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26/05/2023

**Ref: GVKPGSL/ MoEF & CC/2023/
Date: 26-05-2023**

To
The Director (Thermal)
Ministry of Environment, Forest & Climate Change (IA)
Government of India,
Indira Paryavaran Bhavan, Ali Ganj, Jorbagh Road
New Delhi-110 003

Sir,

Sub: 2X270 MW Coal base Thermal Power Project M/s. GVK Power (Goindwal Sahib) Ltd., near Goindwal Sahib Tehsil & Distt.- Tarn Taran , Punjab- *Submission of Half Yearly report (Oct.,2022-March,2023) on compliance of the stipulated conditions of Environmental Clearance awarded by MoEF&CC-reg.*

Ref: Environment Clearance Letter no. J-13011/78/2008-IA (T) dtd 9th May 2008, amendment and extension of validity of EC letter J-13011/78/2007-IA.II (T) dtd 19th February 2014 and further amendment of EC for change in source of Coal dtd 9th March, 2016, GOI, MoEF&CC.

We hereby submitting the soft copy (CD) of Half Yearly report (*Oct.,2022-March,2023*) on Compliance of the stipulated conditions of Environmental Clearance awarded by MoEF&CC for 2X270 MW Coal based Thermal Power Project near Goindwal Sahib Tehsil & Distt.- Tarn Taran, Punjab as per S.O 5845 (E) under the Notification of MoEF&CC dated 28th November, 2018.

This is for your kind information and records please.

Thanking you,

Yours sincerely,
for M/s. GVK Power (Goindwal Sahib) Ltd,


Bivash Chandra Ghosh
Director

Encl: 1. Half Yearly EC Compliance Report in soft copy (CD) (*Oct.,2022-March,2023*)

Contd---

CC:

1. Northern Regional Officer,
Ministry of Environment and Forests
Addl. Principal Chief Conservator of Forests (Central)
Bay No.24-25, Sector 31-A, Dakshin Marg,
Chandigarh-160 030

2. Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi - 110 032

3. Member Secretary,
Punjab Pollution Control Board
Vatavaran Bhawan, Nabha Road, Patiala- 147 001

4. Environmental Engineer,
Regional Officer, Punjab Pollution Control Board,
Plot No. 164, Focal Point Mehta Road,
Amritsar.



EC Compliance Status Report

For

***2X270 MW
GVK Thermal Power
Plant, Goindwal Sahib,
Punjab***

***{Report No-25}
March, 2023***



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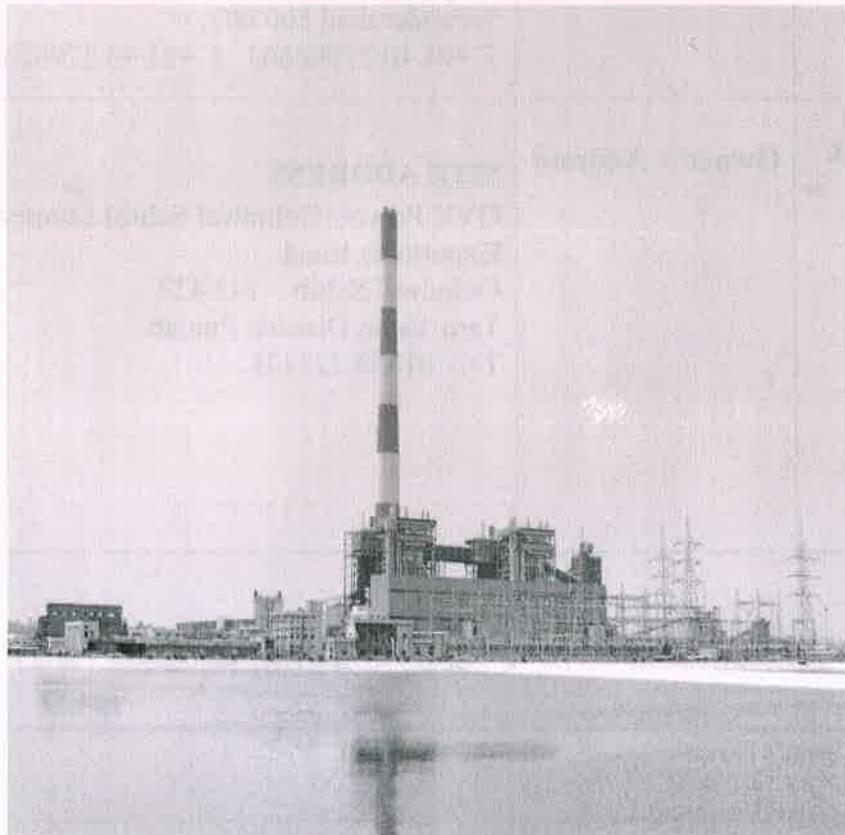
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**2X270 MW GOINDWAL SAHIB THERMAL POWER PLANT
AT
GOINDWAL SAHIB, TARN TARAN DISTRICT PUNJAB**

HALF-YEARLY PROGRESS REPORT



Oct, 2022 to March, 2023

**REPORT NO. 25
March, 2023**



Project Information:

1.	Project Name	2X270 MW Goindwal Sahib Coal Based Power Plant
2.	Location	Goindwal Sahib, District – Tarn Taran- Punjab
3.	Owner's Address	<p>GVK Power (Goindwal Sahib) Ltd. Paigah House, 156-159, Sardar Patel Road, Secunderabad 500 003. T +91 40 27902663 F +91 40 27902665</p> <p>SITE ADDRESS GVK Power (Goindwal Sahib) Limited, Kapurthala Road Goindwal Sahib – 143 422. Tarn Taran District, Punjab Tel: 01859 223331.</p>



Compliance Status report of the stipulated conditions in the Environment Clearance granted by MoEF vide letter No. J-13011/78/2008-IA (T) Dated 9th May 2008, amendment and extension of validity of EC letter J-13011/78/2007-IA.II (T) dtd 19th February 2014 and further amendment of EC vide letter No. J-13011/78/2007-IA.II (T) dtd 9th March, 2016 for change in source of Coal, GOI, MoEF&CC for setting up of 2X270 MW Coal Based Thermal Power Project near Goindwal Sahib village, Tarn Taran dist. Punjab.

Terms & Conditions:

Sl. No.	Terms & Conditions	Compliance Status
i.	The total land requirement for the project shall be restricted to 600 acres.	Complied.
ii.	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34% respectively	Shall be complied. Sulphur and Ash content will not exceed the permissible limits.
iii.	A bi-flue stack of 275 m height shall be provided with continuous online monitoring equipments for SO _x , NO _x and particulate. Exit velocity of flue gases shall not be less than 20 m/sec.	Complied, a bi-flue stack of 275 m height is constructed. The Continuous Online Emission Monitoring System (OCEMS) is installed and operational for monitoring of flue gas Temp., Pressure, Flow, SO _x , NO _x & Particulate Matter and well connected with CPCB/PPCB servers. The chimney flues are designed to ensure recommended exit velocities
iv.	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³	Complied, Designed ESPs are installed to meet particulate emission not exceeding 50 mg/ Nm3.
v.	Provision for installation of FGD shall be provided for future use.	Noted. It shall be complied as per norms prescribed by MoEF & CC. In continuation of FGD implementation, CEA has approved technology and indicative cost for FGD installation at GVK. It is under implementation. Adequate space provision has been provided for FGD.



Sl. No.	Terms & Conditions	Compliance Status
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, Water sprinklers/dust extraction and suppression systems have been provided in coal and ash handling plant at appropriate locations.
vii.	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Fly ash shall be used in a phased manner as per provisions of the notification on Fly Ash Utilization issued by the Ministry in Sept. 1999 and its amendment. By the end of 9 th year full fly ash utilization should be ensured. Unutilized fly ash shall be disposed off in the ash pond in the form of High Concentration slurry and the bottom ash in conventional slurry mode.	For utilization of fly ash, an Agreement was entered into with M/s. Ambuja cements for lifting of 100% of fly ash from GVKP (Goindwalsahib) Ltd. In addition to that, we are encouraging to the manufacturers of fly ash or clay-fly ash bricks, blocks and tiles on a priority basis and providing fly ash on free of charge. Unutilized fly ash (bottom ash) shall be disposed off in designed ash pond in the form of High Concentration Slurry Disposal (HCS) and the bottom ash in conventional slurry mode and the same also to be allocated to meet the demand of local area / Govt. authority/Institution.
Viii	Ash pond shall be lined with suitable impervious lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Complied, LDPE lining is provided to avoid the contamination of ground water. Proper operating and regular inspection procedure are formulated to ensure and prevent from getting breached.
Ix	Closed cycle cooling system with cooling towers shall be provided. COC of at least 5 shall be adopted and the effluent treated as per prescribed norms.	Complied. Closed cycle cooling system with cooling towers is installed. COC greater than 5 is adopted and effluent shall be treated and re-used to comply the prescribed norms.



Sl. No.	Terms & Conditions	Compliance Status
X	<p>The treated effluents conforming to the prescribed standards shall be re circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.</p>	<p>Complied.</p> <p>Any industrial effluent generated from plant activities including ash pond is being treated in water pollution control devices to conform the norms and reused. We comply with stipulations.</p> <p>Additionally, we have already installed Online Effluent Monitoring system (OCEMS) at ETP to monitor the treated effluent specified parameters (pH, COD, BOD & TSS) and well connected with PPCB/CPCB server.</p> <p>Proper arrangement has been made to avoid mixing of storm water and effluent.</p>
Xi	<p>A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.</p>	<p>Complied. Sewage Treatment Plant is constructed and operational. Domestic wastewater generated from township is being treated in Sewage Treatment Plant up to the prescribed standard and after proper disinfection of treated effluent being reused for plantation & gardening purpose only.</p> <p>Additionally, we have already installed Online Effluent Monitoring system (OCEMS) at STP to monitor the treated effluent parameters (pH, COD, BOD & TSS) and PTZ camera, well connected with PPCB/CPCB server.</p>
Xii	<p>Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.</p>	<p>A well designed Rain Water Harvesting Scheme is submitted to Central Ground Water Authority and the same is under implementation.</p>
Xiii	<p>Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy</p>	<p>Complied with.</p> <p>Adequate Fire fighting systems are installed to handle any miss happening.</p>



Sl. No.	Terms & Conditions	Compliance Status
	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 at Chandigarh.	Full details & plant layout are submitted.
Xiv	Storage facilities for liquid fuel such as LDO and / HFO shall be made in the plant area where risk is minimum to the storage facilities. Adequate arrangement of risk management shall be made in the Disaster Management Plan for the same. Mock drill shall be conducted regularly as planned.	Complied with. Storage facilities are approved by Department of Explosives, Nagpur. Adequate arrangement of risk management has been made in the Disaster Management Plan for the same. Mock drills are being conducted regularly as per defined procedures.
Xv	Regular monitoring of ground water in and around the ash pond area shall be carried out, records maintained and periodic reports shall be furnished to the Regional Office of this Ministry.	Complied with. Four (4) nos. of Piezometer points are established in the prominent location of plant in consultation with PPCB officials for the purpose of ground water monitoring. Ground water sample is being analyzed and periodic report submitted to the Regional Office of MoEFCC as enclosed <i>Annexure-1 Environmental Status Report</i> .
Xvi	A Green belt of adequate width and density shall be developed around the plant periphery covering about 160 acres of project area preferably with local species.	Complied. 100% of green belt is developed scientifically with proper width and density with following the green belt development guidelines issued by CPCB, to mitigate pollution in and around the plant and maintain ecological balance. Moreover, we surveyed for developed green belt to quantify the number of plants, its density & species planted and survival rate. For that, we engaged Divisional Forests Office, Amritsar, Forest and Wildlife Preservation Department, Govt. of Punjab. As per surveyed report, developed green belts consisting more than 3 tiers and 50m width along periphery of the plant boundary and a thick vegetation also developed around the ash pond, maintaining trees density of 2500 nos. per hectare with covering area of 64 hectares Land. Mostly native plants varieties are



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		planted e.g Sissio along with some other good forestry plants varieties such as Arjun, Karonj, Kadamba, Alstonia, Silver oak, Jamun, Jamuni, Tuna & Dek etc. having survival rate more than 80%. The planted trees are more than One Lakhs Sixty One Thousand (1,61,000) inside the plant premises, as per report submitted by DFO office, Amritsar.
Xvii	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied with. First aid centre, Primary health centre and ambulance are provided.
xviii	Leq of Noise levels emanating from gas and steam turbines shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs / ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy / less noisy areas.	Complied with. Systems are engineered to limit the noise level to 75 dBA. PPEs are being provided for workers working in high noise area. Periodical and regular medical checkups are being carried out for all the employees working in plant area. Corrective measures, if any, as suggested will be adopted, if needed. However, periodically ambient noise monitoring is being carried out as per norms, attached Annexure-1 Environmental Status Report.
Xix	Regular monitoring of ground level concentration of SO ₂ , NOx, SPM and RSP 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.	Complied with. 8 nos. of Monitoring stations were established in consultation with PPCB and continuous monitoring been carrying out as per AAQM Notification-2009 issued by CPCB. In addition to that, Mercury (Hg) parameter is also being monitored in ambient air in the core as well as buffer zone and records maintained for the same at site. Periodic reports are being submitted to the concerned authorities as attached Annexure-1 Environmental Status Report.
Xx	The project proponent shall advertise in at least two local newspapers widely circulated in the	Complied



Sl. No.	Terms & Conditions	Compliance Status
	<p>region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the SPCB/ Committee and may also be seen at website of the Ministry of Environment and Forests at http://envfor.nic.in.</p>	
xxi.	<p>A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.</p>	<p>Complied with. An Environment Management Cell headed by Vice President and Manager (Environment) is in place. Our environment management cell is always pioneer to extent Awareness programs about Environmental issues /challenges among employees/families as well as in nearby villages.</p>
xxii.	<p>Half yearly report on the status of implementation of the stipulated conditions and environmental safeguard shall be submitted to this Ministry/Regional Office/ CPCB/SPCB.</p>	<p>Complied with. The status on the implementation of stipulated conditions is being submitted every 6 months to the Ministry and its Regional Office and CPCB/PPCB.</p>
xxiii.	<p>Regional Office of the Ministry of Environment & Forests located at Chandigarh 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.</p>	<p>Complied with.</p>
xxiv.	<p>Separate funds shall be allocated for implantation 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</p>	<p>Complied with. Funds are allocated towards environmental protection measures and the cost is included in the project cost. Year wise expenditure attached.</p>

Sl. No.	Terms & Conditions	Compliance Status
	diverted for other purposes and year-wise expenditure should be reported to the Ministry.	
Xxv	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	Complied. Financial Closure was achieved on 21-05-2010.
Xxvi	Full cooperation shall be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry at Chandigarh/ the CPCB / the SPCB who would be monitoring the compliance of environmental status.	Full cooperation being extended to Scientists/Officers from the Regulatory bodies.

As per MoEF's amendment and extension of validity of EC vide letter No. J-13011/78/2007-IA-II(T) dated 19-02-2014 after the condition no. (xxvi), the following conditions are inserted

xxvii	Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.	Complied. We have established Solar Power Plant on the roof top of Filter Water Tank in premises of GVK Thermal Power Plant. In addition to above, We have also installed Solar Power System on roof top of Khadoor Sahib Railway Station to catering the power for emergency lighting for entire station. As we have developed Khadoor Sahib Railway Station 05 km far away from our plant and spent Rs. 55 crores for this development along with residential Quarters for the Staff.
xxviii	A long term study on radio activity and heavy metals contents on coal to be used shall be carried	Complied. The testing of radio activity and heavy



Sl. No.	Terms & Conditions	Compliance Status
	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.	metals contents in coal and fly ash is being carried out by certified labs (BARC/MoEFCC/ CPCB) from last three years and its records are maintained.
Xxix	Mercury emissions from stack shall also be monitored on periodic basis.	Complied. Mercury emission is being monitored on regular basis.
Xxx	Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.	Complied. Appropriate arrangements have been made to control fugitive emissions.
XXXI	No ground water shall be extracted for use in operation of the power plant even in lean season.	Noted and complied. Plant consumptive water is sourced from River Beas for plant operational purpose.
xxxii	Source sustainability study of water requirement shall be carried out by an institute of repute. The study shall also specify the source of water for meeting the requirement during lean season. The report shall be submitted to the Regional Office of the Ministry within six months.	Noted. 20 cusecs of water is allocated from the perennial river Beas. The lean flow in river Beas is 3000 cusecs.
xxxiii	Hydro geological study of the area shall be reviewed annually and report submitted to the Ministry. 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.	Not applicable on us. As no ground water extraction is being done. We are only using river water for generation of power. As we have been allocated 20 cusecs of water from River Beas. However, we had done Hydrogeological study for our plant site by NIH, Roorkee. The report was submitted along with Half yearly compliance report. As per report submitted by NIH officials, there was found no impact on ground water in the study area covered 10kms from plant, by thermal power. None of the existing water bodies or the drainage system is disturbed.
xxxiv	Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.	Noted. Not Applicable.



Sl. No.	Terms & Conditions	Compliance Status
Xxxv	COC of 5.0 shall be adopted.	Complied, as given at Sl. No. ix.
xxxvi	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.	Agreed.
xxxvii	Green Belt consisting of 3 tiers of plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 75 %.	Green Belt with more than 5 tiers of tree has been implemented. Full details are given at Sl. No. xvi.
xxxviii	Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary.	Complied.
xxxix	A common Green Endowment Fund shall be created and the interest earned out of it shall be used for the development and management of green cover of the area.	Complied. We have created Bank Account and deposited Rs. 11 crores in that towards Green Endowment Fund at IDBI Bank Limited, Hyderabad, Telangana dtd, 28.08.2019.
XI	The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	Noted and complied. Already in consultation with local bodies to understand the requirements. 100 houses for economically weaker section are already built at Manikhera village in consultation with State Government of Punjab.



Sl. No.	Terms & Conditions	Compliance Status
Xli	<p>An amount of Rs. 12 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs. 2.4 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.</p>	<p>Noted and the same shall be implemented in consultation with the concerned authorities. A model Railway Station has already been developed at a cost of about Rs. 50 Crores at Khadoor Sahib, which will be very useful for the local public of that area. In addition to that, We have constructed 100 houses for EWS at Manikhera Village, Bhatinda with cost of Rs. 5 Crores.</p>
xlii	<p>CSR scheme should address Public Hearing issues and shall be undertaken based on need based assessment in and around the villages within 5.0 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also 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.</p>	<p>Issues raised during Public Hearing this were addressed and will be addressed on continuous basis if there are any new issues.</p> <p>Agriculture demonstration centre is developed in plant vicinity. Nursery of the forestry plants has been developed in the demonstration plot. Around 20,000 saplings of different species of forestry plants like sheesham, Karanj, Arjun, cassia fistula, siris, alstonia, cassia simian have been grown in the nursery.</p> <p>Two nos. of fruit orchards Kinnow and Guava were developed in plant vicinity with the area of one hectare (10,000sqm.) and one acre (4047sqm.) respectively.</p> <p>A Green house shed has been prepared to create a better climate for the propagation of saplings. Vegetable cultivation of different vegetables like bitter gourd, bottle gourd, pumpkin, lady's finger, tomato, garlic, onion & cucumber etc. are also being implemented.</p> <p>In order to conserve the environment and enhance the income of local people in future, possibility to be explored.</p>



Sl. No.	Terms & Conditions	Compliance Status
Xliii	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. We had done social audit at GVK Power (Goindwal Sahib) Ltd. by <i>Guru Nanak Dev University, Amritsar</i> . The report was submitted to your esteemed office in previous half yearly compliance report.
Xliv	An Environmental Cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to the Head of the Organization.	Complied with. Details are as per Sl. No. xxi.
Xlv	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 with. Details are as per Sl. No. xv, xix & xxviii and further more details pls refer <i>Annexure-1 Environmental Status Report</i> .
xlvi	Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Complied with. An monitoring of surface water quality is being conducted on regular basis and record maintained. Details are as per Xlv.
Xlvii	The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also	Being complied.



Sl. No.	Terms & Conditions	Compliance Status
	be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	
xlviii	The project proponent shall formulate a well laid Corporate Environment Policy and 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.	Noted and complied. PP formulated Integrated SHE policy for Safety, Health & Environment and the same is adopted.
As per MoEF&CC's amendment of EC for change in source of Coal vide letter No. J-13011/78/2007-II-A-II (T) dated 09-03-2016 after the condition no. (xlviii), the following conditions are inserted		
xlviii	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5% and 37% respectively for domestic coal and 0.8 % and 30% respectively for imported coal at any given time subject to compliance of the Ministry's Notification dated 02-01-2014 regarding use of coal with ash content not exceeding thirty four per cent, on quarterly average basis. 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.	Complied. Coal supply agreement signed with CCL and SECL subsidiaries of Coal India Limited (CIL) for 1,700,000 MTPA and 6300 MTPA of coal under SHAKTI Scheme of Government of India, in February 2018. Coal under SHAKTI Scheme from CCL mines is being used from April 2018.
	The PP shall advertise in the newspaper and place on the website, the amendment issued by the Ministry for public information.	Complied.



Green Belt Photographs



North Side of the Plant



East side of Plant





West side of Plant



South side of Plant



Budget for EMP FY 2022-23

Details about the funds kept in the budget for implementation of Environment Management Plans, up to date expenditure on different items of EMP and plan for FY 2022-23 as per following proforma.

S.No.	Items	Expenditure details Till date	Proposed budget estimates for FY 2022-23
		Non-Recurring (in Crores)	Recurring (in Crores)
a.	Air pollution control measures	131.25	100.25
b	Water pollution control measures	20.85	0.50
c	Noise pollution control measures	2	-
d	Monitoring	0.85	0.50
e	Green belt	5.90	1.00
f	Lab	0.55	0.15
g	Bio Medical Waste Management	0.60	0.10
h	HZW Management	0.40	0.10
i	E Waste Management	0.15	0.10
j	Solid waste management	59.00	10.50
Total		221.55	113.20



Environmental Status Report

For

***2X270 MW
GVK Thermal Power
Plant, Goindwal Sahib,
Punjab***

March, 2023



ENVIRONMENTAL STATUS REPORT

GVK

2X270 MW GVK THERMAL POWER PLANT, GOINDWAL SAHIB, TARN TARAN, PUNJAB

1 THE COMPANY

GVK is a leading Indian conglomerate with experience and expertise spanning across diverse sectors including Energy, Resources, Airports, Transportation, Hospitality and Life Sciences. Having already invested over Rs.25,000 crore (USD 3.7 billion) the company has projects worth over another Rs.17,000 crore (USD 2.6 billion) in the pipeline, in India. GVK has pioneered various infrastructure projects viz. setting up India's first Independent Power Plant (IPP), first six-lane road project and first Brownfield airport under the Public Private Partnership model.

GVK has over 2400 MW projects under generation and development.

GVK is a socially responsible and an environmentally conscious organization. GVK EMRI (108 Emergency Management and Research Institute) is a pioneer in Emergency Management Services in India. As a not-for-profit organization operating in the Public Private Partnership mode, **GVK EMRI** is the world's largest Emergency Service Provider. The GVK EMRI attends to every emergency situation; be it a medical crisis, law and order situation or a fire disaster. This service is spread across 16 States and two Union Territories with around 50,000 employees and 13,000 ambulances catering to over 850 million people.

2 THE PROJECT

GVK Power (Goindwal Sahib) Limited established 540 MW (2x270 MW) Coal based Thermal Power Project near Goindwal Sahib, Tehsil & District Tarn Taran Punjab. The project has been accorded Environment Clearance by Ministry of Environment & Forests, Govt. of India vide their Letter No. J-13011/78/2008-IA (T) Dated 9th May 2008 and Amendment and Extension of validity of EC vide letter J-13011/78/2007-IA.II (T) Dated 19th February 2014. Consent to Operate (CTO) for Air and Water for both units is granted by PPCB under Air (Prevention and Control of Pollution) Act, 1981 & Water (Prevention and Control of Pollution) Act, 1974 respectively with validity 31.03.2024. The Air & Water CTO renewable is an approved by PPCB.

(Air - CTO Certificate No. CTOA/Renewal/TRT/2023/21577925, issue dated on 26.05.2023 & Water – CTO Certificate No. CTOW/Renewal/TRT/2023/21576906, issue dated on 26.05.2023)

3 STATUS OF THE PROJECT

At present the project is operational with full capacity of plant load since June, 2017 in a sustainable manner.



ENVIRONMENTAL STATUS REPORT

GVK

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4 OBJECTIVE OF ENVIRONMENT MONITORING

To assess environmental impacts from operational activity, it is essential to monitor the environmental quality in the surrounding area. The environmental status within the impact zone could be used for identification of significant environmental issues to be addressed in the impact assessment study.

Environmental monitoring helps in signaling the potential problems that resulting from the project activity and will allow for prompt implementation of effective corrective measures. The main objectives of environmental monitoring are:

- To assess the changes in environmental conditions,
- To assess the effectiveness of mitigation measures,
- Warn significant deteriorations in environmental quality for further prevention action.

5 MONITORING PARAMETERS AND FREQUENCY

For Environment Monitoring, we have engaged a PPCB approved Lab M/s Envirochem Testing Lab & Research Centre, Panipat, H.R. vide Registration No. PPCB/AIR LAB/14887 and also approved by NABL (Reg. No- TC 6015. The laboratory has submitted request vide no ETL/LT/101 05.12.2022 for extension of Lab recognition validity by PPCB along with BG, vide no-28951LG000416). The monitoring area covering 10 km radius from the project site as per guidelines published by the MoEF, Govt. of India. The Environment Monitoring for the project was started from September, 2017. This Environment Status Report presents the data of October, 2022 to March, 2023.

The following parameters have been monitored to assess the environmental quality of the region and potential impacts from the industry:

- Ambient Air Quality Monitoring
- Stack emission Monitoring
- Ambient Noise Level Monitoring
- Ground Water Quality
- ETP & STP discharge effluent Quality Monitoring
- Soil Texture, Pattern and Chemical Characteristics

6 AMBIENT AIR QUALITY MONITORING

6.1 Monitoring Station Selection Criteria

Eight monitoring locations have been selected on the basis of predominant Up-wind & Down-wind directions, Topography, habitation and sensitive receptors. All probable directions, which may be polluted due to the emission from the project activity, have been covered.



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Also the monitoring station as monitored during EIA stage was preferred due to availability of past data and ease to assessment of the impact of construction activities on these locations.

The monitoring stations have been setup in order to locate the locations as close as feasible to the anticipated maximum pollutant concentration areas. Logistic considerations such as accessibility, security, and availability of reliable power supply etc. were also examined while finalizing the stations. The monitoring locations are depicted in **Table 1**.

Table 1: Ambient Air Quality Monitoring Stations

S. No.	Location	Code
1.	Near Railway Over Bridge (ROB)	AAQ1
2.	PLL Colony	AAQ2
3.	DM Plant	AAQ3
4.	Residential Colony	AAQ4
5.	Goindwal Sahib Village	AAQ5
6.	Hansawala Village	AAQ6
7.	Vairowal Village	AAQ7
8.	Mundi Village	AAQ8

Note- The distance and direction of the monitoring locations has been considered from the mid of the project site

6.2 Parameters and Monitoring Methodology

Ambient air quality monitoring has been carried out with a frequency of two samples per week at three to four locations in a day. The baseline data of ambient air has been generated for the following parameters as mentioned below.

- Particulate Matter (PM₁₀)
- Particulate Matter (PM_{2.5})
- Sulphur Dioxide (SO₂)
- Oxides of Nitrogen (NO₂)
- Ozone (O₃)
- Mercury (Hg)
- Lead (Pb)
- Carbon Monoxide (CO)
- Ammonia as NH₃
- Benzene (C₆H₆)
- Benzo (a) Pyrene
- Arsenic (As)
- Nickel (Ni)



Respirable Dust Samplers APM-450 BL of Envirotech Instrument Pvt. Ltd. make was installed for monitoring Particulate Matter 10 (PM₁₀) and gaseous pollutants like SO₂, NO₂ & Ozone. Whereas the concentration Particulate Matter 2.5 (PM_{2.5}) was monitored by installing Envirotech made APM - 550 Fine Particulate Sampler. Mercury in ambient air was monitored through electro thermal atomic absorption spectro-photometric method. The dust samples for mercury analysis are collected on EPM 2000 filter papers using Respirable Dust Samplers.

6.3 Sampling and Analytical Techniques

The techniques used for ambient air quality monitoring are given in **Table 2**.

Table 2: Techniques used for Air Quality Monitoring

Parameter	Technique
PM ₁₀	Respirable Dust Sampler (Gravimetric method)
PM _{2.5}	APM 550 Fine Particulate Sampler (Gravimetric method)
Sulphur Dioxide	West and Gaeke
Oxides of Nitrogen as NO ₂	Jacob and Hochheiser
Mercury	EPM 2000 filter paper method
Ozone	IS:5182 (P-9)
Lead	AAS & ICP Method
Carbon Monoxide	IS:5182 (P-10)
Ammonia	Indophenols blue method
Benzene	IS:5182 (P-10)
Benzo (a) Pyrene	IS:5182 (P-12)
Arsenic	AAS & ICP Method
Nickel	AAS & ICP Method

6.4 Duration and Frequency of Sampling

The monitoring has been carried out at a frequency of twice in a week at plant site and twice in month at village's station, adopting a continuous 24-hour schedule.

6.5 AAQ Standards

The standards of the air quality are set at a level necessary for an adequate margin of safety, to protect the public health, vegetation and property. The Ambient Air Quality standards have been notified by the Ministry of Environment and Forests (vide Gazette Notification dated 16th Nov 2009). The standards are given in Table below.



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Table 3: National Ambient Air Quality Standards

Pollutant	Time	Concentration in $\mu\text{g}/\text{m}^3$	
		Industrial, Residential, Rural & other areas	Ecologically Sensitive area (Notified by Central Govt.)
Sulphur Dioxide ($\mu\text{g}/\text{m}^3$)	Annual Avg.*	50	20
	24 hours**	80	80
Nitrogen Dioxide ($\mu\text{g}/\text{m}^3$)	Annual Avg.	40	30
	24 hours	80	80
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	Annual Avg.	60	60
	24 hours	100	100
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	Annual Avg.	40	40
	24 hours	60	60
CO (mg/m ³)	8 hours Avg.	02	02
	1 hours Avg.	04	04
Ozone (O ₃) $\mu\text{g}/\text{m}^3$	8 hours*	100	100
	1 hour**	180	180
Lead(Pb) $\mu\text{g}/\text{m}^3$	Annual*	0.50	0.50
	24 hours**	1.0	1.0
Ammonia (NH ₃) $\mu\text{g}/\text{m}^3$	Annual*	100	100
	24 hours**	400	400
Benzo(a)Pyrene (BaP)- particulate phase only, ng/m ³	Annual*	1	1
Arsenic(As), ng/m ³	Annual*	6	60
Nickel(Ni), ng/m ³	Annual*	20	20

Source: Gazette of India Notification, dated 16th Nov, 2009

* Annual Arithmetic Means of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

** 24 hourly or 8 hourly or 01 hourly monitored values, as applicable shall be complied with 98% of the time in a year. 2% of the time they may exceed the limits but not on two consecutive days of monitoring

6.6 Monitoring Results

The overall Statistical analysis (Minimum, Maximum, Arithmetic Mean, Standard deviation and 98-Percentile values through-out the study period) of the ambient air quality in region are given in **Annexure -1 Environmental monitoring result**.

The concentration of Mercury (Hg) was found below detectable limit. The levels of pollutants in ambient air were found well within the National Ambient Air Quality Standards for residential or rural areas.



7 AMBIENT NOISE LEVEL MONITORING

7.1 Major Sources of Noise in the Study Area

The vehicular movement on nearby highway is one of the major sources of noise, which significantly increases ambient noise levels. Also, there are plant operational activities like, turbine, boiler, heavy machinery, pump etc. and domestic & commercial noise sources such as, TV, Radio, Loudspeaker, Generator set etc.

7.2 Ambient Noise Monitoring- Methodology and Monitoring Stations

In the present study, sound pressure levels (SPL) have been measured by a Sound Level Meter. Since loudness of sound is important for its effects on people, the dependence of loudness upon frequency must be taken into account in environmental noise assessment.

A total of Nine (9) locations in the plant area have been selected for measurement of ambient noise levels, covering industrial areas, commercial, residential areas as well as sensitive zones. Ambient Noise monitoring result is given in *Annexure -1 Environmental monitoring result*. These locations are presented in **Table 4**.

Table 4: Ambient Noise Monitoring Stations

S. No.	Name of Location	Station Code
1	Near Service Building	AN1
2	CHP Area	AN2
3	AHP Area	AN3
4	Near Plant Site Office	AN4
5	Near Boiler Area (Main Plant Area)	AN5
6	Residential Colony	AN6
7	Near Admin Building (Plant Main Gate)	AN7
8	Near DM Plant	AN8
9	Ash Silos Compressor House	AN9

Table 5: Ambient Noise Standard Limits

Type of Area	Limits in dB(A) Leq*	
	Day Time	Night Time
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

*-dB (A) Leq denotes the time weighted average of the sound level in decibels on scale A which is relatable to human hearing.

Source: Pollution Control Acts, Rule and Notifications issued Thereunder, by Pollution Control Law Series: PCLS/02/2006(Fifth Edition) of Central Pollution Control Board, January 2006, pp 926



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Day and Night time shall mean from 6:00 a.m. to 10:00 p.m. and 10:00 p.m. to 6:00 a.m. respectively.

7.3 Duration and Frequency of Sampling

The monitoring has been carried out at a frequency of quarterly basis at each station as per specified time mentioned in guidelines issued by CPCB.

8 STACK EMISSION MONITORING

Stack emission monitoring of All APCD'S have been carried out as monitoring result given in Annexure -1 *Environmental monitoring result*.

Table 5: Stack Emission Monitoring Details

S. No.	Stack Locations	Stack Codes
1	Boiler Stack - 1	ST-1
2	Boiler Stack - 2	ST-2
3	Crusher House DE-1A	ST-3
4	Crusher House DE-1B	ST-4
5	JNT-1 2A	ST-5
6	JNT-1 2B	ST-6
7	Bunker DE-1	ST-7
8	Bunker DE-2	ST-8
9	Ash Silo-1	ST-9
10	Ash Silo-2	ST-10
11	DG set-1	ST-11
12	DG set-2	ST-12

8.1 Duration and Frequency of Sampling

Boiler's stack emission monitoring have been carried out on monthly basis and process stacks on quarterly basis at each location.

8.2 Standards

The standards of the stack emissions are set at a level necessary for an adequate margin of safety, to protect the public health, vegetation and property. The emission discharge standards for Boiler stack emission have been notified by the Ministry of Environment and Forests/ CPCB not more than **50 mg/Nm³** and **150 mg/Nm³** for process stacks.

9 WATER QUALITY

9.1 Sampling Locations

To assess the present water quality for industrial wastewater, surface & ground water within the plant site sampling were carried out. The monitoring result is given in Annexure -1 *Environmental Monitoring Report*. The water quality sampling locations are given in **Table 6**.



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Table 6: Water Sampling Locations

Sampling Codes	Water Sampling Location
Ground Water Sampling Locations	
GW1	Near Site Office
GW2	Near Fire station
GW3	PLL Colony (Near Ash Pond)
GW4	North side of Ash Pond (Near security post)
Industrial Wastewater Sampling Locations	
STP-1 (Residential colony)	Sewage Treatment Plant
STP-2 (Plant STP)	Sewage Treatment Plant
ETP-1	Effluent Treatment Plant
Ash pond effluent	Ash pond

(All Ground water sampling and STP-1 Residential colony & ETP-1 have been carried out on monthly basis and Ash pond effluent on quarterly basis.)

9.2 Sampling and Analysis Methodology & Sampling Period

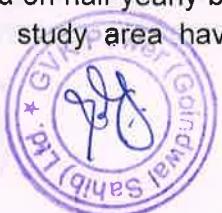
The water samples have been collected during the month of October, 2022 to March, 2023. All the basic precautions were taken to avoid any contamination during the sampling. Analysis of the samples was carried out as per established standard methods and procedures prescribed by CPCB and relevant IS Codes.

10 SOIL QUALITY

Assessment of soil quality is an important aspect with reference to tree plantations, percolation of water, Ground water impact, etc. The soil quality of the study area has been assessed by collecting samples and corresponding result given in Annexure -1 *Environmental Monitoring Report*.

10.1 Sampling Frequency and Analysis Methodology

The samples of Soil were collected on half yearly basis in a year. The physical and chemical characteristics of the soil of the study area have been assessed by analyzing various



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parameters as per the methods described in "Soil Chemical Analysis" (M.L Jackson). The monitoring result is given in *Annexure -1 Environmental Monitoring Report*.

11 CONCLUSION

The GVK Thermal Power Project is bound to comply the norm prescribed by MoEF & CC/CPCB/PPCB. As a part of the Environment Management Plan & Monitoring Plan, the impact due to operational activities of the project, monitoring of Air, Water, Noise & Soil have been carried out continuously.

The monitoring for the above parameters has been carried out for the period Oct, 2022 to March, 2023. From the above report it is found that all the parameters are within prescribed norms after taking mitigating measures.



AAQM Data

(October, 2022 to March, 2023)



Ambient Air Quality Monitoring results (October 2022-March 2023) Location wise inside and outside the plant

Inside the GVK Plant Premises

Location 1 - Near Railway Over Bridge (ROB)

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NOX ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	O ₃ ($\mu\text{g}/\text{m}^3$)	H _G ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C6H6 ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	As (ng/m^3)	Ni (ng/m^3)
1	OCT,2022	04.10.2022	74.1	172.6	21.68	11.26	ND	18.3	ND	ND	12.8	ND	ND	ND	ND
2		07.10.2022	49.2	95.8	22.9	9.74	ND	22.7	ND	ND	16.3	ND	ND	ND	ND
3		11.10.2022	33.4	72.9	24.52	8.96	ND	22.93	ND	ND	12.47	ND	ND	ND	ND
4		14.10.2022	102.5	196.3	25.1	13.96	ND	22.8	ND	ND	17.2	ND	ND	ND	ND
5		18.10.2022	102.2	208.5	22.71	9.72	ND	21.47	ND	ND	19.28	ND	ND	ND	ND
6		21.10.2022	62.52	127.1	27.4	12.38	ND	20.94	ND	ND	12.2	ND	ND	ND	ND
7		25.10.2022	242.7	318.4	28.02	13.27	ND	24.2	ND	ND	10.52	ND	ND	ND	ND
8		28.10.2022	129.1	214.8	27.51	13.6	ND	22.6	ND	ND	19.2	ND	ND	ND	ND
1		01.11.2022	57	98	24.8	12.6	ND	19.4	ND	ND	11.57	ND	ND	ND	ND
2		04.11.2022	62	104	23.7	14.39	ND	24.3	ND	ND	17.1	ND	ND	ND	ND
3	NOV,2022	08.11.2022	58	96	23.61	9.57	ND	23.38	ND	ND	11.82	ND	ND	ND	ND
4		11.11.2022	58.6	96.3	13.2	19.5	ND	24.62	ND	ND	16.4	ND	ND	ND	ND
5		15.11.2022	73.1	118.4	24.3	15.8	ND	21.17	ND	ND	21.5	ND	ND	ND	ND
6		18.11.2022	57	98	22.9	21.6	ND	22.36	ND	ND	13.74	ND	ND	ND	ND
7		22.11.2022	56	95	25.8	21.6	ND	22.75	ND	ND	11.24	ND	ND	ND	ND
8		25.11.2022	61	104	23.68	22.4	ND	23.1	ND	ND	17.89	ND	ND	ND	ND
9		29.11.2022	82.9	114.6	24.3	20.91	ND	22.84	ND	ND	12.63	ND	ND	ND	ND
1		02.12.2022	50.1	92.5	23.9	12.2	ND	22.8	ND	ND	10.6	ND	ND	ND	ND
2		06.12.2022	58.1	96.6	27.3	16.5	ND	25.6	ND	ND	19.2	ND	ND	ND	ND
3		09.12.2022	57.2	98.7	29.6	17.1	ND	26.1	ND	ND	14.5	ND	ND	ND	ND
4		13.12.2022	43.1	85.6	23.3	10.8	ND	20.7	ND	ND	9.61	ND	ND	ND	ND
5		16.12.2022	45.1	90.6	22.4	15.6	ND	25.2	ND	ND	14.7	ND	ND	ND	ND
6		20.12.2022	50.2	93.6	23.5	14.7	ND	23.6	ND	ND	12.3	ND	ND	ND	ND
7		23.12.2022	56.4	98.1	24.9	15.1	ND	27.4	ND	ND	11.3	ND	ND	ND	ND
8		27.12.2022	48.3	92.1	23.74	14.52	ND	26.8	ND	ND	10.39	ND	ND	ND	ND
9		30.12.2022	56.9	97.6	21.37	14.56	ND	24.39	ND	ND	11.92	ND	ND	ND	ND





Location 2 - PLL Colony

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NOX ($\mu\text{g}/\text{m}^3$)	CO (mg/m ³)	O ₃ ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C6H ₆ ($\mu\text{g}/\text{m}^3$)	BaP (ng/m ³)	As (ng/m ³)	Ni (ng/m ³)
1	Oct., 2022	04.10.2022	69.3	164.9	21.58	11.07	ND	20.3	ND	ND	11.6	ND	ND	ND	ND
2		07.10.2022	27.8	64.1	21.38	8.67	ND	19.46	ND	ND	11.3	ND	ND	ND	ND
3		11.10.2022	20.2	54.8	21.79	9.45	ND	23.8	ND	ND	10.31	ND	ND	ND	ND
4		14.10.2022	82.9	179.5	24.1	12.67	ND	16.8	ND	ND	10.3	ND	ND	ND	ND
5		18.10.2022	59.3	145.7	25.8	9.29	ND	19.53	ND	ND	11.7	ND	ND	ND	ND
6		21.10.2022	47.61	92.83	23.8	11.62	ND	24.6	ND	ND	15.91	ND	ND	ND	ND
7		25.10.2022	142.6	268.3	27.8	13.27	ND	22.51	ND	ND	11.78	ND	ND	ND	ND
8		28.10.2022	117.9	196.3	26.3	11.38	ND	21.2	ND	ND	19.42	ND	ND	ND	ND
1	Nov., 2022	01.11.2022	50	94	22.7	13.5	ND	21.2	ND	ND	10.9	ND	ND	ND	ND
2		04.11.2022	57	97	22.3	9.67	ND	18.56	ND	ND	11.53	ND	ND	ND	ND
3		08.11.2022	54	91	23.19	9.86	ND	24.61	ND	ND	10.14	ND	ND	ND	ND
4		11.11.2022	52.9	89.5	23.18	12.84	ND	15.46	ND	ND	10.63	ND	ND	ND	ND
5		15.11.2022	50.2	107	25.6	13.3	ND	18.92	ND	ND	14.7	ND	ND	ND	ND
6		18.11.2022	65.7	104	24.58	20.4	ND	22.37	ND	ND	14.79	ND	ND	ND	ND
7		22.11.2022	56	91	28.61	20.53	ND	23.8	ND	ND	13.72	ND	ND	ND	ND
8		25.11.2022	54	98	26.1	21.58	ND	22.69	ND	ND	18.36	ND	ND	ND	ND
9	Dec., 2022	29.11.2022	51	87	25.21	20.59	ND	23.72	ND	ND	14.79	ND	ND	ND	ND
1		02.12.2022	52.5	86.1	26.9	15.7	ND	26.4	ND	ND	13.2	ND	ND	ND	ND
2		06.12.2022	44.9	83.7	23.2	11.6	ND	22.4	ND	ND	10.8	ND	ND	ND	ND
3		09.12.2022	41.9	76.2	23.6	11.9	ND	21.7	ND	ND	11.9	ND	ND	ND	ND
4		13.12.2022	39.8	71.3	21.4	11.2	ND	21.1	ND	ND	8.76	ND	ND	ND	ND
5		16.12.2022	42.1	73.4	20.7	11.4	ND	24.2	ND	ND	9.23	ND	ND	ND	ND
6		20.12.2022	48.7	86.7	22.5	14.8	ND	22.7	ND	ND	11.1	ND	ND	ND	ND
7		23.12.2022	39.1	78.4	21.6	12.1	ND	23.9	ND	ND	8.53	ND	ND	ND	ND
8	Jan., 2023	27.12.2022	36.9	74.3	21.1	13.28	ND	25.7	ND	ND	9.16	ND	ND	ND	ND
9		30.12.2022	41.72	77.3	23.19	12.84	ND	22.84	ND	ND	9.67	ND	ND	ND	ND
1		02.01.2023	48.7	81.2	23.9	27.1	ND	22.7	ND	ND	15.8	ND	ND	ND	ND
2		06.01.2023	46.7	79.2	22.1	25.8	ND	29.6	ND	ND	9.89	ND	ND	ND	ND
3		10.01.2023	39.8	76.1	22.7	28.3	ND	28.9	ND	ND	9.93	ND	ND	ND	ND
4		13.01.2023	51.6	86.1	22.7	24.2	ND	27.8	ND	ND	9.14	ND	ND	ND	ND
5		17.01.2023	36.1	82.7	22.6	29.2	ND	29.6	ND	ND	9.75	ND	ND	ND	ND
6		20.01.2023	34.6	78.3	20.9	11.24	ND	28.9	ND	ND	8.67	ND	ND	ND	ND



7		24.01.2023	46.8	82.3	23.9	12.5	ND	28.6	ND	ND	10.1	ND												
8		27.01.2023	36.1	77.5	22.6	14.1	ND	29.3	ND	ND	11.5	ND												
1		03.02.2023	40.2	81.7	21.8	18.6	ND	23.6	ND	ND	14.3	ND												
2		07.02.2023	39.7	75.4	23.59	20.72	ND	28.4	ND	ND	10.83	ND												
3		10.02.2023	38.4	71.63	23.5	20.73	ND	29.6	ND	ND	9.67	ND												
4	Feb., 2023	14.02.2023	43.9	81.6	21.8	17.39	ND	27.5	ND	ND	8.74	ND												
5		17.02.2023	38.6	75.3	24.7	21.24	ND	27.6	ND	ND	9.26	ND												
6		21.02.2023	37.1	73.69	22.58	10.73	ND	28.21	ND	ND	9.14	ND												
7		24.02.2023	34.62	71.58	25.81	22.56	ND	29.38	ND	ND	11.49	ND												
8		27.02.2023	38.12	73.9	24.75	19.92	ND	29.78	ND	ND	10.68	ND												
1		03.03.2023	36.9	72.5	18.9	17.56	ND	22.4	ND	ND	13.7	ND												
2		07.03.2023	36	74	20.02	16	ND	28	ND	ND	12	ND												
3		10.03.2023	33	70	21	12	ND	27.3	ND	ND	9.88	ND												
4		14.03.2023	34	75	18	13	ND	22	ND	ND	7.99	ND												
5	Mar.,2023	17.03.2023	32	73	22	13	ND	25.04	ND	ND	10.88	ND												
6		21.03.2023	31.04	70.01	15	13	ND	21.24	ND	ND	8.07	ND												
7		24.03.2023	69	30.1	18	20.7	ND	26.4	ND	ND	10.05	ND												
8		28.03.2023	38.07	71.02	20.3	18.74	ND	26.1	ND	ND	9.86	ND												
9		31.03.2023	35.1	69	21.98	17.2	ND	21.7	ND	ND	8.35	ND												
Minimum		20.2	30.1	15	8.67	0	15.46	0	0	7.99	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum		142.6	268.3	28.61	29.2	0	29.78	0	0	19.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		47.89	89.91	22.81	15.88	#DIV/0!	15.46	0	0	7.99	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Deviation		20.5	38.1	2.5	5.3	0.0	3.7	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98 Percentile		117.9	196.3	27.8	28.3	#NUM!	3.66	0	0	2.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Location 3 - DM Plant

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NOX ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	O ₃ ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C6H6 ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	As (ng/m^3)	Ni (ng/m^3)
1	Oct., 2022	04.10.2022	67.5	162.9	20.1	10.7	ND	19.8	ND	ND	13.2	ND	ND	ND	ND
2		07.10.2022	46.7	89.4	24.2	11.9	ND	24.91	ND	ND	14.32	ND	ND	ND	ND
3		11.10.2022	34.1	79.3	24.6	9.92	ND	20.2	ND	ND	14.7	ND	ND	ND	ND
4		14.10.2022	89.1	183.6	24.81	9.42	ND	18.5	ND	ND	13.2	ND	ND	ND	ND
5		18.10.2022	86.23	194.6	25.41	9.37	ND	18.4	ND	ND	15.2	ND	ND	ND	ND
6		21.10.2022	66.32	132.9	27.51	8.79	ND	20.4	ND	ND	12.63	ND	ND	ND	ND
7		25.10.2022	218.19	291.6	28.9	12.72	ND	23.5	ND	ND	12.72	ND	ND	ND	ND
8		28.10.2022	132.1	225.8	27.41	11.83	ND	23.6	ND	ND	21.69	ND	ND	ND	ND
1	Nov., 2022	01.11.2022	59	104	22.5	11.93	ND	20.7	ND	ND	14.2	ND	ND	ND	ND
2		04.11.2022	55	96	23.41	12.65	ND	24.56	ND	ND	13.97	ND	ND	ND	ND
3		08.11.2022	61	103	25.6	9.72	ND	21.26	ND	ND	13.7	ND	ND	ND	ND
4	Dec., 2022	11.11.2022	49.1	93.6	23.81	16.42	ND	19.5	ND	ND	15.2	ND	ND	ND	ND
5		15.11.2022	68.9	112.7	23.27	15.8	ND	19.2	ND	ND	17.3	ND	ND	ND	ND
6		18.11.2022	58	96	26.2	20.17	ND	18.35	ND	ND	16.4	ND	ND	ND	ND
7		22.11.2022	54	97	27.32	13.64	ND	21.92	ND	ND	19.57	ND	ND	ND	ND
8		25.11.2022	98.8	57.2	24.36	19.5	ND	20.63	ND	ND	20.41	ND	ND	ND	ND
9		29.11.2022	64	103	25.39	19.4	ND	25.2	ND	ND	13.56	ND	ND	ND	ND
1	Jan., 2023	02.12.2022	49.6	72.9	21.2	13.4	ND	23.5	ND	ND	12.1	ND	ND	ND	ND
2		06.12.2022	51.6	89.1	22.8	14.2	ND	23.2	ND	ND	11.5	ND	ND	ND	ND
3		09.12.2022	51.3	88.1	25.9	11.5	ND	23.1	ND	ND	12.4	ND	ND	ND	ND
4		13.12.2022	47.1	94.8	21.7	13.5	ND	21.1	ND	ND	11.2	ND	ND	ND	ND
5		16.12.2022	37.8	89.5	21.9	14.3	ND	23.3	ND	ND	11.7	ND	ND	ND	ND
6	Feb., 2023	20.12.2022	41.4	84.1	20.9	11.8	ND	21.3	ND	ND	9.45	ND	ND	ND	ND
7		23.12.2022	49.7	81.2	23.8	11.1	ND	24.9	ND	ND	9.37	ND	ND	ND	ND
8		27.12.2022	50.9	88.6	22.78	14.19	ND	24.3	ND	ND	10.84	ND	ND	ND	ND
9		30.12.2022	47.6	89.8	24.92	13.61	ND	26.31	ND	ND	11.54	ND	ND	ND	ND
1		02.01.2023	51.9	90.3	24.7	26.1	ND	28.2	ND	ND	14.7	ND	ND	ND	ND
2		06.01.2023	52.3	91.6	24.9	27.6	ND	29.6	ND	ND	10.3	ND	ND	ND	ND
3	Mar., 2023	10.01.2023	45.2	89.3	23.9	26.3	ND	30.2	ND	ND	10.74	ND	ND	ND	ND
4		13.01.2023	41.6	87.2	22.8	27.1	ND	29.2	ND	ND	12.4	ND	ND	ND	ND
5		17.01.2023	47.4	87.8	24.2	31.6	ND	29.9	ND	ND	13.29	ND	ND	ND	ND
6		20.01.2023	49.9	88.3	24.3	12.8	ND	30.3	ND	ND	10.06	ND	ND	ND	ND



		2023									
		Q1					Q2				
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.
Feb., 2023	7	24.01.2023	51.3	94.6	25.6	19.9	ND	31.4	ND	ND	11.8
	8	27.01.2023	49.1	92.8	24.8	16.6	ND	30.9	ND	ND	ND
	1	03.02.23	52.3	91.6	25.12	19.27	ND	28.7	ND	ND	13.62
	2	07.02.2023	50.7	94.2	25.68	19.42	ND	28.51	ND	ND	14.6
	3	10.02.2023	50.61	92.58	24.2	21.84	ND	32.31	ND	ND	12.57
	4	14.02.2023	41.8	93.5	20.62	16.84	ND	28.79	ND	ND	13.2
	5	17.02.2023	52.8	94.59	22.48	25.71	ND	27.84	ND	ND	12.62
	6	21.02.2023	52.4	92.75	23.83	19.59	ND	31.51	ND	ND	11.43
	7	24.02.2023	51.29	93.6	23.8	20.4	ND	30.62	ND	ND	10.73
	8	27.02.2023	55.39	93.62	21.78	18.47	ND	31.4	ND	ND	10.59
Mar., 2023	1	03.03.2023	50.74	90.1	24.78	16.92	ND	30.78	ND	ND	14.02
	2	07.03.2023	51	92	24	18.01	ND	30.04	ND	ND	16.09
	3	10.03.2023	51.32	88.9	21.74	20.34	ND	29.79	ND	ND	15.63
	4	14.03.2023	42.03	95	19.33	17.66	ND	26.01	ND	ND	16.11
	5	17.03.2023	51.44	94.59	20.07	18.91	ND	26.01	ND	ND	13.44
	6	21.03.2023	52.4	92.75	23.83	19.59	ND	31.51	ND	ND	11.43
	7	24.03.2023	50.47	90.33	20.65	18.79	ND	32.01	ND	ND	11.08
	8	28.03.2023	53	96	21	17.08	ND	34.22	ND	ND	15.04
	9	31.03.2023	50.04	98.07	20.06	18.77	ND	30.08	ND	ND	14.2
	Minimum		34.1	57.2	19.33	8.79	0	18.35	0	0	9.37
	Maximum		218.19	291.6	28.9	31.6	0	34.22	0	0	21.69
	Mean		58.50	104.05	23.70	16.81	#DIV/0!	18.35	0	0	9.37
	Standard Deviation		27.9	39.7	2.1	5.3	0.0	4.6	0.0	0.0	2.6
	98 Percentile		132.1	225.8	27.51	27.6	#NUM!	4.55	0	0	2.59



Location 4 - Residential Colony

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NOX ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	O3 ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH3 ($\mu\text{g}/\text{m}^3$)	C6H6 ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	As (ng/m^3)	Ni (ng/m^3)
1	Oct., 2022	04.10.2022	74.8	179.4	21.73	11.36	ND	19.1	ND	ND	9.52	ND	ND	ND	ND
2		07.10.2022	39.1	78.4	19.7	8.99	ND	23.6	ND	ND	13.56	ND	ND	ND	ND
3		11.10.2022	25.3	51.7	22.94	9.56	ND	21.9	ND	ND	12.6	ND	ND	ND	ND
4		14.10.2022	93.5	192.7	25.71	8.34	ND	19.4	ND	ND	9.26	ND	ND	ND	ND
5		18.10.2022	73.6	183.8	26.5	8.93	ND	20.8	ND	ND	12.5	ND	ND	ND	ND
6		21.10.2022	54.9	105.7	25.41	9.48	ND	24.5	ND	ND	13.26	ND	ND	ND	ND
7		25.10.2022	193.1	308.2	26.89	7.93	ND	24.3	ND	ND	20.29	ND	ND	ND	ND
8	Nov., 2022	28.10.2022	129.1	223.4	26.82	8.47	ND	24.62	ND	ND	15.39	ND	ND	ND	ND
1		01.11.2022	106	168	25.3	11.8	ND	19.8	ND	ND	9.87	ND	ND	ND	ND
2		04.11.2022	91.4	138	18.7	9.34	ND	21.8	ND	ND	14.23	ND	ND	ND	ND
3		08.11.2022	121.5	178.9	26.1	11.47	ND	20.9	ND	ND	13.8	ND	ND	ND	ND
4		11.11.2022	56.4	91.7	26.2	18.6	ND	18.84	ND	ND	11.38	ND	ND	ND	ND
5		15.11.2022	67.2	119.4	25.38	16.9	ND	21.83	ND	ND	13.64	ND	ND	ND	ND
6		18.11.2022	81.3	136	21.84	19.7	ND	26.3	ND	ND	14.18	ND	ND	ND	ND
7	Dec., 2022	22.11.2022	112.5	193.5	24.68	18.96	ND	23.68	ND	ND	15.6	ND	ND	ND	ND
8		25.11.2022	98.36	177.3	27.82	21.47	ND	26.62	ND	ND	16.39	ND	ND	ND	ND
9		29.11.2022	72.62	106.5	24.89	19.95	ND	26.38	ND	ND	14.37	ND	ND	ND	ND
1		02.12.2022	99.6	148.3	24.8	13.3	ND	21.6	ND	ND	9.96	ND	ND	ND	ND
2		06.12.2022	131.4	238	28.7	16.4	ND	26.9	ND	ND	13.5	ND	ND	ND	ND
3		09.12.2022	93.8	182.3	27.1	16.2	ND	24.1	ND	ND	13.9	ND	ND	ND	ND
4		13.12.2022	57.6	128.3	27.2	12.5	ND	22.9	ND	ND	10.1	ND	ND	ND	ND
5	Jan., 2023	16.12.2022	135.7	208.3	26.1	15.3	ND	25.1	ND	ND	12.8	ND	ND	ND	ND
6		20.12.2022	105.1	142.6	21.5	15.9	ND	24.8	ND	ND	13.8	ND	ND	ND	ND
7		23.12.2022	97.3	160.7	22.9	14.5	ND	21.8	ND	ND	10.3	ND	ND	ND	ND
8		27.12.2022	98.4	131.9	24.1	16.89	ND	27.14	ND	ND	12.46	ND	ND	ND	ND
9		30.12.2022	117.8	164	21.47	13.92	ND	28.21	ND	ND	10.67	ND	ND	ND	ND
1		02.01.2023	101.8	128.2	26.5	29.1	ND	29.3	ND	ND	10.9	ND	ND	ND	ND
2		06.01.2023	47.1	88.3	25.8	28.2	ND	30.2	ND	ND	11.7	ND	ND	ND	ND
3	Feb., 2023	10.01.2023	134.2	215.7	24.6	25.5	ND	32.8	ND	ND	12.8	ND	ND	ND	ND
4		13.01.2023	61.5	129.6	24.2	26.9	ND	27.8	ND	ND	11.6	ND	ND	ND	ND
5		17.01.2023	97.2	133.6	23.7	28.3	ND	29.7	ND	ND	11.5	ND	ND	ND	ND
6		20.01.2023	92.1	133.8	22.7	11.4	ND	29.1	ND	ND	9.24	ND	ND	ND	ND
7		24.01.2023	83.9	134.5	27.2	24.4	ND	29.7	ND	ND	16.1	ND	ND	ND	ND

8		27.01.23	107.8	137.5	29.1	22.9	ND	30.9	ND	ND	15.1	ND							
1		03.02.2023	54.9	120.4	23.93	22.6	ND	26.8	ND	ND	16.2	ND							
2		07.03.2023	41.6	118.2	24.08	17.71	ND	31.5	ND	ND	12.58	ND							
3		10.02.2023	54.3	115.8	22.65	17.97	ND	31.5	ND	ND	13.46	ND							
4	Feb., 2023	14.02.2023	47.8	119.6	25.3	21.37	ND	29.2	ND	ND	13.9	ND							
5		17.02.2023	58.4	112.9	26.2	21.97	ND	31.2	ND	ND	13.68	ND							
6		21.02.2023	62.5	123.9	24.18	12.74	ND	31.7	ND	ND	10.45	ND							
7		24.02.2023	39.1	114.8	25.72	21.83	ND	28.56	ND	ND	13.29	ND							
8		27.02.2023	28.99	116.3	21.38	17.6	ND	30.57	ND	ND	12.42	ND							
1		03.03.2023	42.3	113	26.1	14	ND	27.1	ND	ND	15.8	ND							
2		07.03.2023	37.8	121.2	23.76	15.4	ND	30.07	ND	ND	13.01	ND							
3		10.03.2023	53	119.68	24.64	13	ND	30.76	ND	ND	11	ND							
4		14.03.2023	38.44	120.12	25.08	19.63	ND	32.32	ND	ND	15.96	ND							
5	Mar., 2023	17.03.2023	56	118.36	23.07	20.55	ND	36.07	ND	ND	17.38	ND							
6		21.03.2023	32.5	122.13	28.16	14.01	ND	30.07	ND	ND	12.04	ND							
7		24.03.2023	36.05	117.92	25.2	13.99	ND	26.05	ND	ND	12.08	ND							
8		28.03.2023	30.8	119.68	28.16	14.22	ND	35.7	ND	ND	11.9	ND							
9		31.03.2023	33	117.8	29.2	12.7	ND	32.08	ND	ND	14.1	ND							
Minimum			25.3	51.7	18.7	7.93	0	18.84	0	0	9.24	0							
Maximum			193.1	308.2	29.2	29.1	0	36.07	0	0	20.29	0							
Mean			76.48	142.16	24.92	16.55	#DIV/0!	18.84	0	0	9.24	0							
Standard Deviation			35.9	44.4	2.3	5.7	0.0	4.4	0.0	0.0	2.3	0.0							
98 Percentile			135.7	238	29.1	28.3	#NUM!	4.37	0	0	2.26	0							



Outside the GVK Plant premises

Location 5 - Goindwal Sahib

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NOX ($\mu\text{g}/\text{m}^3$)	CO (mg/m ³)	O ₃ ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C6H6 ($\mu\text{g}/\text{m}^3$)	BaP (ng/m ³)	As (ng/m ³)	Ni (ng/m ³)
1	Oct., 2022	04.10.2022	72.8	179.3	22.5	11.78	ND	17.4	ND	ND	12.9	ND	ND	ND
2		07.10.2022	54.8	97.2	22.46	10.2	ND	23.9	ND	ND	16.61	ND	ND	ND
1		01.11.2022	49.1	78.4	21.68	10.7	ND	19.57	ND	ND	13.1	ND	ND	ND
2	Nov., 2022	04.11.2022	51.8	94.2	21.56	10.64	ND	24.12	ND	ND	15.92	ND	ND	ND
3		29.11.2022	50.6	94.51	23.52	13.2	ND	17.63	ND	ND	11.74	ND	ND	ND
2		02.12.2022	46.1	79.4	24.68	12.7	ND	22.57	ND	ND	14.1	ND	ND	ND
	Dec.,2022	06.12.2022	49.1	93.4	26.2	12.9	ND	24.7	ND	ND	13.6	ND	ND	ND
3		30.12.2022	52.1	93.6	22.38	12.74	ND	25.19	ND	ND	9.65	ND	ND	ND
1	Jan., 2023	02.01.2023	57.1	96.4	23.89	30.2	ND	31.2	ND	ND	12.8	ND	ND	ND
2		06.01.2023	56.2	97.4	25.7	23.3	ND	31.8	ND	ND	15.4	ND	ND	ND
1	Feb., 2023	03.02.2023	56.6	97.3	24.1	21.8	ND	29.8	ND	ND	15.27	ND	ND	ND
2		07.02.2023	52.9	96.3	23.78	21.6	ND	30.6	ND	ND	11.52	ND	ND	ND
1		03.03.2023	58.8	58.78	25.87	22.04	ND	28.33	ND	ND	16.26	ND	ND	ND
2	Mar., 2023	07.03.2023	56.3	96.7	26.2	22.02	ND	29	ND	ND	12	ND	ND	ND
3		31.03.2023	35	90	20	15	ND	28	ND	ND	16.2	ND	ND	ND
Minimum			35	58.78	20	10.2	0	17.4	0	0	9.65	0	0	0
Maximum			72.8	179.3	26.2	30.2	0	31.8	0	0	16.61	0	0	0
Mean			53.29	96.19	23.63	16.72	#DIV/0!	17.4	0	0	9.65	0	0	0
Standard Deviation			8.0	25.3	1.9	6.2	0.0	4.8	0.0	0.0	2.1	0.0	0.0	0.0
98 Percentile			68.8744	156.368	26.2	28.268	#NUM!	4.77	0	0	2.09	0	0	0

Location 6 - Vairoval

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NOX ($\mu\text{g}/\text{m}^3$)	CO (mg/m ³)	O ₃ ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C6H6 ($\mu\text{g}/\text{m}^3$)	BaP (ng/m ³)	As (ng/m ³)	Ni (ng/m ³)
1	Oct., 2022	11.10.2022	29.1	74.8	23.9	8.79	ND	21.6	ND	ND	8.79	ND	ND	ND
2		14.10.2022	98.8	203.1	24.3	13.6	ND	20.3	ND	ND	18.7	ND	ND	ND
1		08.11.2022	37.1	79.8	23.45	8.65	ND	21.04	ND	ND	12.11	ND	ND	ND
2		11.11.2022	41.9	78.4	21.62	18.9	ND	24.26	ND	ND	16.3	ND	ND	ND
1		09.12.2022	50.4	91.8	27.5	15.2	ND	21.4	ND	ND	11.9	ND	ND	ND
2	Dec.,2022	13.12.2022	55.7	97.1	25.3	14.9	ND	28.3	ND	ND	10.5	ND	ND	ND
1	Jan., 2023	10.01.2023	53.8	91.5	24.1	28.4	ND	32.5	ND	ND	14.9	ND	ND	ND

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2		13.01.2023	48.5	92.7	22.6	26.3	ND	28.7	ND	ND	9.28	ND	ND	ND	ND	ND	ND
1	Feb., 2023	10.02.2023	55.2	96.47	24.1	22.59	ND	30.43	ND	ND	11.74	ND	ND	ND	ND	ND	ND
2		14.02.2023	56.2	94.38	24.4	21.83	ND	31.52	ND	ND	12.7	ND	ND	ND	ND	ND	ND
7	Mar., 2023	10.03.2023	56.98	97.63	23.96	21.22	ND	29.05	ND	ND	16.78	ND	ND	ND	ND	ND	ND
8		14.03.2023	57.03	96.79	22.97	22.56	ND	32.1	ND	ND	14.1	ND	ND	ND	ND	ND	ND
Minimum		29.1	74.8	21.62	8.65	0	20.3	0	0	8.79	0						
Maximum		98.8	203.1	27.5	28.4	0	32.5	0	0	18.7	0						
Mean		53.39	99.54	24.02	18.58	#DIV/0!	20.3	0	0	8.79	0						
Standard Deviation		16.9	33.6	1.5	6.4	0.0	4.7	0.0	0.0	3.1	0.0						
98 Percentile		89.6106	179.8966	27.016	27.938	#NUM!	4.71	0	0	3.07	0						

Location 7 - Mundri village

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C6H6 ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	As (ng/m^3)	Ni (ng/m^3)	
1	Oct., 2022	18.10.2022	63.7	157.2	27.8	9.45	ND	22.58	ND	ND	10.39	ND	ND	ND	ND	ND
2		21.10.2022	51.8	116.3	23.7	10.71	ND	21.2	ND	ND	11.6	ND	ND	ND	ND	ND
1	Nov., 2022	15.11.2022	54.1	97.6	21.86	13.51	ND	23.68	ND	ND	12.7	ND	ND	ND	ND	ND
2		18.11.2022	54.27	93.6	21.84	16.69	ND	20.53	ND	ND	13.25	ND	ND	ND	ND	ND
1	Dec., 2022	16.12.2022	31.8	75.2	20.1	12.4	ND	24.5	ND	ND	10.9	ND	ND	ND	ND	ND
2		20.12.2022	51.4	96.8	25.7	16.1	ND	28.8	ND	ND	12.5	ND	ND	ND	ND	ND
1	Jan., 2023	17.01.2023	53.6	92.5	24.9	27.1	ND	29.3	ND	ND	12.5	ND	ND	ND	ND	ND
2		20.01.2023	53.7	91.8	26.4	15.6	ND	31.7	ND	ND	12.18	ND	ND	ND	ND	ND
1	Feb., 2023	17.02.2023	55.2	97.42	23.78	21.36	ND	28.72	ND	ND	11.82	ND	ND	ND	ND	ND
2		21.02.2023	56.28	96.3	24.16	21.68	ND	29.51	ND	ND	10.74	ND	ND	ND	ND	ND
8		17.03.2023	45.63	98.01	22.89	23.33	ND	30.27	ND	ND	9.97	ND	ND	ND	ND	ND
3	Mar., 2023	21.03.2023	32.5	122.13	28.16	14.01	ND	30.07	ND	ND	12.04	ND	ND	ND	ND	ND
Minimum		31.8	75.2	20.1	9.45	0	20.53	0	0	9.97	0	0	0	0	0	0
Maximum		63.7	157.2	28.16	27.1	0	31.7	0	0	13.25	0	0	0	0	0	0
Mean		50.33	102.91	24.27	16.83	#DIV/0!	20.53	0	0	9.97	0	0	0	0	0	0
Standard Deviation		9.4	20.8	2.5	5.4	0.0	3.9	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
98 Percentile		62.0676	149.4846	28.0808	26.2706	#NUM!	3.94	0	0	1.01	0	0	0	0	0	0

Location 8 - Hansawala Village

Sr. No.	Month	Date of Monitoring	PM-2.5 ($\mu\text{g}/\text{m}^3$)	PM-10 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO ($\mu\text{g}/\text{m}^3$)	O ₃ ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	Pb ($\mu\text{g}/\text{m}^3$)	NH ₃ ($\mu\text{g}/\text{m}^3$)	C6H6 ($\mu\text{g}/\text{m}^3$)	BaP (ng/m^3)	As (ng/m^3)	Ni (ng/m^3)	
1	Oct., 2022	25.10.2022	202.9	328.4	27.36	10.58	ND	19.2	ND	ND	15.37	ND	ND	ND	ND	ND
2		28.10.2022	117.1	209.3	26.5	11.82	ND	24.8	ND	ND	17.3	ND	ND	ND	ND	ND



1	Nov., 2022	22.11.2022	52.7	89.5	21.2	17.6	ND	18.87	ND	ND	14.84	ND	ND	ND	ND
2		25.11.2022	56.21	92.7	25.82	18.39	ND	25.62	ND	ND	18.1	ND	ND	ND	ND
1	Dec.,2022	23.12.2022	51.1	95.3	25.8	14.1	ND	23.4	ND	ND	10.7	ND	ND	ND	ND
2		27.12.2022	52.6	95.1	21.94	12.6	ND	25.62	ND	ND	9.48	ND	ND	ND	ND
1	Jan., 2023	24.01.2023	47.9	90.5	26.4	17.3	ND	29.8	ND	ND	13.9	ND	ND	ND	ND
2		27.01.2023	51.8	94.8	25.3	17.1	ND	31.5	ND	ND	13.4	ND	ND	ND	ND
1	Feb., 2023	24.02.2023	57.21	96.8	24.79	19.64	ND	28.79	ND	ND	11.72	ND	ND	ND	ND
2		27.02.2023	49.1	88.62	23.28	18.4	ND	30.48	ND	ND	12.71	ND	ND	ND	ND
5	Mar., 2023	24.03.2023	36.05	117.92	25.2	13.99	ND	26.05	ND	ND	12.08	ND	ND	ND	ND
6		28.03.2023	30.8	119.68	28.16	11.9	ND	35.7	ND	ND	11.9	ND	ND	ND	ND
Minimum		30.8	88.62	21.2	10.58	0	18.87	0	0	9.48	0	0	0	0	0
Maximum		202.9	328.4	28.16	19.64	0	35.7	0	0	18.1	0	0	0	0	0
Mean		67.12	126.55	25.15	15.29	#DIV/0!	18.87	0	0	9.48	0	0	0	0	0
Standard Deviation		47.7	71.9	2.1	3.1	0.0	4.9	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
98 Percentile		184.024	302.198	27.984	19.3672	#NUM!	4.92	0	0	2.58	0	0	0	0	0

NOTE:- 1.) Above tabulated data taken from monthly monitoring report generated by outsource agency. Envirochem testing lab & Research center, Panipat, vide recognition No. PPCB/AIR LAB/14887 and also Approved by NABL.

- 2.) The marginal value of PM10 & PM2.5 slightly high at some locations during the month of Oct. & Nov, 2022, were due to Paddy straw burning in nearby areas of plant.*



ANNEXURE - 1

Environmental Monitoring Report (October,2022 to March,2023)



(October,2022 to October,2022)



ENVIROCHEM TESTING LAB & Research Centre

(GOVT. APPROVED LAB)

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TEST REPORT

Report No:	ETL/ PNP/3824	Report Date	28.10.2022	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No: Nil Work Order No: 3824 Period of Testing: 24.10.2022 – 28.10.2022				

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer(PLL Colony)
3	Date of sample collection/ received	:	20.10.2022
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500 : 2012) Acceptable Limit	Permissible limit	

A. Organoleptic and Physical Parameter

1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.12	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	346	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012

B. General Parameters Concerning Substances Undesirable in Excessive Amount

7	Aluminium (as Al), mg/L	ND (DL-0.03)	0.03	0.2	IS 3025(P-55)
8	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11	Boron (as B), mg/L	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12	Calcium Hardness (as Ca), mg/L	26.4	75	200	IS 3025 (P-40) : 1998
13	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14	Chloride (as Cl), mg/L	18.9	250	1000	IS 3025 (P-32) : 1993
15	Copper (as Cu), mg/L	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16	Fluoride (as F), mg/L	ND (DL-0.1)	1.0	1.5	APHA Method
17	Residual Free Chlorine, mg/L	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18	Iron (as Fe), mg/L	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19	Magnesium Hardness (as Mg), mg/L	14.9	30	100	IS 3025 (P-46) : 1994
20	Manganese (as Mn), mg/L	ND (DL-0.01)	0.1	0.3	APHA Method

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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenol & Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	15.6	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	152.7	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	126	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994
C.	Parameter Concerning Toxic Substances				
31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromo-chloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)
D.	Pesticide Residue Limits and Test Method				
46	Alachor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4-Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks

1. Limit: ND is < 1 MPN / 100 ml

2. N.D. Not Detectable

3. DL- Detection Limit

Page 3 of 3

Manager, Lab / Sr. Chemist

REPORT IS VALID
ONLY FOR SELF MONITORING PURPOSES &
NOT FOR CONSENT PURPOSES.

Authority Signatory
Authorised Sign. No. QM / EM
Date: 10/01/2024
Envirochem Testing Lab & Research Centre
Panipat - 132103

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TEST REPORT

Report No	ETL/ PNP/3825	Report Date	28.10.2022	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No: Nil Work Order No: 3825 Period of Testing: 24.10.2022 – 28.10.2022				

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer(Near Fire Station)
3	Date of sample collection/ received	:	20.10.2022
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P- 1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.19	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	448	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7	Aluminium (as Al), mg/L	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8	Amonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12	Calcium Hardness (as Ca), mg/l	34.8	75	200	IS 3025 (P-40) : 1998
13	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14	Chloride (as Cl), mg/l	42.7	250	1000	IS 3025 (P-32) : 1993
15	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19	Magnesium Hardness (as Mg), mg/l	20.5	30	100	IS 3025 (P-46) : 1994
20	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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TEST REPORT

21	Mineral Oil, mg/l	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	27.3	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	201.7	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	169.4	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/l.	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-57)

D. Pesticide Residue Limits and Test Method

46	Alachor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamm HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks

1. Limit: N.D. is < 1 MPN / 100 ml

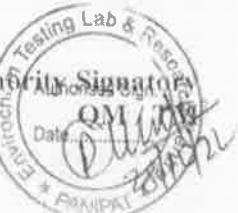
2. N.D.: Not Detectable

3. DL- Detection Limit

Page 3 of 3


Manager Lab, Sr. Chemist

REPORT IS VALID
ONLY FOR SELF MONITORING PURPOSES &
NOT FOR CONSENT PURPOSES.


Authority Signatory
QM TW
Date: 20/09/2018
Panipat

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TEST REPORT

Report No	ETL/ PNP/3826	Report Date	28.10.2022	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No: Nil Work Order No: 3826 Period of Testing: 24.10.2022 – 28.10.2022				

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer(Site Office)
3	Date of sample collection/ received	:	20.10.2022
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P – 1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.27	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	406	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Alumir ium (as Al), mg/L	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anioniz Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/L	44.8	75	200	IS 3025 (P-40) : 1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	18.2	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/L	26.6	30	100	IS 3025 (P-46) : 1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	17.8	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	196	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	219	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	--	--	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/l.	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan-I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan-II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks: 1. Limit: N.D. is < 1 MPN / 100 ml. 2. N.D.: Not Detectable 3. DL= Detection Limit

Page 3 of 3

Manager Lab./Sr. Chemist

REPORT IS VALID
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Authority Signatory
Authorised QM/EM
Date: 10/05/2022
Enviromech Testing Lab & Research Centre
Plot No. 165, Sector-25, Part-II, HUDA, Panipat-132103, Haryana, India



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TEST REPORT

Report No.	ETL/ PNP/3827	Report Date	28.10.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3827

SAMPLE PARTICULARS

1	Type of sample	GROUND WATER
2	Point of Sample Collection	Peziometer North side of ash pond (near security post)
3	Date of sample collection/ received	20.10.2022
4	Purpose of analysis	Monitoring purpose
5	Sample collected/ supplied by	By Lab Representative
6	Sample Quantity	15 litre + 250 ml for Microbiology
7	Method of Sampling	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.02	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	348	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7	Aluminium (as Al), mg/L	ND (DL-0.03)	0.03	0.2	IS 3025(P-55)
8	Ammonical Nitrogen (as NH ₃ -N), mg/l	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10	Barium (as Ba), mg/l	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025(P-57) : 2005
12	Calcium Hardness (as Ca), mg/l	40.8	75	200	IS 3025 (P-40) : 1998
13	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14	Chloride (as Cl), mg/l	21.9	250	1000	IS 3025 (P-32) : 1993
15	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation.	IS 3025 (P-53) : 2003
19	Magnesium Hardness (as Mg), mg/l	22.9	30	100	IS 3025 (P-46) : 1994
20	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	16.7	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	142	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	194	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibron ochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Alachor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butach or, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamm HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks: 1. Limit: N.D. is < 1 MPN / 100 ml 2. N.D.: Not Detectable 3. DL: Detection Limit

Page 3 of 3

Manager, Lab. / Sr. Chemist

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(November,2022 to November,2022)



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TEST REPORT

Report No	ETL/ PNP/3868	Report Date	26.11.2022	Doe No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd, Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3868

SAMPLE PARTICULARS

1	Type of sample	GROUND WATER
2	Point of Sample Collection	Periometer(PLL Colony)
3	Date of sample collection/ received	21.11.2022
4	Purpose of analysis	Monitoring purpose
5	Sample collected/ supplied by	By Lab Representative
6	Sample Quantity	15 litre + 250 ml for Microbiology
7	Method of Sampling	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.02	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	354	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/L	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/l	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	27.6	75	200	IS 3025 (P-40) : 1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	19.5	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation.	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	15.68	30	100	IS 3025 (P-46) :1994
20.	Manganese (as Mn), mg/l	ND (DL-0.015)	0.1	0.3	APHA Method

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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	17.3	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	146.6	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	132	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994
C.	Parameter Concerning Toxic Substances				
31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)
D.	Pesticide Residue Limits and Test Method				
46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500 : 2012) Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622; 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622; 1981

Remarks:

1. Limit: N.D. is < 1 MPN / 100 mL

2. N.D. : Not Detectable

3. DL - Detection Limit

Page 3 of 3

Manager Lab. Sr. Chemist

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TEST REPORT

Report No	ETL / PNP/3869	Report Date	26.11.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Taran - 143422	Party's Ref No:	Nil	Work Order No:	3869

SAMPLE PARTICULARS

1.	Type of sample	GROUND WATER
2.	Point of Sample Collection	Péziometer(Near Fire Station)
3.	Date of sample collection/ received	21.11.2022
4.	Purpose of analysis	Monitoring purpose
5.	Sample collected/ supplied by	By Lab Representative
6.	Sample Quantity	15 litre + 250 ml for Microbiology
7.	Method of Sampling	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.14	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	462	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/L	ND (DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	33.6	75	200	IS 3025 (P-40) : 1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	41.2	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	19.42	30	100	IS 3025(P-46) : 1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	28.2	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	202.4	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	162	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994
C. Parameter Concerning Toxic Substances					
31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/l.	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloreform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)
D. Pesticide Residue Limits and Test Method					
46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND (DL-1) Absent	ND Absent	ND Absent	IS 1622: 1981 IS 1622: 1981
2.	E. Coli (per 100 mL)				

Remarks:

1. Limit: N.D. is < 1 MPN / 100 ml

2. N.D.: Not Detectable

3. DL= Detection Limit

Page 3 of 3

Manager Lab. Sr. Chemist

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Email : envirochemtestinglab@gmail.com Web. : www.etrc.com

TEST REPORT

Report No	ETL/ PNP/3870	Report Date	26.11.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib. Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3870

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer(Site Office)
3	Date of sample collection/ received	:	21.11.2022
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P - 1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.21	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	418	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/L	ND (DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	40.8	75	200	IS 3025 (P-40) :1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	19.5	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) :1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	27.39	30	100	IS 3025 (P-46) :1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	18.4	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	188	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	212	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	-	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/l,	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Aldachor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500 : 2012) Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND	--	IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent	--	IS 1622: 1981

Remarks

1. Limit: N.D. is 1 MPN / 100 ml

2. N.D., Not Detectable

3. DL= Detection Limit

Page 3 of 3

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TEST REPORT

Report No	ETL / PNP/3871	Report Date	26.11.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3871

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer North side of ash pond (near security post)
3	Date of sample collection/ received	:	21.11.2022
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P- I) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.07	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	366	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/L	ND (DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 3025 (P-57) : 2005
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-40) :1998
12.	Calcium Hardness (as Ca), mg/l	42.4	75	200	IS 3025(P-26)
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025 (P-32) : 1993
14.	Chloride (as Cl), mg/l	22.6	250	1000	IS 3025 (P-42) : 1992
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	APHA Method
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	IS 3025 (P-26) : 1986
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-53) : 2003
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-46) :1994
19.	Magnesium Hardness (as Mg), mg/l	23.16	30	100	IS 3025 (P-46) :1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.5	APHA Method

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21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	16.9	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	148	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	199	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2) : 2003
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/l.	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/l.	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Aldor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Endosulfan, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2,4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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56	2,4 DDD, $\mu\text{g/L}$	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, $\mu\text{g/L}$	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, $\mu\text{g/L}$	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, $\mu\text{g/L}$	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, $\mu\text{g/L}$	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, $\mu\text{g/L}$	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, $\mu\text{g/L}$	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, $\mu\text{g/L}$	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, $\mu\text{g/L}$	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, $\mu\text{g/L}$	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, $\mu\text{g/L}$	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, $\mu\text{g/L}$	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, $\mu\text{g/L}$	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), $\mu\text{g/L}$	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500: 2012) Acceptable Limit	Permissible limit	
1.	Bacteriological Quality of Drinking Water				
1.	Coliform Organisms, MPN/100 mL	ND (DL-1)	ND	Absent	IS 1622:1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622:1981

Remarks: 1. Limit: N.D. is < 1 MPN /100 ml

2. N.D. Not Detectable

3. DL- Detection Limit

Page 3 of 3

[Signature]
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Envirochem Testing Lab.
 Authority Signatory
 Date: 03/11/22
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TC-6015

TEST REPORT

Report No	ETL/ PNP/3872	Report Date	26.11.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3872
		Period of Testing:	22.11.2022 – 26.11.2022		

SAMPLE PARTICULARS

1.	Name of the Unit	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	Thermal Power Plant
3.	Type of Sample	Boiler Stack (Unit – I) - 865 TPH
4.	Sampling Point	From the port hole
5.	Date & Time of Sampling	21.11.2022
6.	Purpose of Analysis	Consent Purpose
7.	Sample Collected by / Supplied by	By Lab Representative
8.	Method of sampling	IS:11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	31
2.	Stack Temperature (°C)	:	136
3.	Velocity (m/sec)	:	17.2
4.	Source of Emission & capacity	:	Boiler Stack (Unit – I) - 865 TPH
5.	Diameter of Stack	:	4.8 m
6.	Height of Stack from Ground Level	:	275 m
7.	Type of Fuel Used	:	Coal
8.	Duration of sampling	:	37 min
9.	Emission Control	:	ESPs
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	784477

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	35.2	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	1320	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	342	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETL/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂. ND – Not Detectable (BDL – Below Detectable Limit). *Parameter not covered under NABL scope.

*****End Report*****

Manager Lab./ Sr. Chemist

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TEST REPORT

Report No	ETL/ PNP/3873	Report Date	26.11.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3873
SAMPLE PARTICULARS					
1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.		
2.	Type of Industry	:	Thermal Power Plant		
3.	Type of Sample	:	Boiler Stack (Unit - II) - 865 TPH		
4.	Sampling Point	:	From the port hole		
5.	Date & Time of Sampling	:	21.11.2022		
6.	Purpose of Analysis	:	Consent Purpose		
7.	Sample Collected by / Supplied by	:	By Lab Representative		
8.	Method of sampling	:	IS 11255 (P - 1 & 3)		
OBSERVATIONS					
1.	Metering Temperature (°C)	:	30		
2.	Stack Temperature (°C)	:	144		
3.	Velocity (m/sec)	:	17.5		
4.	Source of Emission & capacity	:	Boiler Stack (Unit - II) - 865 TPH		
5.	Diameter of Stack	:	4.8 m		
6.	Height of Stack from Ground Level	:	275 m		
7.	Type of Fuel Used	:	Coal		
8.	Duration of sampling	:	37 min		
9.	Emission Control	:	ESPs		
10.	General sensory observation	:	Normal		
11.	Recovery of material	:	Nil		
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	782847		

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	31.5	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	785	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	360	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETL/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂. ND - Not Detectable (BDL - Below Detectable Limit). *Parameter not covered under NABL scope.

*****End Report*****

Manager Lab, Sr. Chemist

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(December,2022 to December,2022)



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TEST REPORT

Report No	ETL/ PNP/42065	Report Date	26.12.2022	Doc No.	ETL/QP/7.8/01
Issue to:	Party's Ref No: Nil Work Order No: 28067 Period of Testing: 22.12.2022 - 26.12.2022				

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer (Near Railway Over Bridge)
3	Date of sample collection/ received	:	20.12.2022
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500 : 2012) Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.19	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	412	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/l	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/l	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/l.	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	38	75	200	IS 3025 (P-40) : 1998
13.	Chloramines (as Cl ₂), mg/l.	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	23.8	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	22.6	30	100	IS 3025 (P-46) : 1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	16.2	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	148	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	186	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994
C. Parameter Concerning Toxic Substances					
31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	-	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	-	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	-	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	-	APHA Method
45	Arsenic mg/l	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)
D. Pesticide Residue Limits and Test Method					
46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta IICl, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4-DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	-	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	-	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	-	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	-	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	-	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	-	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	-	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	-	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	-	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	-	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	-	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	-	US EPA Method
68	Pherate, µg/L	ND (DL-0.01)	2.0	-	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	-	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks

1. Limit: N.D. is < 1 MPN / 100 ml

2. ND = Not Detectable

3. DL= Detection Limit

Page 3 of 3

Manager Lab. & Sr. Chemist

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TEST REPORT

Report No	ETL/ PNP/42066	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil		
		Work Order No:	28068		
		Date of Measurement:	20.12.2022		

SAMPLE PARTICULARS

1	Type of sample	:	AMBIENT NOISE - DAY & NIGHT TIME
2	Date of sample measurement	:	20.12.2022
3	Purpose of analysis	:	Self Monitoring purpose
4	Sample collected/ supplied by	:	By Lab Representative

TEST RESULTS

Sr. No.	Point of Measurement	Day Time Noise Level (dB) 6:00 AM -10:00PM)			Night Time Noise Level (dB) (10:00 PM – 6.00AM)			Limit (dB)	Limit (dB)
		Avg.	Max	Min	Avg.	Max.	Min		
1	Near Service building	84.9	85.8	83.9	61.7	63.2	60.2	85	85
2	CHP Area	81.8	83.2	80.4	66.8	70.8	62.7	85	85
3	AHP Area	72.9	74.2	71.6	72.1	74.3	69.9	85	85
4	Nar Plant Site Office	67.0	68.3	65.7	60.5	62.7	58.2	85	85
5	Near Boiler Area	77.6	79.9	75.2	72.0	73.8	70.2	85	85
6	Residential Colony	54.6	56.3	52.8	44.5	46.8	42.1	55	45
7	Near Admin Building	61.6	63.1	60.1	63.9	65.8	61.9	85	85
8	Near DM Plant	75.3	76.9	73.6	70.2	72.6	67.8	85	85
9	Near Railway over bridge	74.1	75.4	72.8	72.4	74.5	70.3	85	85

Remarks: Limits on Sr no. 1-5 & 7-9 as per Factory Act-1948 and On Sr no 6 as per EPA-1986.


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TC-6015

TEST REPORT

Report No.	ETL/PNP/42067	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Testor Inc. Mr. G V K Pawa (Gondwal Sahib) Ltd. Kapurthala Road, Gondwal Sahib, Dist. Tarn Taran - 143422		Party's Ref No:	Nil	Work Order No:	28069

Period of Testing: 22.12.2022 – 26.12.2022

SAMPLE PARTICULARS

1	Type of sample	:	SOIL
2	Point of Sample Collection	:	Near Hazardous Waste Storage Site
3	Date of sample collection/ received	:	20.12.2022
4	Purpose of analysis	:	Self Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	1 Kg
7	Method of Sampling	:	As per standard

TEST RESULTS

Sr. No.	Parameters	Results	Protocol used
1.	pH (Sludge/water 1:2)	7.91	ETL/SOP/SW01
2.	Moisture (%)	18.6	USEPA 6010 B Dec. 1996
3.	Organic Matter (%age)	2.74	ETL/SOP/SW01
4.	Specific Conductivity (1:2 Ratio) dS/cm	0.29	USEPA 6010 B Dec. 1996
5.	Nickel (as Ni), Kg/HA	0.07	USEPA 6010 B Dec. 1996
6.	Potassium (as K), Kg/HA	72.8	USEPA 6010 B Dec. 1996
7.	Available Phosphorous as P, Kg/HA	11.1	USEPA 6010 B Dec. 1996
8.	Copper (as Cu), Kg/HA	0.18	USEPA 6010 B Dec. 1996
9.	Nitrogen as N, Kg/HA	21.2	ETL/SOP/SW/25
10.	Zinc (as Zn), Kg/HA	0.11	USEPA 6010 B Dec. 1996
11.	Cadmium, Kg/HA	ND	USEPA 6010 B Dec. 1996
12.	Total Chromium, Kg/HA	ND	USEPA 6010 B Dec. 1996
13.	Lead (as Pb), Kg/HA	0.27	USEPA 6010 B Dec. 1996
14.	Mercury Kg/HA	ND (DL- 1 Kg/HA)	APHA Method
15.	Aromatic Hydro Carbon Kg/HA	ND (DL-1 Kg/HA)	By GC

Remarks: Parameters at St. No. 1, 2 & 4 on received basis, others are on dry basis

Manager Lab./ Sr. Chemist

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P. Mudra
26/12/22
Authorized Signatory
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TC-6015

TEST REPORT

Report No	ETL/PNP/42068	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib. Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	28070
		Period of Testing:	22.12.2022 - 26.12.2022		

SAMPLE PARTICULARS

1	Type of sample	:	ASH POND EFFLUENT
2	Point of Sample Collection	:	Settling pond (Ash Pond)
3	Date of sample collection/ received	:	20.12.2022
4	Purpose of analysis	:	Self Monitoring
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	5 Litre
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol used
1.	pH	7.09	6.5 - 8.5	IS 3025 (P-11) 1983
2.	Total Suspended Solids, mg/L	14	100	IS 3025 (P-17) 1984
3.	Aluminium (as Al), mg/L	ND (DL-0.03)	Not Specified	IS 3025 (P-55) : 2003
4.	Oil & Grease, mg/L	1.8	20	IS 3025(P-39) 1991
5.	Arsenic (as As), mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-37) : 1988
6.	Copper (as Cu), mg/L	0.16	Not Specified	IS 3025 (P-42) : 1992
7.	Lead (as Pb), mg/L	ND (DL-0.05)	Not Specified	IS 3025 (P-47) : 1994
8.	Nickel as Ni, mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-54) : 2003
9.	Total Chromium as Cr, mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-52) : 2003
10.	Cadmium (as Cd), mg/L	ND (DL-0.003)	Not Specified	IS 3025 (P-41) : 1998
11.	Mercury as Hg, mg/L	ND (DL-0.001)	Not Specified	IS 3025 (P-48)
12.	Zinc as Zn, mg/L	0.25	Not Specified	IS 3025 (P-49) : 1994

Remarks: Standard Limits as per CPCB guidelines for Thermal Power Plants

Manager Lab., Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/ PNP/3923	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal-Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3923
		Period of Testing:	22.12.2022 - 26.12.2022		

SAMPLE PARTICULARS

1.	Name of the Unit	: M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	: Thermal Power Plant
3.	Type of Sample	: Boiler Stack (Unit - I) - 865 TPH
4.	Sampling Point	: From the port hole
5.	Date & Time of Sampling	: 20.12.2022
6.	Purpose of Analysis	: Consent Purpose
7.	Sample Collected by / Supplied by	: By Lab Representative
8.	Method of sampling	: IS 11255 (P = 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	: 20
2.	Stack Temperature (°C)	: 127
3.	Velocity (m/sec)	: 21.94
4.	Source of Emission & capacity	: Boiler Stack (Unit -- I) - 865 TPH
5.	Diameter of Stack	: 4.8 m
6.	Height of Stack from Ground Level	: 275 m
7.	Type of Fuel Used	: Coal
8.	Duration of sampling	: 37 min
9.	Emission Control	: ESPs
10.	General sensory observation	: Normal
11.	Recovery of material	: Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	: 1023179

TEST RESULTS

Se. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	34.2	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	1243.8	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	317.9	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETL/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂, ND – Not Detectable, BDL – Below Detectable Limit. *Parameter not covered under NABL scope

*****End Report*****

Mannu, Lab. S. Chemist



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TC-6015

TEST REPORT

Report No	ETL/ PNP/3924	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil		
		Work Order No:	3924		
		Period of Testing:	22.12.2022 – 26.12.2022		
SAMPLE PARTICULARS					
1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.		
2.	Type of Industry	:	Thermal Power Plant		
3.	Type of Sample	:	DG stack 750 KVA – I		
4.	Sampling Point	:	From the port hole		
5.	Date of Sampling	:	20.12.2022		
6.	Purpose of Analysis	:	Consent		
7.	Sample Collected by / Supplied by	:	By Lab Representative		
8.	Method of sampling	:	IS 11255 (P – 1 & 3)		
OBSERVATIONS					
1.	Metering Temperature (°C)	:	20		
2.	Stack Temperature (°C)	:	252		
3.	Velocity (m/sec)	:	17.7		
4.	Source of Emission & capacity	:	DG stack 750 KVA – I		
5.	Diameter of Stack	:	20.32 cm		
6.	Height of Stack from Ground Level	:	12 m		
7.	Type of Fuel Used	:	HSO – 60 Ltr/ Day		
8.	Duration of sampling	:	52 min		
9.	Emission Control (if any)	:	Nil		
10.	Fugitive Emission	:	Nil		
11.	General sensory observation	:	Normal		
12.	Recovery of material	:	Nil		
13.	Volumetric flow rate VFR (NM ³ /Hr)	:	1127		

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), (gm/Kwh)	0.11	0.2	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), (gm/Kwh)	< 0.05	-	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO ₂), (gm/Kwh)	0.97	4.0	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), (gm/Kwh)	0.24	3.5	ETL-SOP - S 06
5.	Hydrocarbons (HC), (gm/Kwh)	0.19	1.30	HC Meter

Remarks: Analysed Parameters meet the Standards Limits.

*****End Report*****

Manager Lab./Sr. Chemist



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TC-6015

TEST REPORT

Report No	ETL/ PNP/3925	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Issue to:		Party's Ref No:	Nil		
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Work Order No:	3925		
		Period of Testing:	22.12.2022 – 26.12.2022		
SAMPLE PARTICULARS					
1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.		
2.	Type of Industry	:	Thermal Power Plant		
3.	Type of Sample	:	DG stack 750 KVA - II		
4.	Sampling Point	:	From the port hole		
5.	Date of Sampling	:	20.12.2022		
6.	Purpose of Analysis	:	Consent		
7.	Sample Collected by / Supplied by	:	By Lab Representative		
8.	Method of sampling	:	IS 11255 (P – 1 & 3)		
OBSERVATIONS					
1.	Metering Temperature (°C)	:	21		
2.	Stack Temperature (°C)	:	208		
3.	Velocity (m/sec)	:	16.9		
4.	Source of Emission & capacity	:	DG stack 750 KVA – II		
5.	Diameter of Stack	:	20.32 cm		
6.	Height of Stack from Ground Level	:	12 m		
7.	Type of Fuel Used	:	HSD – 60 Ltr/ Day		
8.	Duration of sampling	:	50 min		
9.	Emission Control (if any)	:	Nil		
10.	Fugitive Emission	:	Nil		
11.	General sensory observation	:	Normal		
12.	Recovery of material	:	Nil		
13.	Volumetric flow rate VFR (NM ³ /Hr)	:	1174		
TEST RESULTS					
Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used	
1.	Particulate Matter (PM), (gm/Kwh)	0.17	0.2	IS 11255 (Part 1) 1985	
2.	Sulphur Dioxide (SO ₂), (gm/Kwh)	< 0.05	-	IS 11255 (Part 2) 1985	
3.	Oxides of Nitrogen (NO ₂), (gm/Kwh)	0.84	4.0	IS 11255 (Part 7) 2005	
4.	Carbon Monoxide (CO), (gm/Kwh)	0.49	3.5	ETL-SOP - S 06	
5.	Hydrocarbons (HC), (gm/Kwh)	0.12	1.30	HC Meter	

Remarks: Analysed Parameters meet the Standards Limits.

***** End Report *****


Manager Lab. Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/ PNP/3926	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3926

SAMPLE PARTICULARS

1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	:	Thermal Power Plant
3.	Type of Sample	:	Process Stack (Ash Silo Plant - I) 10000M ³ /Hr
4.	Sampling Point	:	From the port hole
5.	Date of Sampling	:	20.12.2022
6.	Purpose of Analysis	:	Consent
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P - 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	20
2.	Stack Temperature (°C)	:	32
3.	Velocity (m/sec)	:	13.15
4.	Source of Emission & capacity	:	Process Stack (Ash Silo Plant - I) 10000M ³ /Hr
5.	Diameter of Stack	:	35 cm
6.	Height of Stack above roof Level	:	40 m
7.	Type of Fuel Used	:	Electricity
8.	Duration of sampling	:	38 min
9.	Emission Control (if any)	:	Cyclone followed by Bag Filter
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	:	4276

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	16.58	150	IS 11255 (Part I) 1985

*****End Report*****

Manager Lab./ Sr. Chemist

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TC-6015

TEST REPORT

Report No.	ETL/PNP/3927	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Address:	M/s GVK Power (Goindwal-Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Dist. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3927

Period of Testing: 22.12.2022 – 26.12.2022

SAMPLE PARTICULARS

1.	Name of the Unit	:	M/s GVK Power (Goindwal-Sahib) Ltd.
2.	Type of Industry	:	Thermal Power Plant
3.	Type of Sample	:	Process Stack - Stack Attached to Bunker House (Unit - I) 10200M ³ /Hr
4.	Sampling Point	:	From the port hole
5.	Date of Sampling	:	20.12.2022
6.	Purpose of Analysis	:	Consent
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	21
2.	Stack Temperature (°C)	:	29
3.	Velocity (m/sec)	:	11.87
4.	Source of Emission & capacity	:	Process Stack - Stack Attached to Bunker House (Unit - I) 10200M ³ /Hr
5.	Diameter of Stack	:	51.4 cm
6.	Height of Stack above roof Level	:	61 m
7.	Type of Fuel Used	:	Electricity
8.	Duration of sampling	:	48 min
9.	Emission Control (if any)	:	Cyclone followed by Bag Filter
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	:	8407

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	43.8	150	IS 11255 (Part 1) 1985

*****End Report*****

Manager Lab: Sr. Chemist



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TC-6015

TEST REPORT

Report No	ETL/ PNP/3928	Report Date	26.12.2022	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	3928

Period of Testing: 22.12.2022 – 26.12.2022

SAMPLE PARTICULARS

1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	:	Thermal Power Plant
3.	Type of Sample	:	Process Stack - Stack Attached to Dust Extraction (Crusher House – 39000M ³ /Hr)
4.	Sampling Point	:	From the port hole
5.	Date of Sampling	:	20.12.2022
6.	Purpose of Analysis	:	Consent
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	21
2.	Stack Temperature (°C)	:	28
3.	Velocity (m/sec)	:	12.63
4.	Source of Emission & capacity	:	Process Stack - Stack Attached to Dust Extraction (Crusher House – 39000M ³ /Hr)
5.	Diameter of Stack	:	127.5 cm
6.	Height of Stack above roof Level	:	40.9 m
7.	Type of Fuel Used	:	Electricity
8.	Duration of sampling	:	45 min
9.	Emission Control (if any)	:	Cyclone followed by Bag Filter
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	:	55227

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	56.2	150	IS 11255 (Part 1) 1985

End Report *****

Manager Lab./ Sr. Chemist

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26.12.2022

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TC-6015

TEST REPORT

Report No.	ETL/PNP/3929	Report Date	26.12.2022	Doc. No.	ETL/QF/7.8/01
Issue to:		Party's Ref No:	Nil		
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Work Order No:	3929		
		Period of Testing:	22.12.2022 – 26.12.2022		

SAMPLE PARTICULARS

1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	:	Thermal Power Plant
3.	Type of Sample	:	Process Stack-Stack Attached to Bag Filter (Junction Tower - I) 25200 M ³ /Hr
4.	Sampling Point	:	From the port hole
5.	Date of Sampling	:	20.12.2022
6.	Purpose of Analysis	:	Consent
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P – I & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	20
2.	Stack Temperature (°C)	:	31
3.	Velocity (m/sec)	:	11.47
4.	Source of Emission & capacity	:	Process Stack-Stack Attached to Bag Filter (Junction Tower - I) 25200 M ³ /Hr
5.	Diameter of Stack	:	81.5 cm
6.	Height of Stack above roof Level	:	66.3 m
7.	Type of Fuel Used	:	Electricity
8.	Duration of sampling	:	44 min
9.	Emission Control (if any)	:	Cyclone followed by Bag Filter
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	:	20291

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	51.39	150	IS 11255 (Part 1) 1985

*****End Report*****

Manager Lab./ Sci. Chemist



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(January,2023 to January,2023)



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TC-6015

TEST REPORT

Report No.	ETL/ PNP/ 42172	Report Date	14.01.2023	Doc No.	ETL/QF/7.8/01
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Issue to:

M/s GVK Power (Goindwal Sahib) Ltd.
Kapurthala Road, Goindwal Sahib,
Distt. Tarn Taran - 143422

Party's Ref No: Nil

Work Order No:28174

Period of Testing:10.01.2023-14.01.2023

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	ETP Outlet
3	Date & Time of sample collection/ received	:	09.01.2023
4	Purpose of analysis	:	Calibration
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	2 Litre
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	--	--	--	IS 3025 (P-4) 1983
2.	Odour	Odourless	--	--	--	IS 3025 (P-5) 1983
3.	pH	7.26	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	24.70	250	--	--	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/L	0.4	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/L	4.06	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/l	< 2.0	10	20	10	IS 3025 (P-39) 1991

***** End Report *****

Manager Lab/ Sr. Chemist

Authority Signatory

QM ATM

Om Jitendra

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TC-6015

TEST REPORT

Report No.	ETL/ PNP/ 42173	Report Date	14.01.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	28175

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	STP Outlet (Residential Colony)
3	Date & Time of sample collection/ received	:	09.01.2023
4	Purpose of analysis	:	Calibration
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	2 Litre
7	Method of Sampling	:	IS 3025 (P - I) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	-	-	-	IS 3025 (P-4) 1983
2.	Odour	Odourless	-	-	-	IS 3025 (P-5) 1983
3.	pH	7.02	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	11.30	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/L	5.70	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/L	5.1	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/L	< 2.0	10	20	10	IS 3025 (P-39) 1991

*****End Report*****

Manager Lab./ Sr. Chemist

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[Signature]

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TEST REPORT

Report No.	ETL/ PNP/3978	Report Date	27.01.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: 3978 Period of Testing: 23.01.2023 - 27.01.2023			

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer(PLL Colony)
3	Date of sample collection/ received	:	21.01.2023
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P - 1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND(DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND(DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.09	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	382	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/L	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	29.2	75	200	IS 3025 (P-40) :1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl) mg/l	23.6	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation.	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	17.68	30	100	IS 3025 (P-46) :1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	16.9	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	152	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	144	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4-Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500 : 2012) Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks: 1. Limit: N.D. is < 1 MPN / 100 ml 2. N.D. Not Detectable 3. DL= Detection Limit

Page 3 of 3

Manager Lab./ Sr. Chemist

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TEST REPORT

Report No	ETL/ PNP/3979	Report Date	27.01.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: 3979 Period of Testing: 23.01.2023 – 27.01.2023			

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer(Near Fire Station)
3	Date of sample collection/ received	:	21.01.2023
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P - 1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.12	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	486	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/L	ND (DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/l	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	38.4	75	200	IS 3025 (P-40) : 1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	47.9	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation.	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	20.42	30	100	IS 3025 (P-46) : 1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/l	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/l	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	34.2	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	214.6	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	178	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/l	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/l.	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)			IS 3025 (P-52) : 2003
41	Bromoform, mg/l	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/l.	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 -Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks: 1. Limit: N.D. is ≤ 1 MPN / 100 ml 2. N.D. Not Detectable 3. DL- Detection Limit

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[Signature]
Manager Lab./Sr. Chemist

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TEST REPORT

Report No	ETL/ PNP/3980	Report Date	27.01.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: 3980 Period of Testing: 23.01.2023 – 27.01.2023			

SAMPLE PARTICULARS

1	Type of sample	GROUND WATER
2	Point of Sample Collection	Peziometer North side of ash pond (near security post)
3	Date of sample collection/ received	21.01.2023
4	Purpose of analysis	Monitoring purpose
5	Sample collected/ supplied by	By Lab Representative
6	Sample Quantity	15 litre + 250 ml for Microbiology
7	Method of Sampling	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			<u>Acceptable Limit</u>	<u>Permissible limit</u>	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.06	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	392	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/L	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/l	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	42.4	75	200	IS 3025 (P-40) :1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	23.5	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	23.9	30	100	IS 3025 (P-46) :1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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 T 3. The test result shall not be reproduced full or in part & each be used as proof in the court of law.



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TEST REPORT

21	Mineral Oil, mg/l.	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/l	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	19.2	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	144	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	202	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994
C. Parameter Concerning Toxic Substances					
31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/l,	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/l.	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)
D. Pesticide Residue Limits and Test Method					
46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND (DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks: 1. Limit: N.D. is < 1 MPN / 100 ml

2. N.D. Not Detectable

3. DL - Detection Limit

Page 3 of 3

Manager Lab./ Sq. Chemist

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TEST REPORT

Report No	ETL/ PNP/3981	Report Date	27.01.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil		
SAMPLE PARTICULARS					
1	Type of sample	:	GROUND WATER		
2	Point of Sample Collection	:	Peziometer(Near Railway Over Bridge)		
3	Date of sample collection/ received	:	21.01.2023		
4	Purpose of analysis	:	Monitoring purpose		
5	Sample collected/ supplied by	:	By Lab Representative		
6	Sample Quantity	:	15 litre + 250 ml for Microbiology		
7	Method of Sampling	:	IS 3025 (P - 1) 1987		

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.18	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	472	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/l	ND (DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/l	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS), mg/l	ND (DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/l	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	39.6	75	200	IS 3025 (P-40) : 1998
13.	Chloramines (as Cl ₂), mg/l	ND (DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	49.1	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	23.16	30	100	IS 3025 (P-46) : 1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method

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TEST REPORT					
21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/l	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/l	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	37.2	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	209.5	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	192	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994
C.	Parameter Concerning Toxic Substances				
31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	--	--	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)
D.	Pesticide Residue Limits and Test Method				
46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 -Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method

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TEST REPORT					
56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500 : 2012) Acceptable Limit	Permissible limit	
E.	Bacteriological Quality of Drinking Water				
1.	Coliform Organisms, MPN/100 mL	ND(DL-1) Absent	ND	Absent	IS 1622: 1981
2.	E. Coli (per 100 mL)	ND	Not Detectable	Absent	IS 1622: 1981

Remarks: 1. Limit: N.D. is \leq 1 MPN / 100 ml

2. ND = Not Detectable 3. DL = Detection Limit

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Manager-Lab./ Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/ PNP/3982	Report Date	27.01.2023	Doc No.	ETL/QF/7,8/01
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Issue to:
M/s GVK Power (Goindwal Sahib) Ltd.
Kapurthala Road, Goindwal Sahib,
Distt. Tarn Taran - 143422

Party's Ref No:Nil

Work Order No: 3982

Period of Testing: 23.01.2023 – 27.01.2023

SAMPLE PARTICULARS

1	Name of the Unit	: M/s GVK Power (Goindwal Sahib) Ltd.
2	Type of Industry	: Thermal Power Plant
3	Type of Sample	: Boiler Stack (Unit – I) - 865 TPH
4	Sampling Point	: From the port hole
5	Date & Time of Sampling	: 21.01.2023
6.	Purpose of Analysis	: Monitoring Purpose
7.	Sample Collected by / Supplied by	: By Lab Representative
8.	Method of sampling	: IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	: 19
2.	Stack Temperature (°C)	: 132
3.	Velocity (m/sec)	: 20.76
4.	Source of Emission & capacity	: Boiler Stack (Unit – I) - 865 TPH
5.	Diameter of Stack	: 4.8 m
6.	Height of Stack from Ground Level	: 275 m
7.	Type of Fuel Used	: Coal
8.	Duration of sampling	: 37 min
9.	Emission Control	: ESPs
10.	General sensory observation	: Normal
11.	Recovery of material	: Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	: 956197

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	39.2	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	1080	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	265.7	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETL/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂. ND – Not Detectable (BDL – Below Detectable Limit). *Parameter not covered under NABL scope.

*****End Report*****

Manager Lab./ Sr. Chemist

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OCT 2023

27/10/2023

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TC-6015

TEST REPORT

Report No	ETL/ PNP/3983	Report Date	27.01.2023	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:Nil Work Order No: 3983 Period of Testing:23.01.2023 – 27.01.2023				

SAMPLE PARTICULARS

1	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2	Type of Industry	:	Thermal Power Plant
3	Type of Sample	:	Boiler Stack (Unit -- II) - 865 TPH
4	Sampling Point	:	From the port hole
5	Date & Time of Sampling	:	21.01.2023
6.	Purpose of Analysis	:	Monitoring Purpose
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	21
2.	Stack Temperature (°C)	:	126
3.	Velocity (m/sec)	:	19.82
4.	Source of Emission & capacity	:	Boiler Stack (Unit -- II) - 865 TPH
5.	Diameter of Stack	:	4.8 m
6.	Height of Stack from Ground Level	:	275 m
7.	Type of Fuel Used	:	Coal
8.	Duration of sampling	:	37 min
9.	Emission Control	:	ESPs
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	926629

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	37.42	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	519.2	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	221.1	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETL/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂. ND – Not Detectable (BDL – Below Detectable Limit). *Parameter not covered under NABL scope.

***** End Report *****

Manager Lab./ Sr. Chemist

Authority Signatory

QM/TM
97/1/2023

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(February,2023 to February,2023)



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TC-6015

TEST REPORT

Report No.	ETL/ PNP/42742	Report Date	10.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:		Party's Ref No:	As per agreement		
M/s GVK Power (Goindwal Sahib) L.L.C. Kapurthal Road, Goindwal Sahib, Dist. Tarn Taran - 143422		Work Order No:	28744		
		Period of Testing:	06.02.2023 - 10.02.2023		

SAMPLE PARTICULARS

1	Type of sample	WASTE WATER
2	Point of Sample Collection	STP Outlet (Residential Colony)
3	Date & Time of sample collection/ received	06.02.2023
4	Purpose of analysis	Calibration
5	Sample collected/ supplied by	By Lab Representative
6	Quantity of Sample	2 Litre
7	Method of Sampling	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	-	-	-	IS 3025 (P-4) 1983
2.	Odour	Odourless	-	-	-	IS 3025 (P-5) 1983
3.	pH	7.98	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	14.51	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/l	7.34	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/l	13.23	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/l	<2.0	10	20	10	IS 3025 (P-39) 1991

***** End Report *****

Manager Lab./ Sr. Chemist

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TC-6015

TEST REPORT

Report No.	ETL/ PNP/ 42743	Report Date	10.02.2023	Doc. No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	As per agreement	Work Order No:	28745

Period of Testing: 06.02.2023 - 10.02.2023

SAMPLE PARTICULARS

1	Type of sample	WASTE WATER
2	Point of Sample Collection	EIP Outlet
3	Date & Time of sample collection/ received	06.02.2023
4	Purpose of analysis	Calibration
5	Sample collected/ supplied by	By Lab Representative
6	Quantity of Sample	2 Litre
7	Method of Sampling	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	-	-	-	IS 3025 (P-4) 1983
2.	Odour	Odourless	-	-	-	IS 3025 (P-5) 1983
3.	pH	7.93	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/l	25.98	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/l	1.61	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/l	5.3	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/l	< 2.0	10	20	10	IS 3025 (P-39) 1991

***** End Report *****

Manager Lab/ Sr. Chemist

Authority Signatory

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TC-6035

TEST REPORT

Report No.	ETL/PPCB/ 2023-268	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil		
		Work Order No:	PPCB - 268		
		Period of Testing:	11.02.2023 – 14.02.2023		

SAMPLE PARTICULARS

1.	Name of the Unit	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	Thermal Power Plant
3.	Type of Sample	Process Stack (Ash Silo - I) 10000M ³ /Hr
4.	Sampling Point	From the port hole
5.	Date of Sampling	09.02.2023
6.	Purpose of Analysis	Consent
7.	Sample Collected by / Supplied by	By Lab Representative
8.	Method of sampling	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	24
2.	Stack Temperature (°C)	37
3.	Velocity (m/sec)	13.04
4.	Source of Emission & capacity	Process Stack (Ash Silo - I) 10000M ³ /Hr
5.	Diameter of Stack	35 cm
6.	Height of Stack above roof Level	40 m
7.	Type of Fuel Used	Electricity
8.	Duration of sampling	38 min
9.	Emission Control (if any)	Cyclone followed by Bag Filter
10.	Fugitive Emission	Nil
11.	General sensory observation	Normal
12.	Recovery of material	Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	4172

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	52.8	150	IS 11255 (Part 1) 1985

***** End Report *****

Manager Lab. Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2023-269	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil		
		Work Order No:	PPCB - 269		
		Period of Testing:	11.02.2023 – 14.02.2023		

SAMPLE PARTICULARS

1.	Name of the Unit	: M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	: Thermal Power Plant
3.	Type of Sample	: Process Stack (Ash Silo - II) 10000M ³ /Hr
4.	Sampling Point	: From the port hole
5.	Date of Sampling	: 09.02.2023
6.	Purpose of Analysis	: Consent
7.	Sample Collected by / Supplied by	: By Lab Representative
8.	Method of sampling	: IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	: 25
2.	Stack Temperature (°C)	: 34
3.	Velocity (m/sec)	: 13.42
4.	Source of Emission & capacity	: Process Stack (Ash Silo - II) 10000M ³ /Hr
5.	Diameter of Stack	: 35 cm
6.	Height of Stack above roof Level	: 40 m
7.	Type of Fuel Used	: Electricity
8.	Duration of sampling	: 37 min
9.	Emission Control (if any)	: Cyclone followed by Bag Filter
10.	Fugitive Emission	: Nil
11.	General sensory observation	: Normal
12.	Recovery of material	: Nil
13.	Volumetric flow rate VFR (NM ³ /hr)	: 4335

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	61.2	150	IS 11255 (Part I) 1985

***** End Report *****

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TC-6015

TEST REPORT

Report No.	ETL/PPCB/ 2023-270	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Rond, Goindwal Sahib, Dist. Tarn Taran - 143422	Party's Ref No:	Nil		
		Work Order No:	PPCB - 270		
		Period of Testing:	11.02.2023 - 14.02.2023		

SAMPLE PARTICULARS

1.	Name of the Unit	: M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	: Thermal Power Plant
3.	Type of Sample	: Process Stack - Stack Attached to Dust Extraction System (Crusher House - 39000M ³ /Hr)
4.	Sampling Point	: From the port hole
5.	Date of Sampling	: 09.02.2023
6.	Purpose of Analysis	: Consent
7.	Sample Collected by / Supplied by	: By Lab Representative
8.	Method of sampling	: IS 11255 (P - 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	: 25
2.	Stack Temperature (°C)	: 42
3.	Velocity (m/sec)	: 13.28
4.	Source of Emission & capacity	: Process Stack - Stack Attached to Dust Extraction System (Crusher House - 39000M ³ /Hr)
5.	Diameter of Stack	: 127.5 cm
6.	Height of Stack above roof Level	: 40.0 m
7.	Type of Fuel Used	: Electricity
8.	Duration of sampling	: 38 min
9.	Emission Control (if any)	: Cyclone followed by Bag Filter
10.	Fugitive Emission	: Nil
11.	General sensory observation	: Normal
12.	Recovery of material	: Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	: 55488

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	: 65.5	: 150	: IS 11255 (Part 1) 1985

***** End Report *****

Manager Lab., Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2023-271	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
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Issue to:	Party's Ref No:Nil
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Work Order No: PPCB - 271
	Period of Testing: 11.02.2023 – 14.02.2023

SAMPLE PARTICULARS

1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	:	Thermal Power Plant
3.	Type of Sample	:	Process Stack - Stack Attached to Bunker House (Unit – I) 10200M ³ /Hr
4.	Sampling Point	:	From the port hole
5.	Date of Sampling	:	09.02.2023
6.	Purpose of Analysis	:	Consent
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	24
2.	Stack Temperature (°C)	:	39
3.	Velocity (m/sec)	:	12.53
4.	Source of Emission & capacity	:	Process Stack - Stack Attached to Bunker House (Unit – I) 10200M ³ /Hr
5.	Diameter of Stack	:	51.4 cm
6.	Height of Stack above roof Level	:	61 m
7.	Type of Fuel Used	:	Electricity
8.	Duration of sampling	:	48 min
9.	Emission Control (If any)	:	Cyclone followed by Bag Filter
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	:	8590

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	53.7	150	IS 11255 (Part 1) 1985

*****End Report*****

Manager Lab / Sr. Chemist

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D. M. S. J. M.

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TC-6015

TEST REPORT

Report No.	ETL/ PPCB/ 2023-272	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:		Party's Ref No:	Nil		
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Work Order No:	PPCB ~ 272		
		Period of Testing:	11.02.2023 – 14.02.2023		

SAMPLE PARTICULARS

1.	Name of the Unit	: M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	: Thermal Power Plant
3.	Type of Sample	: Process Stack-Stack Attached to Bag Filter Bunker House (Unit-II) 10200M ³ /Hr
4.	Sampling Point	: From the port hole
5.	Date of Sampling	: 09.02.2023
6.	Purpose of Analysis	: Consent
7.	Sample Collected by / Supplied by	: By Lab Representative
8.	Method of sampling	: IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	: 25
2.	Stack Temperature (°C)	: 47
3.	Velocity (m/sec)	: 11.78
4.	Source of Emission & capacity	: Process Stack-Stack Attached to Bag Filter Bunker House (Unit-II) 10200M ³ /Hr
5.	Diameter of Stack	: 51.4 cm
6.	Height of Stack above roof Level	: 61 m
7.	Type of Fuel Used	: Electricity
8.	Duration of sampling	: 43min
9.	Emission Control (if any)	: Cyclone followed by Bag Filter
10.	Fugitive Emission	: Nil
11.	General sensory observation	: Normal
12.	Recovery of material	: Nil
13.	Volumetric flow rate VFR (NM ³ /Hr)	: 7874

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1	Particulate Matter (PM), mg/NM ³	: 51.36	: 150	: IS 11255 (Part I) 1985

***** End Report *****

Manager Lab/ Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/PPCB/2023-273	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:		Party's Ref No:	Nil		
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Work Order No:	PPCB - 273		
		Period of Testing:	14.02.2023 - 14.02.2023		

SAMPLE PARTICULARS

1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	:	Thermal Power Plant
3.	Type of Sample	:	Process Stack-Stack Attached to Bag Filter Junction Tower - 1) 25200 M ³ /Hr
4.	Sampling Point	:	From the port hole
5.	Date of Sampling	:	09.02.2023
6.	Purpose of Analysis	:	Consent
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P - 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	24
2.	Stack Temperature (°C)	:	43
3.	Velocity (m/sec)	:	11.39
4.	Source of Emission & capacity	:	Process Stack-Stack Attached to Bag Filter (Junction Tower - 1) 25200 M ³ /Hr
5.	Diameter of Stack	:	81.5 cm
6.	Height of Stack above roof Level	:	66.3 m
7.	Type of Fuel Used	:	Electricity
8.	Duration of sampling	:	44 min
9.	Emission Control (if any)	:	Cyclone followed by Bag Filter
10.	Fugitive Emission	:	Nil
11.	General sensory observation	:	Normal
12.	Recovery of material	:	Nil
13.	Volumetric flow rate VFR (NM ³ /hr)	:	19384

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	56.81	150	IS/11255 (Part I) /1985

.....End Report.....

Manager Lab./ Sr. Chemist

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TC-6015

TEST REPORT

Report No.	ETL/PPCB/ 2023-274	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/81
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	PPCB - 274
SAMPLE PARTICULARS					
1.	Name of the Unit	M/s GVK Power (Goindwal Sahib) Ltd.			
2.	Type of Industry	Thermal Power Plant			
3.	Type of Sample	DG stack 750 KVA - 1			
4.	Sampling Point	From the port hole			
5.	Date of Sampling	10.02.2023			
6.	Purpose of Analysis	Consent			
7.	Sample Collected by / Supplied by	By Lab Representative			
8.	Method of sampling	IS 11255 (P - 1 & 3)			
OBSERVATIONS					
1.	Metering Temperature (°C)	24			
2.	Stack Temperature (°C)	192			
3.	Velocity (m/sec)	14.78			
4.	Source of Emission & capacity	DG stack 750 KVA - 1			
5.	Diameter of Stack	20.32 cm			
6.	Height of Stack from Ground Level	12 m			
7.	Type of Fuel Used	HSD - 60 Ltr/ Day			
8.	Duration of sampling	50 min			
9.	Emission Control (if any)	Nil			
10.	Fugitive Emission	Nil			
11.	General sensory observation	Normal			
12.	Recovery of material	Nil			
13.	Volumetric flow rate VFR (NM ³ /Hr)	5062			

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), (gm/Kwh)	0.11	0.2	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), (gm/Kwh)	< 0.05	-	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), (gm/Kwh)	0.93	4.0	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), (gm/Kwh)	0.28	3.5	ETL-SOP - S 06
5.	Hydrocarbons (HC), (gm/Kwh)	0.14	1.30	HC Meter

Remarks: Analysed Parameters meet the Standard Limits.

*****End Report*****

Manager Lab. Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2023-275	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue for	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil		
		Work Order No:	PPCB - 275		
		Period of Testing:	11.02.2023 – 14.02.2023		

SAMPLE PARTICULARS

1.	Name of the Unit	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	Thermal Power Plant
3.	Type of Sample	DG stack 750 KVA - II
4.	Sampling Point	From the port hole
5.	Date of Sampling	10.02.2023
6.	Purpose of Analysis	Consent
7.	Sample Collected by / Supplied by	By Lab Representative
8.	Method of sampling	IS 11255 (P - 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	25
2.	Stack Temperature (°C)	238
3.	Velocity (m/sec)	15.71
4.	Source of Emission & capacity	DG stack 750 KVA - II
5.	Diameter of Stack	20.32 cm
6.	Height of Stack from Ground Level	12 m
7.	Type of Fuel Used	HSD - 60 Ltr/ Day
8.	Duration of sampling	50 min.
9.	Emission Control (if any)	Nil
10.	Fugitive Emission	Nil
11.	General sensory observation	Normal
12.	Recovery of material	Nil
13..	Volumetric flow rate VFR (NM ³ /Hr)	1028

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), (gm/Kwh)	0.12	0.2	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), (gm/Kwh)	<0.05	-	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), (gm/Kwh)	0.86	4.0	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), (gm/Kwh)	0.33	3.5	ETL-SOP - S 06
5.	Hydrocarbons (HC), (gm/Kwh)	0.15	1.30	HC Meter

Remarks: Analysed Parameters meet the Standards Limits.

Manager, Lab / Sr. Chemist

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Authority Signature
OMITTM
Date: 14/02/2023
Name: Pankaj Kumar



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TC-6015

TEST REPORT

Report No	ETL/PPCB/ 2023-276	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:		Party's Ref No:	Nil		
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Work Order No:	PPCB - 276		
		Period of Testing:	11.02.2023 – 14.02.2023		

SAMPLE PARTICULARS

1.	Name of the Unit	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	Thermal Power Plant
3.	Type of Sample	Boiler Stack (Unit - I) - 865 TPH
4.	Sampling Point	From the port hole
5.	Date & Time of Sampling	10.02.2023
6.	Purpose of Analysis	Consent Purpose
7.	Sample Collected by / Supplied by	By Lab Representative
8.	Method of sampling	IS 11255 (P - 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	: 23
2.	Stack Temperature (°C)	: 124
3.	Velocity (m/sec)	: 18.71
4.	Source of Emission & capacity	: Boiler Stack (Unit - I) - 865 TPH
5.	Diameter of Stack	: 4.8 m
6.	Height of Stack from Ground Level	: 275 m
7.	Type of Fuel Used	: Coal
8.	Duration of sampling	: 36 min
9.	Emission Control	: ESPs
10.	General sensory observation	: Normal
11.	Recovery of material	: Nil
12.	Volumetric flow rate VFR (NM ³ /hr)	: 879140

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	36.37	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	991.02	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	287	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETU/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂. NO - 0.002
Detectable (BDL) - Below Detectable Limit. *Parameter not covered under NABL scope.

***** Report No. 2023-276 *****

Manager Lab/ Sr. Chemist

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Authority Signatory
Amit TM
Date: 14.02.2023
Environchem Testing Lab & Research



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TC-6015

TEST REPORT

Report No	ETL/PPCB/2023-277	Report Date	14.02.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:Nil	Work Order No: PPCB - 277	Period of Testing:	11.02.2023 - 14.02.2023

SAMPLE PARTICULARS

1.	Name of the Unit	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	Thermal Power Plant
3.	Type of Sample	Boiler Stack (Unit - II) - 865 TPH
4.	Sampling Point	From the port hole
5.	Date & Time of Sampling	10.02.2023
6.	Purpose of Analysis	Consent Purpose
7.	Sample Collected by / Supplied by	By Lab Representative
8.	Method of sampling	IS 11255 (P - 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	24
2.	Stack Temperature (°C)	128
3.	Velocity (m/sec)	19.21
4.	Source of Emission & capacity	Boiler Stack (Unit - II) - 865 TPH
5.	Diameter of Stack	4.8 m
6.	Height of Stack from Ground Level	275 m
7.	Type of Fuel Used	Coal
8.	Duration of sampling	36 min
9.	Emission Control	WSPs
10.	General sensory observation	Noinal
11.	Recovery of material	Nil
12.	Volumetric flow rate VFR (NM ³ /hr)	893631

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	37.58	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	650	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	295	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETL/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂. ND - Not Detectable (BDL - Below Detectable Limit). *Parameter not covered under NABL scope.

***** End Report *****

Manager-Lab/ Sr. Chemist

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TC-6015

TEST REPORT

Report No	ETL/PPCB/ 2023-278	Report Date	14.02.2023	Due No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	PPCB - 278

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	STP Outlet (Residential Colony)
3	Date & Time of sample collection/ received	:	10.02.2023
4	Purpose of analysis	:	Consent
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	5 Litre
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	--	--	--	IS 3025 (P-4) 1983
2.	Odour	Odourless	--	--	--	IS 3025 (P-5) 1983
3.	pH	8.28	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/l	13.81	250	--	--	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/l	6.93	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/l	7.81	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/l	< 2.0	10	20	10	IS 3025 (P-39) 1991

End Report

Manager Lab/ Sr. Chemist

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Authority Signature
QMI/TM
Envirochem Testing Lab & Research Centre
Panipat - 132103

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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2023-279	Report Date	14.02.2023	Due No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Gondwal Sahib) Ltd. Kapurthala Road, Gondwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	N/A	Work Order No:	PPCB - 279

Period of Testing: 11.02.2023 – 14.02.2023

SAMPLE PARTICULARS

1	Type of sample	: WASTE WATER
2	Point of Sample Collection	: ETP Outlet
3	Date & Time of sample collection/ received	: 10.02.2023
4	Purpose of analysis	: Consent
5	Sample collected/ supplied by	: By Lab Representative
6	Quantity of Sample	: 3 Litre
7	Method of Sampling	: IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	-	-	-	IS 3025 (P-1) 1983
2.	Odour	Odourless	-	-	-	IS 3025 (P-5) 1983
3.	pH	6.88	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/l	23.18	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 20°C for 3 Days, mg/l	7.65	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/l	9.04	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/l	<2.0	10	20	10	IS 3025 (P-39) 1991

***** End Report *****

Manager Lab./ Sr. Chemist

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(March,2023 to March,2023)



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TC-6015

TEST REPORT

Report No.	ETL/ PNP/ 43268	Report Date	14.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	As per agreement	Work Order No:	29270

Period of Testing: 10.03.2023-14.03.2023

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	STP Outlet (Residential Colony)
3	Date& Time of sample collection/ received	:	09.03.2023
4	Purpose of analysis	:	Calibration
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	2 Litre
7	Method of Sampling	:	IS 3025 (P - 1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	--	-	-	IS 3025 (P-4) 1983
2.	Odour	Odourless	-	-	-	IS 3025 (P-5) 1983
3.	pH	7.12	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	17.92	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/L	9.42	30	350	100	IS 3025 (P-44)1993
6.	Total Suspended Solids, mg/L	6.72	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/L	< 2.0	10	20	10	IS 3025 (P-39) 1991

*****End Report*****

Manager Lab. / Sr. Chemist



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TC-6015

TEST REPORT

Report No.	ETL/ PNP/ 43267	Report Date	14.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	As per agreement	Work Order No:	29269

Period of Testing: 10.03.2023-14.03.2023

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	ETP Outlet
3	Date& Time of sample collection/ received	:	09.03.2023
4	Purpose of analysis	:	Calibration
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	2 Litre
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Colourless	--	-	-	IS 3025 (P-4) 1983
2.	Odour	Odourless	--	-	-	IS 3025 (P-5) 1983
3.	pH	7.98	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	35.02	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/l.	9.0	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/L	33.23	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/L	< 2.0	10	20	10	IS 3025 (P-39) 1991

***** End Report *****

Manager Lab./ Sr. Chemist





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TC-6015

TEST REPORT

Report No	ETL/ PNP/ 43351	Report Date	27.03.2023	Doc No.	ETL/QF/7.8/01	
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran- 143422	Party's Ref No:	Nil	Work Order No:	29353	
		Date of Measurement:	22.03.2023			
		SAMPLE PARTICULARS				
1	Type of sample	:	AMBIENT NOISE - DAY & NIGHT TIME			
2	Date of sample measurement	:	22.03.2023			
3	Purpose of analysis	:	Self Monitoring purpose			
4	Sample collected/ supplied by	:	By Lab Representative			

TEST RESULTS

Sr. No.	Point of Measurement	Day Time Noise Level (dB) 6:00 AM -10:00PM)			Night Time Noise Level (dB) (10:00 PM – 6.00AM)			Limit (dB)	Limit (dB)
		Avg.	Max	Min	Avg.	Max.	Min		
1	Near Service building	84.8	85.7	83.8	61.6	63.1	60.1	85	85
2	CHP Area	81.7	83.1	80.3	66.7	70.7	62.6	85	85
3	AHP Area	72.8	72.1	71.5	72.0	74.2	69.8	85	85
4	Nar Plant Site Office	66.9	68.2	65.6	60.4	62.6	58.1	85	85
5	Near Boiler Area	77.5	79.8	75.1	71.9	73.7	70.1	85	85
6	Residential Colony	54.5	56.2	52.7	44.4	46.7	42.0	55	85
7	Near Admin Building	61.5	63.0	60.0	63.8	65.7	61.8	85	85
8	Near DM Plant	75.1	76.7	73.4	70.2	72.4	67.6	85	85
9.	Near Railway over bridge	73.9	75.2	72.6	72.2	74.3	70.1	85	85

Remarks: Limits on Sr no. 1-5 & 7-9 as per Factory Act-1948 and On Sr no 6 as per EPA-1986.

Manager Lab/ Sr. Chemist





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TC-6015

TEST REPORT

Report No	ETL/ PNP/ 43350	Report Date	27.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	As per agreement	Work Order No:	29352

SAMPLE PARTICULARS

1	Type of sample	:	ASH POND EFFLUENT
2	Point of Sample Collection	:	Settling pond (Ash Pond)
3	Date of sample collection/ received	:	22.03.2023
4	Purpose of analysis	:	Self Monitoring
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	5 Litre
7	Method of Sampling	:	IS 3025 (P - I) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol used
1.	pH	7.10	6.5 – 8.5	IS 3025 (P-11) 1983
2.	Total Suspended Solids, mg/L	12	100	IS 3025 (P-17) 1984
3.	Aluminium (as Al), mg/L	ND (DL-0.03)	Not Specified	IS 3025 (P-55) : 2003
4.	Oil & Grease, mg/L	1.6	20	IS 3025(P-39) 1991
5.	Arsenic (as As), mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-37) : 1988
6.	Copper (as Cu), mg/L	0.14	Not Specified	IS 3025 (P-42) : 1992
7.	Lead (as Pb), mg/L	ND (DL-0.05)	Not Specified	IS 3025 (P-47) : 1994
8.	Nickel as Ni, mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-54) : 2003
9.	Total Chromium as Cr, mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-52) : 2003
10.	Cadmium (as Cd), mg/L	ND (DL-0.003)	Not Specified	IS 3025 (P-41) : 1998
11.	Mercury as Hg, mg/L	ND (DL-0.001)	Not Specified	IS 3025 (P-48)
12.	Zinc as Zn, mg/L	0.23	Not Specified	IS 3025 (P-49) : 1994

Remarks: Standard Limits as per CPCB guidelines for Thermal Power Plants


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TC-6015

TEST REPORT

Report No.	ETL/PNP/43349	Report Date	27.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	As per agreement	Work Order No:	29351

Period of Testing: 23.03.2023-27.03.2023

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	STP Outlet (Plant)
3	Date & Time of sample collection/ received	:	22.03.2023
4	Purpose of analysis	:	Calibration
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	2 Litre
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge			Protocol used
			Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Coloulessness	--	--	--	IS 3025 (P-4) 1983
2.	Odour	Odourless	--	--	--	IS 3025 (P-5) 1983
3.	pH	7.90	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	31.4	250	--	--	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/L	12.96	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/L	13.80	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/L	<2.0	10	20	10	IS 3025 (P-39) 1991

*****End Report*****

Dhruv
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TC-6015

TEST REPORT

Report No	ETL/ PNP/ 43349	Report Date	27.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	Party's Ref No: As per agreement				
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Work Order No: 29351 Period of Testing: 23.03.2023-27.03.2023				

SAMPLE PARTICULARS

1	Type of sample	:	SOIL
2	Point of Sample Collection	:	Near Hazardous Waste Storage Site
3	Date of sample collection/ received	:	22.03.2023
4	Purpose of analysis	:	Self Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	1 Kg
7	Method of Sampling	:	As per standard

TEST RESULTS

Sr. No.	Parameters	Results	Protocol used
1.	pH (Sludge/water 1:2)	7.90	ETL/SOP/SW01
2.	Moisture (%)	19.1	USEPA 6010 B Dec. 1996
3.	Organic Matter (%age)	2.34	ETL/SOP/SW01
4.	Specific Conductivity (1:2 Ratio) dS/cm	0.28	USEPA 6010 B Dec. 1996
5.	Nickel (as Ni), Kg/HA	0.08	USEPA 6010 B Dec. 1996
6.	Potassium (as K), Kg/HA	77.1	USEPA 6010 B Dec. 1996
7.	Available Phosphorous as P, Kg/HA	10.9	USEPA 6010 B Dec. 1996
8.	Copper (as Cu), Kg/HA	0.13	USEPA 6010 B Dec. 1996
9.	Nitrogen as N, Kg/HA	228	ETL/SOP/SW/25
10.	Zinc (as Zn), Kg/HA	0.09	USEPA 6010 B Dec. 1996
11.	Cadmium, Kg/HA	ND	USEPA 6010 B Dec. 1996
12.	Total Chromium, Kg/HA	ND	USEPA 6010 B Dec. 1996
13.	Lead (as Pb), Kg/HA	0.26	USEPA 6010 B Dec. 1996
14.	Mercury Kg/HA	ND (DL- 1 Kg/HA)	APHA Method
15.	Aromatic Hydro Carbon Kg/HA	ND (DL-1 Kg/HA)	By GC

Remarks: Parameters at Sr. No. 1, 2 & 4 on received basis, others are on dry basis


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TC-6015

TEST REPORT

Report No.	ETL/ PNP/4072	Report Date	25.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	Party's Ref No: Nil				
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Work Order No:4072 Period of Testing: 22.03.2023 – 25.03.2023				
SAMPLE PARTICULARS					
1	Type of sample	:	GROUND WATER		
2	Point of Sample Collection	:	Perimeter (PLL Colony)		
3	Date of sample collection/ received	:	20.03.2023 – 21.03.2023		
4	Purpose of analysis	:	Monitoring purpose		
5	Sample collected/ supplied by	:	By Lab Representative		
6	Sample Quantity	:	15 litre + 250 ml for Microbiology		
7	Method of Sampling	:	IS 3025 (P – I) 1987		

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.01	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	370	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/l.	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/l.	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/l.	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	32	75	200	IS 3025 (P-40) :1998
13.	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl) mg/l	22	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation.	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	18	30	100	IS 3025 (P-46) :1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method



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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO_3^-), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as $\text{C}_6\text{H}_5\text{OH}$), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO_4^{2-}), mg/l	12	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H_2S), mg/l	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO_3), mg/l	172	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO_3), mg/l	168.4	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr^{VI}), mg/l	ND(DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/L	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloropropane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromoform, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/l	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Alachlor, $\mu\text{g/L}$	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, $\mu\text{g/L}$	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, $\mu\text{g/L}$	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, $\mu\text{g/L}$	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, $\mu\text{g/L}$	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, $\mu\text{g/L}$	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, $\mu\text{g/L}$	ND (DL-0.01)	30	--	US EPA Method
53	2, 4-Dichlorophenoxy Acetic Acid, $\mu\text{g/L}$	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, $\mu\text{g/L}$	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, $\mu\text{g/L}$	ND (DL-0.01)	1.0	--	US EPA Method



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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan – I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan – II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications		Protocol Used
			(As per IS 10500 : 2012) Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND (DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks: 1. Limit, N.D. is < 1 MPN / 100 mL

2. ND: Not Detectable

3. DL: Detection Limit

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Dnye
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TC-6015

TEST REPORT

Report No:	ETL/ PNP/4073	Report Date	25.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	4073

SAMPLE PARTICULARS

1	Type of sample	:	GROUND WATER
2	Point of Sample Collection	:	Peziometer(Near Fire Station)
3	Date of sample collection/ received	:	20.03.2023- 21.03.2023
4	Purpose of analysis	:	Monitoring purpose
5	Sample collected/ supplied by	:	By Lab Representative
6	Sample Quantity	:	15 litre + 250 ml for Microbiology
7	Method of Sampling	:	IS 3025 (P - 1) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.03	6.5 - 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	474	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7.	Aluminium (as Al), mg/l.	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8.	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9.	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10.	Barium (as Ba), mg/l.	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11.	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12.	Calcium Hardness (as Ca), mg/l	36.1	75	200	IS 3025 (P-40) : 1998
13.	Chloramines (as Cl ₂), mg/l.	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14.	Chloride (as Cl), mg/l	42	250	1000	IS 3025 (P-32) : 1993
15.	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16.	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17.	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18.	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation.	IS 3025 (P-53) : 2003
19.	Magnesium Hardness (as Mg), mg/l	21	30	100	IS 3025 (P-46) :1994
20.	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method



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TEST REPORT

21	Mineral Oil, mg/l	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	35	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	188	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	174.6	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	--	--	IS 3025 (P-52) : 2003
41	Bromoform, mg/l	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/l	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/L	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Alachor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method



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TC-6015

TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	---	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	---	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	---	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	---	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	---	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	---	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	---	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	---	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	---	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	---	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	---	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	---	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	---	US EPA Method
69	Gamma HCH (Lindane), µg/L	ND (DL-0.01)	2.0	---	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E: Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks:

1. Limit: N.D. is ≤ 1 MPN / 100 ml

2. ND = Not Detectable

3. DL= Detection Limit

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Dinesh
Manager Lab./Sr. Chemist

Authority Signatory
Om Jai
Enviromental Data Services
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TC-6015

TEST REPORT

Report No	ETL/ PNP/4074	Report Date	25.03.2023	Doc No.	ETL/QF/7.8/01	
Issue to:	Party's Ref No: Nil					
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Work Order No: 4074 Period of Testing: 22.03.2023-25.03.2023					
SAMPLE PARTICULARS						
1	Type of sample	:	GROUND WATER			
2	Point of Sample Collection	:	Pezimeter(Near Railway Over Bridge)			
3	Date of sample collection/ received	:	20.03.2023-21.03.2023			
4	Purpose of analysis	:	Monitoring purpose			
5	Sample collected/ supplied by	:	By Lab Representative			
6	Sample Quantity	:	15 litre + 250 ml for Microbiology			
7	Method of Sampling	:	IS 3025 (P - I) 1987			

TEST RESULTS

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
A. Organoleptic and Physical Parameter					
1.	Colour, Hazen units	ND (DL-5)	5	15	IS 3025 (P-4) : 1983
2.	Odour	Unobjectionable	Agreeable	Agreeable	IS 3025 (P-5) : 1983
3.	Turbidity, NTU	ND (DL-1)	1	5	IS 3025 (P-10) : 1984
4.	pH	7.07	6.5 – 8.5	No Relaxation	IS 3025 (P-11) : 1996
5.	Total Dissolved Solids, mg/l	406	500	2000	IS 3025 (P-16) : 2002
6.	Taste	Agreeable	Agreeable	Agreeable	IS 3025 (P-7&8) : 2012
B. General Parameters Concerning Substances Undesirable in Excessive Amount					
7	Aluminium (as Al), mg/L	ND(DL-0.03)	0.03	0.2	IS 3025(P-55)
8	Ammonical Nitrogen (as NH ₃ -N), mg/L	ND (DL-0.05)	0.5	No relaxation	IS 3025 (P-34) : 1988
9	Anionic Detergents (as MBAS),mg/L	ND(DL-0.01)	0.02	1.0	IS 13428
10	Barium (as Ba), mg/L	ND (DL-0.05)	0.7	No Relaxation	IS 13428
11	Boron (as B), mg/l	ND (DL-0.1)	0.5	1.0	IS 3025 (P-57) : 2005
12	Calcium Hardness (as Ca), mg/l	29.94	75	200	IS 3025 (P-40) : 1998
13	Chloramines (as Cl ₂), mg/L	ND(DL-0.01)	4.0	No Relaxation	IS 3025(P-26)
14	Chloride (as Cl), mg/l	46	250	1000	IS 3025 (P-32) : 1993
15	Copper (as Cu), mg/l	ND (DL-0.01)	0.05	1.50	IS 3025 (P-42) : 1992
16	Fluoride (as F), mg/l	ND (DL-0.1)	1.0	1.5	APHA Method
17	Residual Free Chlorine, mg/l	ND (DL-0.1)	0.2	1	IS 3025 (P-26) : 1986
18	Iron (as Fe), mg/l	ND (DL-0.05)	0.3	No Relaxation.	IS 3025 (P-53) : 2003
19	Magnesium Hardness (as Mg), mg/l	21.2	30	100	IS 3025 (P-46) : 1994
20	Manganese (as Mn), mg/l	ND (DL-0.01)	0.1	0.3	APHA Method



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TEST REPORT

21	Mineral Oil, mg/L	ND (DL-0.1)	0.5	No Relaxation	IS 3025 (P-39)
22	Nitrate (as NO ₃), mg/l	ND (DL-0.1)	45	No relaxation	IS 3025 (P-34) : 1988
23	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	ND (DL-0.001)	0.001	0.002	IS 3025 (P-43) : 1992
24	Selenium (as Se), mg/L	ND (DL-0.01)	0.01	No Relaxation	IS 3025 (P-56)
25	Silver (as Ag), mg/L	ND (DL-0.01)	0.1	No Relaxation	IS 13428
26	Sulphate (as SO ₄), mg/l	36	200	400	IS 3025 (P-24) : 1986
27	Sulphides (as H ₂ S), mg/L	ND (DL-0.05)	0.05	No Relaxation	IS 3025(P-29)
28	Total Alkalinity (as CaCO ₃), mg/l	204	200	600	IS 3025 (P-23) : 1998
29	Total Hardness (as CaCO ₃), mg/l	160	200	600	IS 3025 (P-21) : 2009
30	Zinc (as Zn), mg/l	ND (DL-0.01)	5.0	15.0	IS 3025 (P-49) : 1994

C. Parameter Concerning Toxic Substances

31	Cadmium (as Cd), mg/l	ND (DL-0.003)	0.003	No relaxation	IS 3025 (P-41) : 1998
32	Lead (as Pb), mg/l	ND (DL-0.01)	0.01	No relaxation	IS 3025 (P-47) : 1994
33	Cyanide (as CN), mg/l,	ND (DL-0.02)	Max 0.05	No relaxation	IS 3025 (Part 27)
34	Mercury (as Hg), mg/L	ND (DL-0.001)	0.001	No Relaxation	IS 3025 (P-48)
35	Molybdenum (Mo), mg/L	ND (DL-0.01)	0.07	No Relaxation	IS 3025 (P-2)
36	Nickel (as Ni), mg/l	ND (DL-0.01)	0.02	No relaxation	IS 3025 (P-54) : 2003
37	Polychlorinated Biphenyls, mg/L	ND (DL-0.0001)	0.0005	No Relaxation	APHA method
38	Polynuclear Aromatic Hydrocarbons (as PAH), mg/L	ND (DL-0.0001)	0.0001	No Relaxation	APHA method
39	Total Chromium (as Cr), mg/l	ND (DL-0.05)	0.05	No relaxation	IS 3025 (P-52) : 2003
40	Hexavalent Chromium (as Cr ⁶⁺), mg/l	ND (DL-0.01)	-	-	IS 3025 (P-52) : 2003
41	Bromoform, mg/l	ND (DL-0.01)	0.1	--	APHA Method
42	Dibromochloromethane, mg/L	ND (DL-0.01)	0.1	--	APHA Method
43	Bromochloromethane, mg/L	ND (DL-0.01)	0.06	--	APHA Method
44	Chloroform, mg/l	ND (DL-0.05)	0.2	--	APHA Method
45	Arsenic mg/L	ND(DL-0.01)	0.01	0.01	IS 3025 (P-37)

D. Pesticide Residue Limits and Test Method

46	Alachlor, µg/L	ND (DL-0.01)	20	--	US EPA Method
47	Atrazine, µg/L	ND (DL-0.01)	2	--	US EPA Method
48	Aldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
49	Dieldrin, µg/L	ND (DL-0.01)	0.03	--	US EPA Method
50	Delta HCH, µg/L	ND (DL-0.01)	0.04	--	US EPA Method
51	Butachlor, µg/L	ND (DL-0.01)	125	--	US EPA Method
52	Chlorpyrifos, µg/L	ND (DL-0.01)	30	--	US EPA Method
53	2, 4 - Dichlorophenoxy Acetic Acid, µg/L	ND (DL-0.01)	30	--	US EPA Method
54	2, 4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
55	4,4 DDT, µg/L	ND (DL-0.01)	1.0	--	US EPA Method



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TEST REPORT

56	2,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
57	4,4 DDD, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
58	2,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
59	4,4 DDE, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
60	Endosulfan, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
61	Endosulfan - I, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
62	Endosulfan - II, µg/L	ND (DL-0.01)	0.4	--	US EPA Method
63	Ethion, µg/L	ND (DL-0.01)	3.0	--	US EPA Method
64	Isoproturon, µg/L	ND (DL-0.01)	9.0	--	US EPA Method
65	Malathion, µg/L	ND (DL-0.01)	190	--	US EPA Method
66	Methyl Parathion, µg/L	ND (DL-0.01)	0.3	--	US EPA Method
67	Monocrotophos, µg/L	ND (DL-0.01)	1.0	--	US EPA Method
68	Phorate, µg/L	ND (DL-0.01)	2.0	--	US EPA Method
69	Gamna HCH (Lindane), µg/L	ND (DL-0.01)	2.0	--	US EPA Method

Sr. No.	Parameters	Results	Drinking Water Specifications (As per IS 10500 : 2012)		Protocol Used
			Acceptable Limit	Permissible limit	
E. Bacteriological Quality of Drinking Water					
1.	Coliform Organisms, MPN/100 mL	ND(DL-1)	ND		IS 1622: 1981
2.	E. Coli (per 100 mL)	Absent	Absent		IS 1622: 1981

Remarks:

1. Limit: ND is < 1 MPN / 100 mL

2. N.D. Not Detectable

3. DL- Detection Limit

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Dinesh
Manager Lab. Mr. Chemist

Authority Signatory
Date: 04.01.2023
Om Aml
25/13/B/2023



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TC-6015

TEST REPORT

Report No:	ETL/ PNP/4075	Report Date	25.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	4075

Period of Testing: 22.03.2023 – 25.03.2023

SAMPLE PARTICULARS

1.	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2.	Type of Industry	:	Thermal Power Plant
3.	Type of Sample	:	Boiler Stack (Unit – I) - 865 TPH
4.	Sampling Point	:	From the port hole
5.	Date & Time of Sampling	:	20.03.2023 – 21.03.2023
6.	Purpose of Analysis	:	Monitoring Purpose
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	28
2.	Stack Temperature (°C)	:	130
3.	Velocity (m/sec)	:	20.44
4.	Source of Emission & capacity	:	Boiler Stack (Unit – I) - 865 TPH
5.	Diameter of Stack	:	4.8 m
6.	Height of Stack from Ground Level	:	275 m
7.	Type of Fuel Used	:	Coal
8.	Duration of sampling	:	37 min
9.	Emission Control	:	ESPs
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	946130

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	25.8	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	1042.2	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	390	450	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (BDL - 0.005)	0.03	ETL/SOP/S - 010

Remarks: 12% of CO₂ correction is the reference value for particulate matter. Sr. No. 2 & 3 Corrected at 6% O₂. ND – Not Detectable (BDL – Below Detectable Limit). *Parameter not covered under NABL scope.

***** End Report *****

Manager Lab./ Sr. Chemist





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TC-6015

TEST REPORT

Report No	ETL/PNP/4076	Report Date	04.04.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	4076

Period of Testing: 27.03.2023 – 04.04.2023

SAMPLE PARTICULARS

1	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.
2	Type of Industry	:	Thermal Power Plant
3	Type of Sample	:	Ambient Air Monitoring (4 th Week)
4	Sampling Point	:	Inside Power Plant - Near Railway Over Bridge
5	Date of Sampling	:	24.03.2023 – 25.03.2023
6	Purpose of Analysis	:	Self Monitoring
7	Sample Collected by / Supplied by	:	By Lab Representative
8	Method of Sampling	:	IS 5182 (P – 5) 1975

OBSERVATIONS

1	Average flowrate for PM ₁₀ (m ³ / min)	:	1.04
2	Total volume of air sampled (m ³)	:	1502.592
3	Period of Sampling, (Hr.)	:	24.08

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter PM ₁₀ , ($\mu\text{g}/\text{m}^3$)	90.2	100	IS 5182 (Part 23) 2006
2.	Particulate Matter PM _{2.5} , ($\mu\text{g}/\text{m}^3$)	46.1	60	USEPA 40 CFR 50 Appendix I
3.	Sulphur Dioxide (SO ₂), ($\mu\text{g}/\text{m}^3$)	23.8	80	IS 5182 (Part 2) 2001
4.	Oxides of Nitrogen (NO ₂), ($\mu\text{g}/\text{m}^3$)	20.7	80	IS 5182 (Part 6) 2006
5.	Ammonia (NH ₃), ($\mu\text{g}/\text{m}^3$)	12	400	ETL/SOP/A-03
6.	Carbon Monoxide (CO), (mg/m^3)	ND (DL-1.14)	4	ETL/SOP/A-09
7.	Ozone (O ₃), ($\mu\text{g}/\text{m}^3$) for 1 Hr	24	180	IS 5182 (Part -IX) : 1974
8.	Lead (Pb), ($\mu\text{g}/\text{m}^3$)	ND (DL-0.01)	1.0	IS 5182 (Part -22) : 2004
9.	Nickel (Ni), (ng/m^3)	ND (DL-0.01)	20	ETL/SOP/A -08
10.	Arsenic (As), (ng/m^3)	ND (DL-0.5)	6	APHA Method
11.	Benzene (C ₆ H ₆), ($\mu\text{g}/\text{m}^3$)	ND (DL-1)	5	IS 5182 (Part -11) : 2006
12.	Benzopyrine (BaP), (ng/m^3)	ND (DL-0.2)	1	IS 5182 (Part -12) : 2004
13.	Mercury as (Hg), ($\mu\text{g}/\text{m}^3$)	ND (DL-0.01)	-	ETL/SOP/A-15

Remarks: Analysed Parameters meet the Standards Limits as per NAAQS. Parameter no.13 is not covered NABL Scope.
DL- Detection Limit, ND- Not Detectable.

Manager Lab. & Chemist

Authority Signatory

OM BM
04/04/2023



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TC-6015

TEST REPORT

Report No	ETL/PNP/4077	Report Date	04.04.2023	Doc No.	ETL/QF/7.3/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	4077
SAMPLE PARTICULARS					
1	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.		
2	Type of Industry	:	Thermal Power Plant		
3	Type of Sample	:	Ambient Air Monitoring (4 th Week)		
4	Sampling Point	:	Inside Power Plant - PLL Colony		
5	Date of Sampling	:	24.03.2023 – 25.03.2023		
6	Purpose of Analysis	:	Self Monitoring		
7	Sample Collected by / Supplied by	:	By Lab Representative		
8	Method of Sampling	:	IS 5182 (P – S) 1975		
OBSERVATIONS					
1	Average flow rate for PM ₁₀ (m ³ / min)	:	1.12		
2	Total volume of air sampled (m ³)	:	1610.112		
3	Period of Sampling, (Hr.)	:	23.96		

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter PM ₁₀ , ($\mu\text{g}/\text{m}^3$)	69	100	IS 5182 (Part 23) 2006
2.	Particulate Matter PM _{2.5} , ($\mu\text{g}/\text{m}^3$)	30.1	60	USEPA 40 CFR 50 Appendix L
3.	Sulphur Dioxide (SO ₂), ($\mu\text{g}/\text{m}^3$)	18	80	IS 5182 (Part 2) 2001
4.	Oxides of Nitrogen (NO ₂), ($\mu\text{g}/\text{m}^3$)	20.7	80	IS 5182 (Part 6) 2006
5.	Ammonia (NH ₃), ($\mu\text{g}/\text{m}^3$)	10.05	400	ETL/SOP/A-03
6.	Carbon Monoxide (CO), (mg/m^3)	ND (DL-1.14)	4	ETL/SOP/A-09
7.	Ozone (O ₃), ($\mu\text{g}/\text{m}^3$) for 1 Hr	26.4	180	IS 5182 (Part -IX) : 1974
8.	Lead (Pb), ($\mu\text{g}/\text{m}^3$)	ND (DL-0.01)	1.0	IS 5182 (Part -22) : 2004
9.	Nickel (Ni), (ng/m^3)	ND (DL-0.01)	20	ETL/SOP/A – 08
10.	Arsenic (As), (ng/m^3)	ND (DL-0.5)	6	APHA Method
11.	Benzene (C ₆ H ₆), ($\mu\text{g}/\text{m}^3$)	ND (DL-1)	5	IS 5182 (Part -11) : 2006
12.	Benzopyrine (BaP), (ng/m^3)	ND (DL-0.2)	1	IS 5182 (Part -12) : 2004
13.	Mercury as (Hg), ($\mu\text{g}/\text{m}^3$)	ND (DL-0.01)	-	ETL/SOP/A-15

Remarks: Analysed Parameters meet the Standards Limits as per NAAQS, Parameter no.13 is not covered NABL Scope.

DL- Detection Limit, ND- Not Detectable.

Manager Lab. Sr. Chemist

Authority Signatory





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TC-6015

TEST REPORT

Report No	ETL/ PNP/4078	Report Date	04.04.2023	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	4078
SAMPLE PARTICULARS					
1	Name of the Unit	:	M/s GVK Power (Goindwal Sahib) Ltd.		
2	Type of Industry	:	Thermal Power Plant		
3	Type of Sample	:	Ambient Air Monitoring (4 th Week)		
4	Sampling Point	:	Residential Colony		
5	Date of Sampling	:	24.03.2023 – 25.03.2023		
6	Purpose of Analysis	:	Self Monitoring		
7	Sample Collected by / Supplied by	:	By Lab Representative		
8	Method of Sampling	:	IS 5182 (P – 5) 1975		
OBSERVATIONS					
1	Average flowrate for PM ₁₀ (m ³ / min)	:	1.01		
2	Total volume of air sampled (m ³)	:	1393.194		
3	Period of Sampling, (Hr.)	:	22.99		
TEST RESULTS					
Sr. No.	Parameters	Results	Standard Limits	Protocol Used	
1.	Particulate Matter PM ₁₀ , ($\mu\text{g}/\text{m}^3$)	117.92	100	IS 5182 (Part 23) 2006	
2.	Particulate Matter PM _{2.5} , ($\mu\text{g}/\text{m}^3$)	36.05	60	USEPA 40 CFR 50 Appendix L	
3.	Sulphur Dioxide (SO ₂), ($\mu\text{g}/\text{m}^3$)	25.2	80	IS 5182 (Part 2) 2001	
4.	Oxides of Nitrogen (NO ₂), ($\mu\text{g}/\text{m}^3$)	13.90	80	IS 5182 (Part 6) 2006	
5.	Ammonia (NH ₃), ($\mu\text{g}/\text{m}^3$)	12.08	400	ETL/SOP/A-03	
6.	Carbon Monoxide (CO), (mg/m ³)	ND (DL-1.14)	4	ETL/SOP/A-09	
7.	Ozone (O ₃), ($\mu\text{g}/\text{m}^3$) for 1 Hr	26.05	180	IS 5182 (Part -IX) : 1974	
8.	Lead (Pb), ($\mu\text{g}/\text{m}^3$)	ND (DL-0.01)	1.0	IS 5182 (Part -22) : 2004	
9.	Nickel (Ni), (ng/m ³)	ND (DL-0.01)	20	ETL/SOP/A-08	
10.	Arsenic (As), (ng/m ³)	ND (DL-0.5)	6	APHA Method	
11.	Benzene (C ₆ H ₆), ($\mu\text{g}/\text{m}^3$)	ND (DL-1)	5	IS 5182 (Part -11) : 2006	
12.	Benzopyrine (BaP), (ng/m ³)	ND (DL-0.2)	1	IS 5182 (Part -12) : 2004	
13.	Mercury as (Hg), ($\mu\text{g}/\text{m}^3$)	ND (DL-0.01)		ETL/SOP/A-15	

Remarks: Analysed Parameters meet the Standards Limits as per NAAQS. Except P.M₁₀ Parameter no.13 is not covered
NABL Scope. DL- Detection Limit, ND- Not Detectable.

Dny
Manager Lab./ Sr. Chemist

Authority Signatory





ENVIROCHEM TESTING LAB & Research Centre

(GOVT. APPROVED LAB)

(An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified Lab)

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TC-6015

TEST REPORT

Report No	ETL/ PNP/ 43350	Report Date	27.03.2023	Doc No.	ETL/QF/7.8/01
Issue to:	Party's Ref No: As per agreement				
M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Work Order No: 29352 Period of Testing: 23.03.2023-27.03.2023				

SAMPLE PARTICULARS

1	Type of sample	:	ASH POND EFFLUENT
2	Point of Sample Collection	:	Settling pond (Ash Pond)
3	Date of sample collection/ received	:	22.03.2023
4	Purpose of analysis	:	Self Monitoring
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	5 Litre
7	Method of Sampling	:	IS 3025 (P - I) 1987

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol used
1.	pH	7.10	6.5 – 8.5	IS 3025 (P-11) 1983
2.	Total Suspended Solids, mg/L	12	100	IS 3025 (P-17) 1984
3.	Aluminium (as Al), mg/L	ND (DL-0.03)	Not Specified	IS 3025 (P-55) : 2003
4.	Oil & Grease, mg/L	1.6	20	IS 3025(P-39) 1991
5.	Arsenic (as As), mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-37) : 1988
6.	Copper (as Cu), mg/L	0.14	Not Specified	IS 3025 (P-42) : 1992
7.	Lead (as Pb), mg/L	ND (DL-0.05)	Not Specified	IS 3025 (P-47) : 1994
8.	Nickel as Ni, mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-54) : 2003
9.	Total Chromium as Cr, mg/L	ND (DL-0.01)	Not Specified	IS 3025 (P-52) : 2003
10.	Cadmium (as Cd), mg/L	ND (DL-0.003)	Not Specified	IS 3025 (P-41) : 1998
11.	Mercury as Hg, mg/L	ND (DL-0.001)	Not Specified	IS 3025 (P-48)
12.	Zinc as Zn, mg/L	0.23	Not Specified	IS 3025 (P-49) : 1994

Remarks: Standard Limits as per CPCB guidelines for Thermal Power Plants


Manager Lab. Sr. Chemist



- N 1. Samples shall be disposed off after 21 days issue of test report unless specified.
O 2. Results listed above related to the tested samples, Endorsement of the same is neither inferred nor implemented.
T 3. The test report shall not be reproduced full or in part & can't be used as proof in the court of law.
E 4. The test report should not be used in any advertising agency/media without the written approval of laboratory

