृषि की आधुनिक विधि श्री विधि अर्थात सघन धान रोपण पद्धति से उन्नत खेती का दो दिवसीय प्रशिक्षण का आयोजन कृषि विज्ञान केंद्र, रायपुर के सहयोग से किया गया। जिसमें उपरोक्त सभी ग्रामों के किसानों ने भाग लिया। अदाणी फाउंडेशन के ऑफिस परिसर में आयोजित इस कार्यक्रम में श्री ओम प्रकाश सेन (कृषि विज्ञान केंद्र के मास्टर ट्रेनर एवं प्रेसिडेंट- आरुग फार्मस प्रोड्सर कम्पनी, आरंग) ने किसानों को श्री विधि की संपूर्ण तकनीकियों की जानकारी दी और इसे अपनाने के फायदों को भी बताया। प्रशिक्षण के बाद सभी किसान कम पानी में धान की उपज और इसके उत्पादन की जानकारी पाकर संतुष्ट नजर आये और प्रशिक्षण एवं बीजों के लिए अदाणी फाउंडेशन और आरईएल को धन्यवाद दिया।

उल्लेखनीय है कि आरईएल, अदाणी फाउंडेशन द्वारा आस पास के 14 ग्राम पंचायतों में शिक्षा, स्वास्थ्य, आजीविका संवर्धन और संरचना विकास के कई कार्यक्रम संचालित करता है। वहीं समय-समय पर उत्कृष्ट कृषि के क्षेत्र में किसानों के आय में वृद्धि के लिए खेती के आधुनिक तकनीकों की जानकारी के साथ-साथ उनके पशुधन की पौष्टिक आहार को बनाने का प्रशिक्षण और चिकित्सकीय शिविर का आयोजन भी कराता रहता है।

अदाणी फाउंडेशन ने किया मुरा शासकीय प्राथमिक स्कूल में बैग वितरण

समवेत शिखर न्यूज

रायपुर। अदाणी फाउंडेशन ने ग्राम पंचायत मुरा के शासकीय प्राथमिक स्कूल के बच्चों को स्कूल बैग वितरित किया है। रायपुर जिले के तिल्दा विकासखंड में स्थित रायपुर एनेर्जेन लिमिटेड (आरईएल) के पास के ग्राम मुरा के नवीन प्राथमिक स्कूल में कल आयोजित एक कार्यक्रम में प्राथमिक स्कूल तथा खदान क्षेत्र में निवासरत 200 से अधिक बच्चों को स्कूल बैग का वितरण किया गया। कार्यक्रम का मुख्य उद्देश्य ग्राम पंचायत-मुरा के स्कूलों में पढ़ने वाले विद्यार्थियों को शिक्षा के लिए स्कूलों में नियमित उपस्थित को प्रोत्साहित करना है।

कार्यक्रम के मुख्यअतिथि ग्राम पंचायत मूरा की सरपंच-श्रीमती नूतन ध्रुव तथा अध्यक्षता उपसरपंच - श्रीमती पुष्पा भगवती साहू ने की। साथ ही जनपद प्रतिनिधि - टोकेन्द्र गायकवाड़, लकेश्वर कोसले (राजीव गांधी युवा क्लब अध्यक्ष) रेशम वर्मा (कोषाध्यक्ष) पंचगण - श्रीमती मानकी कोसले, सुरेंद्र साहू, श्री कुंजलाल पाल, श्रीमती कांति संजय वर्मा, श्रीमती दुर्गेश्वरी वर्मा, सचिव - बलराम दास बंजारे, रोजगार सहायक- नंदकिशोर पाल, प्रभारी प्राचार्य श्रीमती एस. देवांगन, समस्त शिक्षक गण तथा ग्रामवाशी उपस्थित थे। स्कूल बैग मिलने से जहां सभी विद्यार्थी अत्यंत प्रसन्न थे जनप्रतिनिधियों ने अदाणी फाउंडेशन को धन्यवाद दिया और चलाए जा रहे विकास कार्यों की सराहना करते हुए कहा कि इस तरह की गतिविधियां बच्चों के शिक्षा के प्रति रुझान को बढ़ाने में सहायक होती हैं।

कार्यक्रम का आयोजन अदाणी फाउंडेशन के सीएसआर प्रमुख दीपक सिंह के नेतृत्व में किया गया। मंच संचालन श्रीमती प्रीति प्रजापति कोसले और सुश्री दीपाली दास द्वारा विशेष सहयोग प्रदान किया गया। उल्लेखनीय है कि आरईएल, अदाणी फाउंडेशन द्वारा आस पास के 14 ग्राम पंचायतों में शिक्षा, स्वास्थ्य, आजीविका संवर्धन और संरचना विकास के कई कार्यक्रम संचालित करता है। वहीं शिक्षा के क्षेत्र में आसपास के सरकारी स्कूलों के होनहार बालकों को पढ़ाई में प्रोत्साहन हेतु निःशुल्क नवोदय

अदाणी फाउंडेशन ने किया मुरा शासकीय प्राथमिक स्कूल में बैग वितरण

प्रतिदिन नेटवर्क,रायपुर

अदाणी फाउंडेशन ने ग्राम पंचायत मुरा के शासकीय प्राथमिक स्कूल के बच्चों को स्कूल बैग वितरित किया है। रायपुर जिले के तिल्दा विकासखंड में स्थित रायपुर एनेर्जेन लिमिटेड (आरईएल) के पास के ग्राम मुरा के नवीन प्राथमिक स्कूल में कल आयोजित एक कार्यक्रम में प्राथमिक स्कूल तथा खदान क्षेत्र में निवासरत 200 से अधिक बच्चों को स्कूल बैग का वितरण किया गया। कार्यक्रम का मुख्य उद्देश्य ग्राम पंचायत – मुरा के स्कूलों में पढ़ने वाले विद्यार्थियों को शिक्षा के लिए स्कूलों में नियमित उपस्थित को प्रोत्साहित करना है।

कार्यक्रम के मुख्यअतिथि ग्राम पंचायत मूरा की सरपंच –श्रीमती नूतन ध्रुव तथा अध्यक्षता उपसरपंच – श्रीमती पुष्पा भगवती साहू ने की। साथ ही जनपद प्रतिनिधि – टोकेन्द्र गायकवाड़, लकेश्वर कोसले (राजीव गांधी युवा क्लब अध्यक्ष) रेशम वर्मा (कोषाध्यक्ष) पंचगण – श्रीमती मानकी कोसले, सुरेंद्र साहू, कुंजलाल पाल, श्रीमती कांति संजय वर्मा, श्रीमती दुर्गेश्वरी वर्मा, सचिव – बलराम दास बंजारे, रोजगार सहायक – नंदकिशोर पाल, प्रभारी प्राचार्य श्रीमती एस. देवांगन, समस्त शिक्षक गण तथा ग्रामवाशी उपस्थित थे । स्कूल बैग मिलने से जहां सभी विद्यार्थी अत्यंत प्रसन्न थे तो वहीं कार्यक्रम में उपस्थित सरपंच तथा अन्य पदाधिकारी व जनप्रतिनिधियों ने अदाणी फाउंडेशन को धन्यवाद दिया और चलाए जा रहे विकास कार्यों की सराहना करते हुए कहा कि इस तरह की गतिविधियां बच्चों के शिक्षा के प्रति रुझान को बढ़ाने में सहायक होती हैं। कार्यक्रम का आयोजन अदाणी फाउंडेशन के सी एस आर प्रमुख दीपक सिंह के नेतृत्व में किया गया। मंच संचालन श्रीमती प्रीति प्रजापति ने किया। वहीं अदाणी फाउंडेशन के खिलेश्वर महमन्ना, दाऊलाल कोसले और सुदीपाली दास द्वारा विशेष सहयोग प्रदान किया गया। उल्लेखनीय है कि आरईएल, अदाणी फाउंडेशन द्वारा आस पास के 14 ग्राम पंचायतों में शिक्षा, स्वास्थ्य, आजीविका संवर्धन और संरचना विकास के कई कार्यक्रम संचालित करता है। वहीं शिक्षा के क्षेत्र में आसपास के सरकारी स्कूलों के होनहार बालकों को पढ़ाई में प्रोत्साहन हेतु निःशुल्क नवोदय कोचिंग की सुविधा भी प्रदान कर रहा है।

अदाणी समूह के चेयरमैन गौतम अदाणी के जन्म दिवस पर रक्तदान जागरूकता के लिए शिविर का आयोजन

रायगढ़@किरणदूत

अदाणी समूह के चेयरमैन गौतम अदाणी के साठ वें जन्मदिवस के शुभ अवसर पर आज दिनांक 24 जून को भारत के साथ साथ विदेशों में भी स्थित समूह के सभी संस्थानों में विशाल रक्त दान शिविर का आयोजन किया गया। इसी कड़ी में अदाणी समूह के रायपुर, सरगुजा, रायगढ़ जिले में स्थित सभी परियोजनाओं में विशेष रक्त दान शिविर लगाये और साथ ही रक्त दान से सम्बंधित भ्रांतियां को दूर करने का भी प्रयास किया गया। अदाणी समूह द्वारा यह एक प्रयास है समाज में एक दूसरे की मदद करने की तत्परता को उजागर करने का।

जिनमें रायगढ़ जिले के दो विकासखंड तमनार और पुसौर में स्थित क्रमशः गारे पाल्मा-3 कोलियरी लिमिटेड (जीपी-3सीएल) के एमडीओ अदाणी समूह और रायगढ़ एनर्जी जनरेशन लिमिटेड (आरईजीएल) द्वारा एक दिवसीय विशाल रक्तदान शिविर का आयोजन खदान परिसर तथा सयंत्र परिसर में किया गया। आज गुरूवार 24 जून को सुबह 10 बजे से शाम 6 बजे तक चलाये जा रहे एक दिवसीय शिविर में जीपी-3सीएल कोल माइंस, मिलूपारा और आरईजीएल,छोटेभंडार में कंपनी के अधिकारियों और कर्मचारियों के साथ-साथ कार्यरत बड़ी संख्या में कांट्रेक्टर्स, वेंडर्स, माइन वर्कर्स एवं ग्रामीणों के द्वारा रक्तदान किया गया।

शिविर का मुख्य उद्देश्य रक्तदान के बारे में मिथकों को तोड़ना तथा रक्त दान के संबंध में जागरूकता फैलाते हुए लोगों को नियमित रूप से रक्तदान करने के लिए प्रेरित करना है। दोनों विकासखंडों में अलग - अलग आयोजित रक्त दान शिविरों का शुभारंभ क्रमशः जीपी-3सीएल में के के दुबे क्लस्टर हेड-आईआर, विपिन सिंह माइंस हेड, द्वारा दीप प्रज्वलन कर किया गया। जबकि आरईजीएल में सर्वत्र प्रमुख समीर कुमार मित्रा द्वारा शिविर उद्घाटित हुआ। जीपी-3सीएल में शिविर रायगढ़ मेडिकल कॉलेज हास्पिटल के ब्लड बैंक की दस सदस्यीय टीम द्वारा दोपहर 3 बजे तक 72 यूनिट रक्त एकत्रित किया गया। जबकि आरईजीएल में जिंदल फोर्टिस अस्पताल और रेड क्रॉस सोसाइटी रायपुर को 250 यूनिट रक्त का दान किया गया। समाचार लिखे जाने तक दोनों शिविरों से कुल 322 यूनिट रक्त का दान किया गया। रक्त दान हेतु बड़ी संख्या में कांट्रेक्टर्स जिसमें, हेमटेक, आशा कांट्रेक्टर्स, इत्यादि, के कामगारों ने सहर्ष रक्त दान किया।

रक्त दान से सम्बंधित कई मिथक दूर किये गए

आम तौर पर पर रक्तदान से संबंधित समाज में कई भ्रांतियां हैं। जहां कई लोग ये मान कर बैठे हैं की शरीर में सीमित रक्त है, वही कुछ लोग ये कह कर इसमे सम्मिलित नहीं होते की प्रक्रिया में समय लगता है और दर्द भी काफी ज्यादा होता है? कुछ लोगों का ये भी मानना है कि उच्च रक्तचाप और मधुमेह की बीमारी में रक्त दान नहीं कर सकते और अब कोरोना वैक्सीन लिए हुए व्यक्ति भी रक्त दान नहीं कर सकते है ? फाउंडेशन के तरफ से मेडिकल टीम ने सारी भ्रांतियां को दूर किया और शिविर में आए सब लोगों को इस बात के लिए प्रेरित किया की वो औरों में भी जागरूकता फैलाएं ।

Two-day blood donation camp organised

On occasion of b'day of Chairman Adani Group-Gautam Adani

Raipur, Jun 24: On occasion of birthday of Chairman Adani Group-Gautam Adani on Friday a massive blood donation camp was organised not only in the Group's institutions in India, but abroad as well. In this series, special blood donation camps were organised in all the projects of Adani Group in Chhattisgarh viz. at Raipur office, Surguja and Raigarh district and efforts were made to rule out doubts related to blood donation.

A two-day blood donation camp was organised at REL located in Tilda block of Raipur district of Adani Group, under the guidance of Adani Foundation in the plant premises. In this two-day camp on Jun 23-24, the contractual employees working in the company along with all the officers and employees took part in blood donation in large number. In these two days camp, a total of 340 unit blood was donated to Red Cross Society of India, Raipur. On this occasion the entire staff of Raipur office of Adani Group donated ration viz. rice, dal, and fruits to Old Age Home in Mana.

The objective of this blood donation camp is to remove all misconceptions related to it and create awareness amog people that by donating blood on regular basis, they can benefit a lot on health front. The camp began on June 23 at REL in Tilda by lighting of traditional lamp by Station Head Rambhav. In his address he held blood donation as the biggest of the all donations to the mankind and appealed all the employees to take part in the campaign extensively. The camp was conducted by Dr DV Baghel of Red Cross Society Raipur along with Deepika Yadu and other medical staff. First the registration of REL staff was donie and then blood donation camp was started. Afer this the contractual employees of the company viz. Philips Engineering Services, Sodexo India, Ion Exchange, Chekmate and others also donated blood.

The camp was organised by Adani Foundation and by HR department of REL and special assistance of Corporate Affairs department.

अदाणी फाउंडेशन के कार्यक्रम में 40 किसान हुए शामिल

कृषक भ्रमण कार्यक्रम में किसानों को मिली उन्नत खेती की जानकारी

हरिभूमि न्यूज ⏭ तिल्दा नेवरा

खेतों में पैदावार और किसानों की आय में वृद्धि के उद्देश्य से अदाणी फाउंडेशन ने गुरुवार को रायखेड़ा के आस पास के किसानों को कृषि विज्ञान केंद्र में शैक्षणिक भ्रमण कराया। रायपुर एनेर्जेन लिमिटेड के आसपास के ग्राम रायखेड़ा, चिचोली, तारशिव, खम्हरिया एवं बरतोरी के कुल 40 किसानों ने कार्यक्रम में भाग लिया।

इन किसानों को कृषि के लिए मिट्टी परीक्षण, जमीन तथा खेत की स्थिति, खाद एवं पानी की मात्रा, खरीफ फसल के अलावा नकदी खेती जो कि स्थानीय बाजार के मांग के अनुसार हो, व दलहन-तिलहन के साथ रबी फसल के संबंध में कृषि वैज्ञानिकों से सीधे बातचीत की। कृषि विज्ञान केंद्र, रायपुर के कृषि वैज्ञानिक डाक्टर उत्तम कुमार ने

किसानों को कृषि केंद्र के प्रदर्शन फार्मों का अवलोकन कराते हुए संबंधित कृषि तकनीकियों का विस्तारपूर्वक जानकारी दिया। जिनमें धान के 24 प्रकार, 'श्री विधि' से धान की खेती तथा कम पानी वाला भाठा जमीन में दलहन- तिलहन के अंतर्गत सोयाबीन, मुंग, उड़द का उत्पादन, फल उत्पादन जिनके अंतर्गत आम के पौधे में कलम, बेर में कलम, नीबू में गुट्टी बांध कर फल के पौधे को हाईब्रीड में परिवर्तित करना आदि।

तकनीकी जानकारी उपयोगी

कृषक भ्रमण में मौजूद कृषक जानेश्वर वर्मा, ओमप्रकाश वर्मा, परस वर्मा, मंगलू वर्मा, तामेश्वर वर्मा, दीपक बंजारे एवं अन्य साथीयों ने कृषि विज्ञान केंद्र में मिली जानकारियों और तकनीकियों को उपयोगी बताया और इन्हें अपने कृषि में इस्तेमाल करने की बात कही। वहीं आरईपल और अदाणी फाउंडेशन को इसके आयोजन के लिए धन्यवाद दिया। अदाणी फाउंडेशन रायखेड़ा अपने सामुदायिक सहभागिता के अंतर्गत क्षेत्र के किसानों को कृषि के आधुनिक विधि से जोड़ने हेतु विभिन्न प्रकार से सहयोग प्रदान कर रहा है। जिसमें पहले इन किसानों को धान के उन्नत खेती के लिए श्री पद्धति पर प्रशिक्षण, हाइब्रिड धान बीज वितरण तथा कृषि विशेषज्ञों से उन्नत खेती के सम्बन्ध में जानकारी तथा प्रदर्शन फार्मों के लिए केवीके, रायपुर का भ्रमण इत्यादि शामिल है।

अदाणी फाउंडेशन ने अहमदाबाद में आयोजित किया ग्राम भारती कार्यक्रम

एजेंसी । रायपुर

छत्तीसगढ़ के रायपुर और सरगुजा जिले की ग्रामीण महिलाओं के स्वरोजगार और उनके उत्पादों को वैश्विक बाजार में ख्याति दिलाने अदाणी समूह के अदाणी फाउंडेशन द्वारा अहमदाबाद स्थित मुख्यालय में तीन दिवसीय ग्राम भारती कार्यक्रम का आयोजन किया गया। रायपुर जिले के ग्राम रायखेड़ा में स्थित रायपुर एनेर्जेन लिमिटेड के आसपास के ग्रामों में अदाणी फाउंडेशन के सहयोग से चलाई जा रही सिलाई केंद्र की सहेली महिला सशक्त सिलाई समूह के बने उत्पादों की प्रदर्शनी भी ग्राम भारती कार्यक्रम का हिस्सा रही। इस कार्यक्रम का मुख्य उद्देश्य वोकल फॉर लोकल के तहत अन्य राज्यों में अदाणी फाउंडेशन द्वारा सामुदायिक सहभागिता के अंतर्गत गठित स्वसहायता समूहों, जो स्थानीय लोगों की उपयोगिता को ध्यान में रखते हुए, उत्पाद का निर्माण करते हैं, और अपने आजीविका विकास के कार्यों को गति देते हैं, को फाउंडेशन के हेड ऑफिस द्वारा एक मंच प्रदान करना था। कार्यक्रम में विभिन्न क्षेत्रों व राज्यों से 15 से अधिक समूहों ने हिस्सा लिया, जिनमें छत्तीसगढ़ के ही दूरस्थ आदिवासी जिले सरगुजा के ग्राम परसा की महिला उद्यमी बहुउद्देशीय सहकारी समिति (मब्स) की महिलाओं ने भी भाग लेकर अपने

उत्पादों की प्रदर्शनी एवं बिक्री की। इसके आलावा उत्तरप्रदेश की प्रेरणा प्रोड्यूसर कंपनी लिमिटेड-वाराणसी इत्यादि, गुजरात की मेघधरुश सहेली स्वसहायता समूह मुंद्रा इत्यादि, तमिलनाडु की अर्रहमान ओरेंगिगैथा पाने ओलै पोरोल्काल थयारिप्पू संगम कट्टुपल्ली इत्यादि, महाराष्ट्र की प्रगतिशील महिला प्रोड्यूसर कंपनी लिमिटेड तिरोरा इत्यादि शामिल हुए। इन सभी को अदाणी फाउंडेशन द्वारा चलाए जा रहे सीएसआर के कार्यक्रमों को वैश्विक गति प्रदान करने और ग्रामीण स्तर पर स्वसहायता समूहों के माध्यम से स्वरोजगार के क्षेत्र में जारी कार्यों के तहत तैयार हुए उत्पादों की प्रदर्शनी हेतु एक प्रभावशाली मंच उपलब्ध करा उन्हें रोजगार के लिए प्रेरित किया गया। ताकि विभिन्न राज्यों में समूह द्वारा किये जा रहे कार्यों को आपस में समझकर और बेहतर ढंग से करने और सभी समूहों को एक प्रमुख बाजार भी उपलब्ध कराया जा सके। ग्राम भारती कार्यक्रम का औपचारिक शुभारंभ अदाणी समूह के चेयरमैन श्री गौतम अदाणी एवं डॉक्टर प्रीति अदाणी (फाउंडेशन चेयरमेन) के द्वारा दीप प्रज्वलित कर किया गया। इसके बाद उन्होंने समूह के प्रदर्शन उत्पादों का अवलोकन किया। इस कार्यक्रम में पहुंचे समूहों ने, तीनों दिन अपने-अपने उत्पादों की बिक्री भी की। वहीं इन समूहों को प्रेरित करने की दृष्टि से सम्मान स्वरूप, प्रति समूह सहयोग राशि का चेक भी प्रदान किया गया। कार्यक्रम में सहेली महिला सशक्त सिलाई समूह द्वारा तैयार उत्पादों की बिक्री की गई। गौरतलब है कि अदाणी फाउंडेशन 16 राज्यों के लगभग 2400 से अधिक गांवों की 40 लाख आबादी की गुणवत्तापूर्ण प्राथमिक शिक्षा, जन स्वास्थ्य, स्वरोजगार और कुपोषण उन्मूलन के लिए काम कर रहा है। साथ ही स्किल डेवलपमेंट प्रोग्राम के तहत 11 राज्यों के एक लाख लड़के-लड़कियों को ट्रेनिंग दे रहे हैं।

Annexure - VII

RAIPUR ENERGEN LIMITED

FIRE AND SAFETY DEPARTMENT

DELUGE VALVE LOCATION BTG & BOP AREA

DV NO	LOCATION	DV NO	LOCATION	DV NO	LOCATION
DV-01	CONV. 7B Zone#8&9	**DV-37**	CONV. 1AXBX Zone#4	**DV-73**	Boiler#1 Burner Narth
DV-02	CONV. 7B Zone#6&7	**DV-38**	CONV. 1AXBX Zone#5	**DV-74**	Coal Mill Unit#1
DV-03	CONV. 7B Zone#4&5	**DV-39**	CONV. 1AB Zone#1	**DV-75**	Boiler#1 Burner east
DV-04	CONV. 7AB Zone#3	**DV-40**	CONV. 1AB Zone#2	**DV-76**	ST#2 (Transformer yard)
DV-05	CONV. 7AB Zone#2	**DV-41**	CONV. 1AB Zone#3	**DV-77**	GT#2R (Transformer yard)
DV-06	CONV. 7AB Zone#1	**DV-42**	CONV. 1AB Zone#4	**DV-78**	UT#2A (Transformer yard)
DV-07	CONV. 7A Zone#4&5	**DV-43**	MCC#1 cable gallery	**DV-79**	TG (-3.5 Mtr.) Unit#2
DV-08	CONV. 7A Zone#6&7	**DV-44**	Conv#4A	**DV-80**	TG (5.8 Mtr.) Unit#2
DV-09	CONV. 7A Zone#8&9	**DV-45**	Conv#4B	**DV-81**	Hyd. seal oil unit#2
DV-10	CONV. 6AB Zone#1	**DV-46**	Conv#03	**DV-82**	UT#2B (Transformer yard)
DV-11	CONV. 6AB Zone#2	**DV-47**	AHP C/R cable gallery	**DV-83**	GT#2Y (Transformer yard)
DV-12	CONV. 6AB Zone#3	**DV-48**	HCSD C/R cable gallery	**DV-84**	GT#2B (Transformer yard)
DV-13	CONV. 6AB Zone#4	**DV-49**	Bus reactor	**DV-85**	UAT#2A (Transformer yard)
DV-14	CONV. 6AB Zone#5	**DV-50**	CHP C/R cable gallery	**DV-86**	UAT#2B (Transformer yard)
DV-15	CONV. 6AB Zone#6	**DV-51**	WTP C/R cable gallery	**DV-87**	COT/DOT Tank
DV-16	CONV. 6AB Zone#7	**DV-52**	LDO tank	**DV-88**	Lube oil Cond. Unit#2
DV-17	CONV. 6AB Zone#8	**DV-53**	LDO tank foam	**DV-89**	LOT unit#2 (8.5mtr.)
DV-18	CONV. 6AB Zone#9	**DV-54**	HFO tank#1 foam	**DV-90**	ESP/MCR (-3.5Mtr) Z-01
DV-19	CONV. 6AB Zone#10	**DV-55**	HFO tank#2 foam	**DV-91**	ESP/MCR (-3.5Mtr) Z-02
DV-20	CONV. 6AB Zone#11	**DV-56**	HFO tank#1	**DV-92**	ESP/MCR (-3.5Mtr) Z-03
DV-21	CONV. 6AB Zone#12	**DV-57**	HFO tank#2	**DV-93**	ESP/MCR (-3.5Mtr) Z-04
DV-22	CONV. 5AB Zone#1	**DV-58**	GT (Spare)	**DV-94**	ESP/MCR (-3.5Mtr) Z-05
DV-23	CONV. 5AB Zone#2	**DV-59**	UAT#1A	**DV-95**	ESP/MCR (+5.3Mtr) Z-06
DV-24	CONV. 5AB Zone#3	**DV-60**	UAT#1B	**DV-96**	ESP/MCR (+5.3Mtr) Z-07
DV-25	CONV. 5AB Zone#4	**DV-61**	TG (-3.5Mtr.) Unit#1	**DV-97**	ESP/MCR (+5.3Mtr) Z-08
DV-26	CONV. 5AB Zone#5	**DV-62**	TG (+5.8Mtr.) Unit#1	**DV-98**	ESP/MCR (+5.3Mtr) Z-09
DV-27	CONV. 2AB Zone#1	**DV-63**	Hyd. seal oil unit#1	**DV-99**	ESP/MCR (+5.3Mtr) Z-10
DV-28	CONV. 2AB Zone#2	**DV-64**	UT#1A (Transformer yard)	**DV-100**	APH#2
DV-29	CONV. 2AB Zone#3	**DV-65**	UT#1B (Transformer yard)	**DV-101**	Boiler#2 Burner west
DV-30	CONV. 2AB Zone#4	**DV-66**	GT#1R (Transformer yard)	**DV-102**	Coal mill Unit#2
DV-31	CONV. 2AB Zone#5	**DV-67**	GT#1Y (Transformer yard)	**DV-103**	Boiler#2 Burner east
DV-32	CONV. 2AB Zone#6	**DV-68**	GT#1B (Transformer yard)	**FAS-01**	U. dyke area unit#1
DV-33	CONV. 2AB Zone#7	**DV-69**	ST#1 (Transformer yard)	**FAS-02**	U. dyke area Unit#2
DV-34	CONV. 1AXBX Zone#1	**DV-70**	Lube oil Cond. Unit#1	**FAS-03**	Technical building
DV-35	CONV. 1AXBX Zone#2	**DV-71**	LOT unit#1 (8.5mtr.)	**FAS-04**	FW. pump house
DV-36	CONV. 1AXBX Zone#3	**DV-72**	APH#1	**FAS-05**	Fuel oil forwarding PH.

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सत्यमेव जयते

भारत सरकार / GOVERNMENT OF INDIA

परमाणु ऊर्जा विभाग / DEPARTMENT OF ATOMIC ENERGY

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

रेडियोसक्रियता परीक्षण प्रमाण-पत्र / RADIOACTIVITY TEST CERTIFICATE

RADIOANALYTICAL LABORATORY

Ref: BRIT/RAL/D-1292-1299/MISC/1109-16/21-22 **MAR 30, 2022**

TO
M/S. RAIPUR ENERGEN LTD.,
(FORMERLY KNOWN AS GMR CHHATTISGARH ENERGY LIMITED)
ADANI CORPORATE HOUSE,
SHANTIGRAM, NEAR VAISHNO DEVI CIRCLE,
KHODIYAR, AHMEDABAD 382 421, GUJARAT (INDIA).

This is regarding the **"COAL , FLY ASH, BOTTOM ASH AND POND ASH"** samples submitted vide your letter dated 15.02.2022 for radioactivity analysis, as shown in italics :

SAMPLE NO.	TYPE OF SAMPLE	PLACE	DATE OF SAMPLING	WEIGHT (IN KG)
SAMPLE # 1	COAL	REL	14/02/2022	01
SAMPLE # 2	FLY ASH	REL	14/02/2022	01
SAMPLE # 3	BOTTOM ASH	REL	14/02/2022	01
SAMPLE # 4	POND ASH	REL	14/02/2022	01

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

SAMPLE NO.	TYPE OF SAMPLE	U-238 Bq/Kg	Th-232 Bq/Kg
1.	COAL	39.1 ± 1.8	65.6 ± 7.8
2.	FLY ASH	78.2 ± 2.6	115.9 ± 11.5
3.	BOTTOM ASH	73.7 ± 2.9	121.7 ± 12.1
4.	POND ASH	73.9 ± 2.2	110.6 ± 11.0

Date of receipt of sample : 05.03.2022 **Date of completion of test: 30.03.2022**

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

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

Checked by:

Authorized Signatory : 30/3/22

अजय एन. ठमके / Ajay N. Thamke
प्रभारी अधिकारी / Officer-In-Charge
रेडियोवैश्लेषक प्रयोगशाला / Radioanalytical Laboratory
विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड
Board of Radiation & Isotope Technology
बार्क वाशी कॉम्प्लेक्स / BARC Vashi Complex
नवी मुंबई / Navi Mumbai - 400 703

****end of report****