

**GVK****Ref No: GVKPGSL/PPCB/2021**

To,
The Environmental Engineer,
Regional Office, Punjab Pollution Control Board,
Plot no-164, Focal Point, Mehta Road,
Amritsar, Punjab – 147001

Date: 04.08.2021

Sub: Environmental Statement Report (FORM-V) for FY 2020-21 for 540 MW (2 X 270 MW) Coal Based Thermal Power Plant, M/s- GVK Power (Goindwal Sahib) Limited, Goindwal Sahib, District-Tarn Taran (P.B).

Ref: Environmental Clearance Letter no- J-13011/78/2008-IA (T) Dated 9th May 2008 and amended Environmental Clearance vide letter J-13011/78/2007-IA.II (T) Dated 19th February 2014, GOI, MoEF.

Sir,

This has reference to the cited Environmental Clearance and clause no. xvii under terms & herewith conditions issued by MoEF, New Delhi. We submit the Environment Statement Report for the Year 2020-21 of 2X270 MW Coal Based Thermal Power Plant near Goindwal Sahib by M/s. GVK Power (Goindwal Sahib) Limited, Goindwal Sahib, District-Tarn Taran, Punjab.

This is for your information and records please.

Thanking you with regards,

For M/s GVK Power (Goindwal Sahib) Limited

Vikas Chandra Shukla
Plant Head- (O&M)

Encl: Environmental Statement Report (2020-21)

GVK Power (Goindwal Sahib) Limited,
Goindwal Sahib- Kapurthala Road
Goindwal Sahib,
Distt: Tarn Taran – 143422, Punjab – India
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www.gvk.com
CIN : U40109TG1997PL C028483

ENERGY
RESOURCES
AIRPORTS
TRANSPORTATION
HOSPITALITY
LIFE SCIENCES

2X270 MW GVK POWER (GOINDWAL SAHIB) THERMAL POWER PLANT

ENVIRONMENTAL STATEMENT REPORT

OF

**GVK POWER (GOINDWAL SAHIB) LIMITED
(2X270 MW COAL BASED THERMAL POWER PLANT)
NEAR GOINDWAL SAHIB DIST TARN TARAN, PUNJAB**

FOR FINANCIAL YEAR ENDING 31ST MARCH 2021

SUBMITTED

TO

**REGIONAL OFFICE,
PUNJAB POLLUTION CONTROL BOARD, AMRITSAR**

GVK Power (Goindwal Sahib) Ltd.

FORM – V
(See rule 14)

Environmental Statement for the Financial Year ending the 31st March 2021

PART – A

(i)	Name & Address of the Owner / Occupier of the Industry Operation or Process	Vikash Chandra Shukla GVK Power (Goindwal Sahib) Limited Kapurthala Road, Near Goindwal Sahib, Dist-Tarn Taran, Punjab-143 422 Telephone No.-01859-225102, Fax No.-01859-225113
Operation or Process		
(ii)	Industry Category Primary (STC CODE) Secondary (SIC CODE)	Primary Category (Large scale)
(iii)	Production Capacity	2X270 MW Thermal (Coal Based) Power
(iv)	Year of Establishment	COD is achieved for both the units. Unit-1 : 06.04.2016. Unit-2 : 16.04.2016.
(v)	Date of last Environmental Statement Submitted	9 th May, 2020

PART – B

Water & Raw Material Consumption

i. Water Consumption, m3/day:

Process	-	813
Cooling	-	18997
Domestic	-	83



For GVK Power (Goindwal Sahib) Ltd.

Vikash
(Authorized Signatory)

Name of the Product	Process Water Consumption per unit of Product Output	
	During the Previous Financial Year (2020-21)	During the Current Financial Year (2021-22)
Electricity	0.000101435 m3/KWH	0.00009139 m3/KWH (till june,2021)

Remarks: Remarks: Plant has been operational only for 160 days in FY '20-'21.

i. Raw Material Consumption (MT):

Name of the Raw Material	Name of Product	Consumption of Raw Material per Unit Product Output			
		During the Previous Financial Year (2020-21)	Consumption per unit	During the Current Financial Year (2021-22)	Consumption per unit
Coal (MT)	Electricity	854497 MT	0.666 KG/KWH	262056 MT	0.680 KG/KWH
LDO (KL)	Electricity	1005.27 KL	0.784 ml/KWH	537.26 KL	1.393 ml/KWH
HFO (KL)	Electricity	Nil	Nil	Nil	Nil
Generation units		1282703000 MWH		385617 MWH	

Remarks: FY 2021-22, the data is considered till June, 2021.

PART - C

Pollutant Discharged to Environment / Unit of Output-

(Parameter as specified in the consent issued)-

Sr. No.	Pollutants	Quantity of Pollutants Discharged (Mass / day)	Concentrations of Pollutants in discharged (Mass / Volume)	Percentage of variation from prescribed standard
1	Water	Zero Liquid Discharge technology is adopted as well as maintained properly. The wastewater generated from process activity of the plant is being treated into ETP and thereafter being reused into ash handling system. Sewage generated from residential township is treated in STP and treated waste water is being used for green belt as well as Green Belt Development purpose. ETP & STP test report is enclosed as Annexure-I (ETP & STP sampling and testing was carried out by PPCB approved Lab. ITC, Panchkula.)		

For GVK Power (Goindwal Sahib) Ltd.

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(Authorized Signatory)

2	Air	<p>To monitoring the ground level concentration of PM 2.5, PM10, CO, NOx, SO2 and Hg etc., we have established ambient air quality monitoring stations (not less than four) as suggested by PPCB officials. In addition to that, we have established 4 nos of locations in surrounding villages of the plant.</p> <p>High Efficiency Electrostatic Precipitators (ESPs) has installed to ensure that particulate emission does not exceed 50 mg/Nm³.</p> <p>275m height bi-flue stack is constructed with online Continuous Emission Monitoring System for monitoring of boiler flue gases to comply the norms prescribed by Board/MoEF.</p> <p>Online Continuous Emission Monitoring System is installed with well connected to the PPCB/CPCB server for supplying the data.</p> <p><i>Stack emission and Ambient Air Quality Monitoring report is attached As Annexure-II</i></p>
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PART - D

Hazardous Waste:

(as specified under Hazardous Waste Management and Handling Rules, 1989)

Hazardous Waste	Total Quantity (Kg)	
	During the Previous Financial Year	During the Current Financial Year
(a) From Process	6.780KL spent oil	NIL
(b) From Pollution Control Facilities.		

PART - E

Solid Wastes:

Solid Waste	Total Quantity (MT/ANNUM)	
	During the Previous Financial Year (2020-21)	During the Current Financial Year (2021-22)
(a) From Process	32751 MT (Bottom ash)	NIL
(b) From Pollution Control facilities	255740 MT (Fly ash)	NIL

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For GVK Power (Goindwal Sahib) Ltd.

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(Authorized Signatory)

(c)	1. Qty. recycled or reused within the unit.	Nil	Nil
	2. Sold	Nil	Nil
	3. Disposed/Utilized (Ash)	244468 MT (Fly ash utilized in Cement/Bricks manufacturing units)	NIL (Fly ash utilized in Cement/Bricks manufacturing units)

PART – F

PLEASE SPECIFY THE CHARACTERISATIONS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.

Hazardous Waste: We have tied up with M/S NIMBUA GREENFIELD (PUNJAB) LIMITED for lifting and disposed off Hazardous waste in appropriate manner with complying the Hazardous waste Authorization under Rule 5 of the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008. As we have been granted HZW authorisation by Punjab Pollution Control Board, Patiala letter vide No-HWM/renew/TRT/2019/8973004, Dated 21-02-2019 with validity period of five years till 30-09-2023.

Solid Waste (Fly ash): Fly ash generated from both units stored in silos from where it has been transported in closed container/Ash Bulker to utilised in manufacturing of value added products. We have made tie up with M/s Ambuja cement and some others fly ash Bricks Manufacturing units for 100% utilization of fly ash. We achieved 100 % utilization of fly ash since inception of the plant at GVK Power Ltd. It leads to reducing the raising of limestone from mines and fossil fuel consumption and ultimately resulting less generation of environmental pollutants. Substantial quantity of electrical and thermal energy has also been saved has been utilized by cement / Brick manufacturer.

Bottom ash is being discharged into ash pond (Scientifically designed) in slurry form by HCSD (High Concentration Slurry disposal) method.

Jays



For GVK Power (Goindwal Sahib) Ltd.

(Authorized Signatory)

PART – G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION.

Please refer to Annexure-III.

PART – H

ADDITIONAL MEASURES / INVESTMENT PROPOSALS FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT POLLUTION, PREVENTION OF POLLUTION.

Please refer to Annexure-IV.

PART – I

MISCELLANEOUS - Any other Particulars for Improving the Quality of the Environment.

Details of Environment Management Programs for improving the quality of environment are as under the Environment Cell.

- The Company has installed APCD's as ESP & 275 meters chimney to control the Particulate matter and Water Pollution Control Units as STP & ETP for the treatment of domestic sewage and effluent generated from the various units of industry. All these equipments conform to the emission levels within the standards laid down by the MoEF/Central Pollution Control Board.

➤ **Environmental Cell -**

The environment cell is equipped with competent and skilled persons guided by senior most executives along with the latest and advanced monitoring and analytical equipments.

Environment management department is equipped with Ambient Air Quality monitoring instrument along with stack monitoring kit for the monitoring of stack. All the air samples (Ambient and Stack) will be collected and analysed in our dedicated lab.

We have water testing latest equipments. The monitoring and analysis will be carried out by skilled and trained person only. All the required parameters for water and wastewater prescribed by Board/MoEF shall be considered for analysis in lab.

For GVK Power (Goindwal Sahib) Ltd.



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- Treated effluent is being reused for Horticulture purpose.
- Separate electric metering arrangement has been installed at all pollution control devices.
- Comprehensive Rural Development Programme (C.R.D.P) under Corporate Social Responsibility (C.S.R)-
As per consultation with State Government of Punjab 100 houses for economically weaker section are already built at Manikhera. A model Railway Station is already developed at the cost of about **Rs. 50 Crores** at Khadoor Sahib, which will be very useful for the local public of that area.

Jan



For GVK Power (Goindwal Sahib) Ltd.

(Authorized Signatory)

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION.

Keeping in the mind as pollution abatement measures towards conservation of natural resources, we have installed or under the installation process of some units/systems to minimize the impact on natural resources that mentioned below and the same shall be implemented as and when plant is operational.

Following measures have been adopted for abatement of pollution, conservation of natural resources:-

1. Utilization of fly ash:

Fly ash generated from both units stored in silos from where it has been transported in closed container/Ash Bulker to utilised in cement manufacturing a tie up made with Ambuja cement and some others fly ash Bricks Manufacturing units. It leads to reducing the raising of limestone from mines and fossil fuel consumption and ultimately resulting less generation of environmental pollutants. Substantial quantity of electrical and thermal energy has also been saved.

2. Use of STP treated water for the plantation purpose:

We have latest and advance technology based Sewage Treatment Plant and adopted **Zero Liquid Discharge (ZLD)**. The STP comprises of:

1. Primary collection tank
2. Aeration Tanks
3. Settling tank
4. Chlorine Contact Tank
5. Pressure Sand Filter and
6. Activated Carbon Filter
7. Treated water holding tank
8. UV system

The sewage collected from the different part of colony is being collected in raw sewage tank for homogenization of raw sewage water. Then this homogenized sewage water

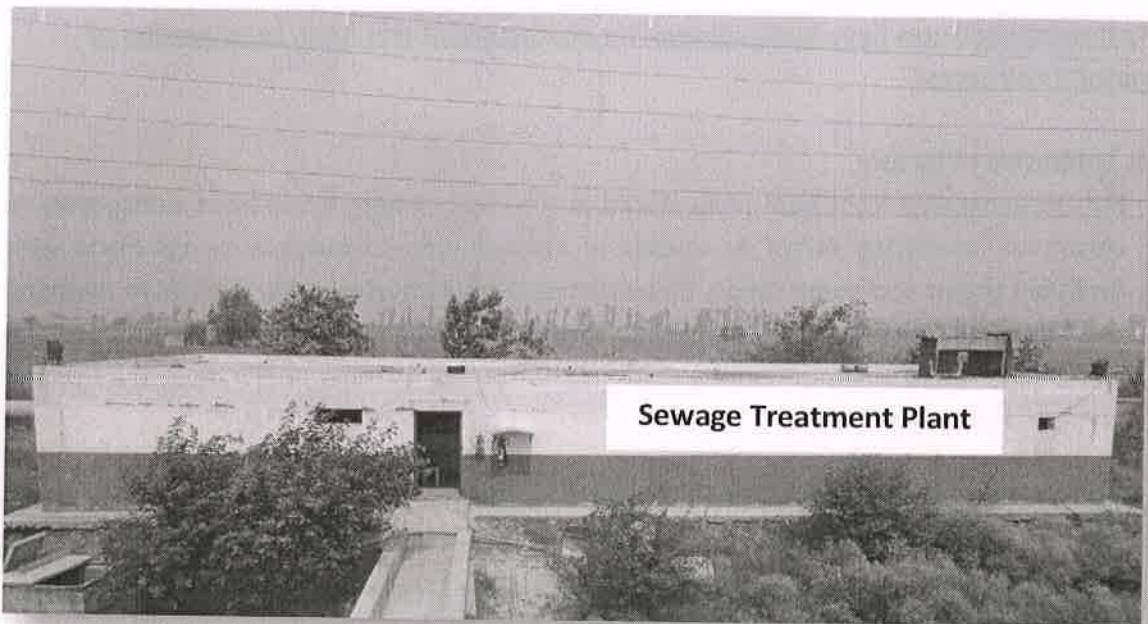
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For GVK Power (Goindwal Sahib) Ltd.

Vikas
(Authorized Signatory)

comes to Aeration tank for sufficient aeration of sewage and then conveyed to settling tank where the suspended particle is being settled down through natural gravity. After this clarified water collected in intermediate holding tank and sludge settled at the bottom of clarifier is transported to sludge drying beds. Now the water from the intermediate tank is passed through chlorine contact tank and then pressure sand filter and then activated carbon filter ultimately collected in the treated water holding tank and bring down the treated water quality within permissible limit. The treated water is being reused in horticulture, green belt development & STP sludge is being used as manure for Green Belt Development.



3. Use of ETP treated water for dust suppression and ash disposal

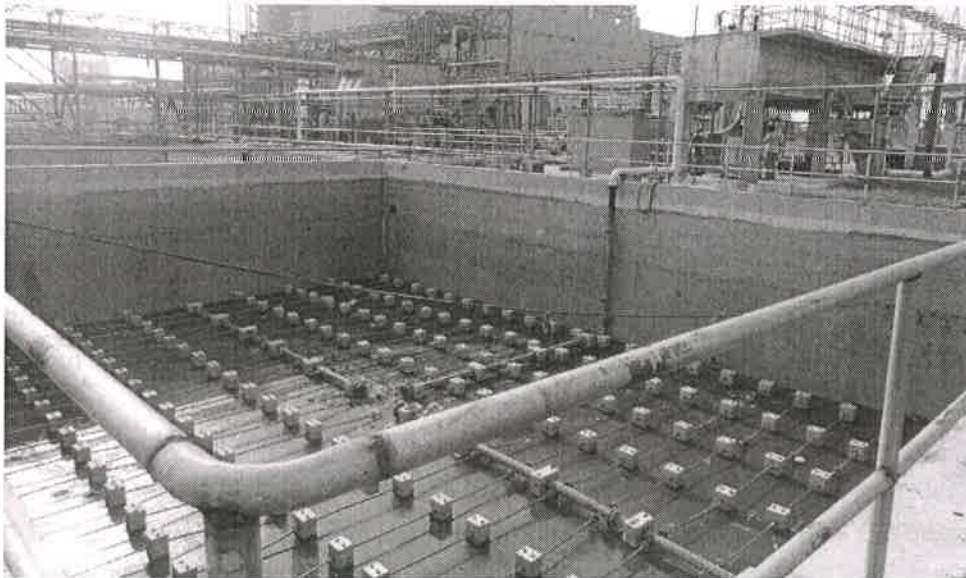
The Effluent treatment plant has installed to treat the effluent generated from 2 X 270 MW coal base Thermal Power Plant of M/s. GVK Power (Goindwal Sahib) Ltd. at Goindwal Sahib Punjab and adopted **Zero Liquid Discharge (ZLD)**. Treated water will be reused for dust suppression and Ash handling System, thus reducing the requirement of fresh water.

Jon



For GVK Power (Goindwal Sahib) Ltd.

(Authorized Signatory)



Effluent Treatment Plant

We are not lettering out the treated effluent out of plant premises and Treated effluent is being reused for dust suppression and Ash handling system at plant site only, thus reducing the requirement of fresh water.

Total cost towards the installation of ETP & STP is spent approx. Rs. 19.00 Crores.

Jain



For GVK Power (Goindwal Sahib) Ltd.

Vijay D.

(Authorized Signatory)

Online /offline effluent monitoring system-

I- **Online Continuous effluent Monitoring System (OCEMS)** is installed at both ETP & STP to conform the discharge standards of parameters (pH, TSS, BOD, COD and Oil & Grease) prescribed by CPCB/PPCB/MoEF. In addition to that, **one CCTV camera is installed at discharge point of treated effluent** for monitoring purpose and both OCEMS/CCTV Camera are well connected with CPCB/PPCB web portal to transmit the real time monitoring data for the same as directed by Board.

II- Offline monitoring-

We have engaged NABL certified/ PPCB approved Laboratories namely ETL Lab, Panipat, H.R for sampling and testing of treated effluent on monthly basis.

Additionally, we are testing the effluent on daily basis at our own laboratories which is certified by NABL for taking corrective action on time if any deviation.

4. Air Pollution Control Measures-

In order to regulate the air pollution at our industry all necessary equipment's has been installed adequately as and where it is required as per Clearances granted by MoEF and PPCB (Punjab Pollution Control Board) as mentioned under

- To control the air emission after combustion of coal, one twin flue RCC chimney of 275m height bi-flue stack is constructed to ensure effective dispersion of emission into the atmosphere.
- Air pollution control system as High Efficiency Electrostatic Precipitators (ESPs) have installed in 2 nos i.e one for each boiler to ensure that particulate emission does not exceed 50 mg/Nm³ from each unit as norms specified by MoEF. Therefore the impact due to particulate emission due to burning of coal leading to rise of suspended particulate concentration in the ambient air is found to be negligible.
- From ESP hoppers, the dry fly ash is conveyed into closed vessels i.e ash silos. Two nos. of ash silos is constructed for each unit as per qty. generated from plant. From there, ash disposed through closed container (ash bulkers) to the end users as Cement manufacturing units.
- For processing emission control, adequate dust controlling devices as bag filters is installed as and where required.
- Fugitive dust control-

For GVK Power (Goindwal Sahib) Ltd.

(Authorized Signatory)

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For control of fugitive dust, water spray arrangement has been provided to spray water all around the coal stock piles to suppress the dust and wet the coal pile compacting to minimizing the dust nuisance.

To control the fugitive emission from roads at plant, Regular sprinkling and spraying of water is being done through dedicated water tankers for control of any type of fugitive dust arises from roads.

Online/Offline air emission monitoring system.

- I- **Online Continuous Emission Monitoring System** is installed to each boiler for monitoring of boiler flue gases parameters namely SOX, NOX, CO & PM (Particulate Matter) and Temperature, Pressure & Flow to conform the norms prescribed by Board/MoEF.

In addition to that, **one CCTV camera is installed** for stack monitoring purpose and both OCEMS/CCTV Camera are well connected with CPCB/PPCB web portal to transmit the real time monitoring data for the same as directed by Board

- II- **Offline monitoring system-** Additionally, we have installed 8 nos. of Monitoring stations out of that **4 nos inside the plant premises** and **4 nos in nearby villages namely hansawal, mundi , Goindwalsahib and Verowal with consultation of PPCB.** We have engaged PPCB authorized Laboratories for continuous monitoring of ambient air quality at all locations. *This proactive approach is for taking corrective action if any deviation found in the results.* 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.

5. **Ash water recovery system** has installed for Ash handling system reducing the requirement of fresh water for ash disposal.

6. Implementation of Rainwater harvesting system is under progress.

7. The treated effluent is being recycled resulting into conservation of Natural Resources (Fresh Water).

Jon



For GVK Power (Goindwal Sahib) Ltd.

Veikal P.
(Authorized Signatory)

8. Extensive plantation in and around the plant:

Tree plantation is an integral part to the environment management plan of the industry. The plantation drive is carried out throughout the year. We have dedicated team of skilled horticultural worker for plantation work and arboriculture with special reference to high density plantation (HDP) and green belt development program at our plant under the supervision of experienced person (Horticulture Officer).

We have the green belt coverage area of more than 33% inside the plant and colony premises. The species planted preferred for the plantation having following characteristics-

- 1- Fast growing with thick canopy cover.
- 2- Adequate height with longer duration of foliage.
- 3- Perennial and evergreen.
4. Dust tolerance
5. Low water requirement

As 100% of green belt development work has been completed with different species of plants within and around the plant premises with maintaining of tree density not less than 2500 per hectare with survival rate not less than 80%.

We have also planted some fruit bearing species like Mango (*Mangifera Indica*), Plum (*Prunus*), Pear (*Pyrus*), Peach (*Prunus Persica*) & Pomegranate (*Punica granatum*) etc to maintain the Bio diversity and ecological balance.

We have developed green belt in scientific manner as per CPCB guidelines. A curtain of trees covering a width of 80-100 m along periphery of plant is planted. The green belt is designed as

A- Primary Zone

This zone is the nearest one to the emission sources. Where the ambient pollutant concentration is higher. The trees planted here have dense spreading canopy. The trees is closed set with a spacing of 2-3 m between trees and width of this zone is 20-30m.

John



For GVK Power (Goindwal Sahib) Ltd.

(Authorized Signatory)

B- Secondary Zone

Outer to the above primary zone , 20-30 m width wide strip of land is planted with trees which are moderately tolerant to the pollutants but are endowed with first growing, dense foliage canopy.

C-Curtain Zone

All along the boundary of the plant premises, a 10-40m width land strip is planted with trees which are tall in nature and evergreen inhabit. This zone act as barrier and as far as possible check the pollutants from going to and contaminating other areas beyond the plant premises. The spacing between the trees is more than 1 m with an average density 2500 trees/ha.



For GVK Power (Goindwal Sahib) Ltd.



(Authorized Signatory)

PHOTOGRAPHS OF EXISTING GREENBELT



East side of the plant



West side of the plant

Jays



For GVK Power (Goindwal Sahib) Ltd.

(Authorized Signatory)



North side of the plant



South side of the plant

102



For GVK Power (Goindwal Sahib) Ltd.

Nikesh D.

(Authorized Signatory)



SW side of the plant



SE side of the plant

Jan



For GVK Power (Goindwal Sahib) Ltd.

(Authorized Signatory)

9. Installed Solar Power Plant-

GVKPGSL is producing electricity by using fossil fuel as coal. In addition to that, GVKPGSL has initiated producing green energy from non-conventional resources of energy as Solar energy. We have installed more than 20 kw Solar Power Plant at our plant site to reduce the air emission and to save the natural resources. We have a plan to expand the existing capacity next year onwards. Some pics of Solar Power Plant is depicted below.



10. Scheduled maintenance and monitoring of Pollution Control Devices

Scheduled maintenance and monitoring of all Air Pollution Control Device's (APCD'S) like Bag Filters and ESP as well as water pollution control units are being regularly undertaken to ensure their efficient operations in order to keep emissions level within the prescribed limit.

Jan



For GVK Power (Gondwal Sahib) Ltd.

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(Authorized Signatory)

11. Good House keeping

Following measures have been taken for good housekeeping in around the Plant:-

- All the raw materials are stored in yard in proper manner to avoid fugitive emission.
- The conveyor belts are fully covered.
- Fly ash is being stored in silos.
- Water sprinkling for dust suppression on the road and other dust generation points in the plant is being done.
- All the roads of colony have been concreted as well as plantation has been done by the road side.
- Only covered trucks/Bulker is allowed to carry fly ash.
- Development of extensive green belt in the plant.



For GVK Power (Goindwal Sahib) Ltd.



(Authorized Signatory)

ADDITIONAL MEASURES / INVESTMENT PROPOSALS FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT POLLUTION, PREVENTION OF POLLUTION

Additional measures being taken for prevention of Pollution are as under:

- I. 100% of green belt development work has been completed with different varieties of plants within and around the plant premises with maintaining of tree density not less than 2500 per hectare with survival rate not less than 80% as prescribed in Environmental Clearance granted by MoEF, New Delhi
- II. Scheduled maintenance and monitoring of all Air Pollution Control Device's (APCD'S) as well as Water Pollution Control Units are being regularly undertaken to ensure their efficient operations in order to keep emissions level within the prescribed limit.
- III. Regular sprinkling and spraying of water is being done through dedicated water tankers for control of any type of fugitive dust arises from roads. Repairing of internal road Inside the plant to reduce fugitive dust emission.
- IV. The STP & ETP treated water is being reused in horticulture, green belt development and dust suppression & ash disposal system respectively and STP sludge is being used as manure for Green Belt Development.
- V. Good housekeeping practices are being followed to avoid dust deposition on roads
- VI. As awareness program, slogans on Pollution control, environmental protection, tree plantation and energy conservation to be displayed at the prominent location in green background and white printing.
- VII. Awareness programs like plantation activities; speech/essay competition was organized among children, families and Employees on the occasion of 5th June (*World Environment Day*). An report on Celebration of World Environment Day 5th June, 2021 enclosed. Emphasis is given for devising concrete; action-oriented activities that serve as worthwhile solutions to the issue/ problem related to the environment. .

Jon



For GVK Power (Gomdwal Sahib) Ltd.

Vikash
(Authorized Signatory)



**ECOSYSTEM RESTORATION IS
NEEDED TO BEND THE CURVE
ON BIODIVERSITY LOSS.**

Join #GenerationRestoration



**WORLD
ENVIRONMENT
DAY**



50
1972-2022



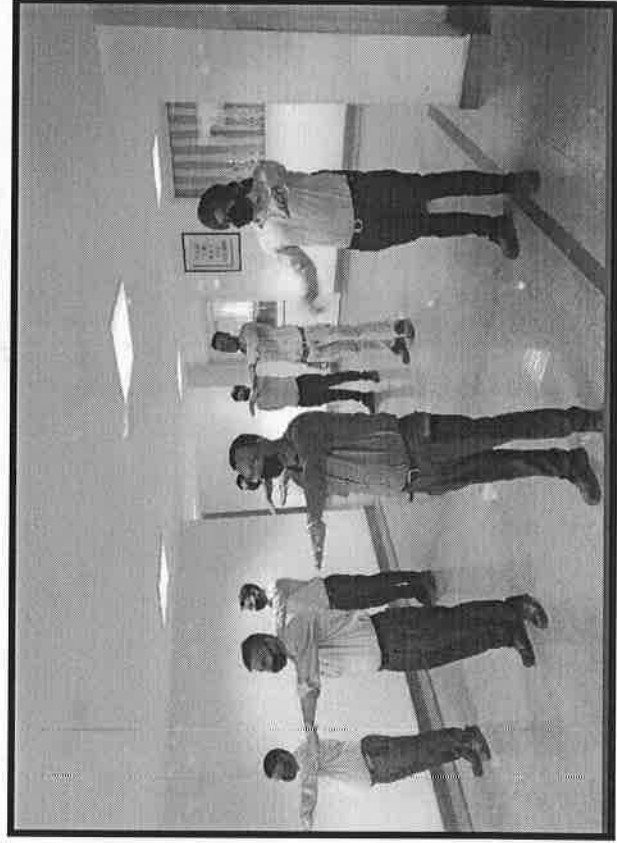
WORLD ENVIRONMENT DAY 5th JUNE, 2021

GVK POWER GOINDWAL SAHIB LTD.

Taking Environment Pledge at work Place



*Lets Environment Pledge
together for planting tree*



Taking Environment Pledge at



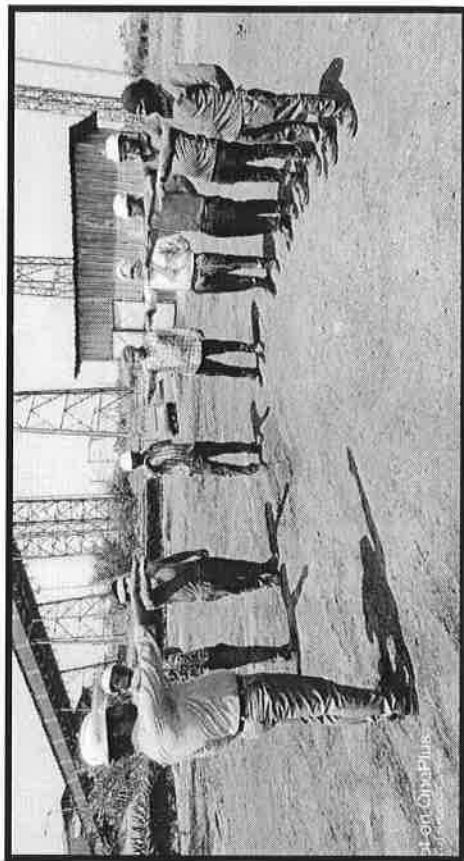
work Place



Taking Environment Pledge at work Place



Taking Environment Pledge at work Place





Tree Planting Campaign at GVKPGSL



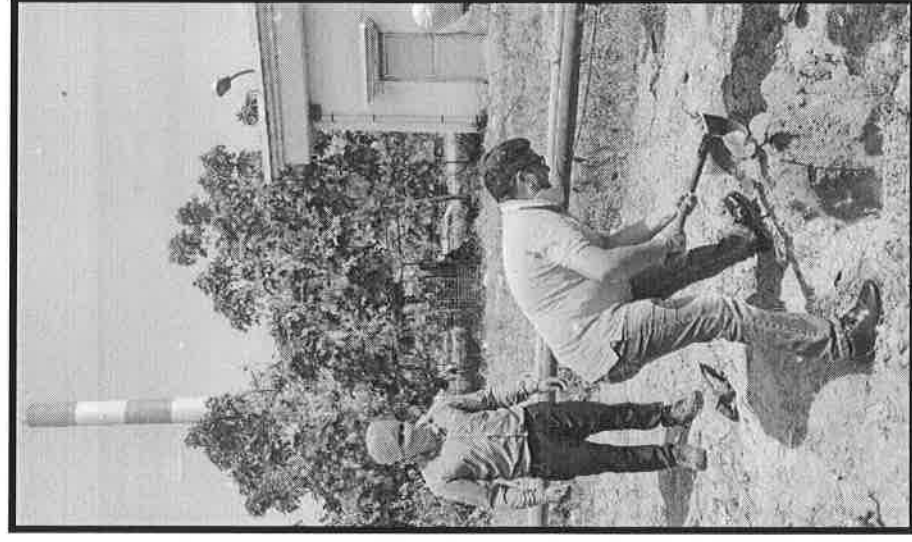
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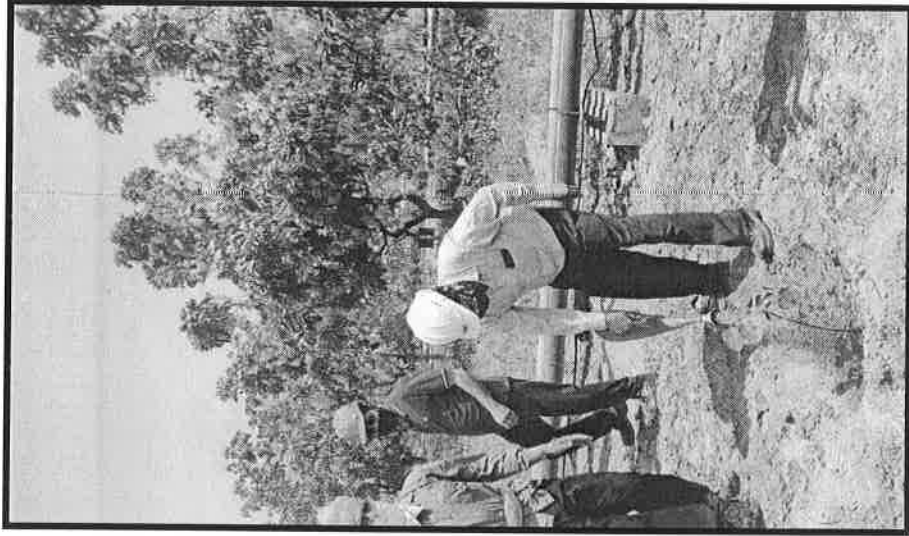
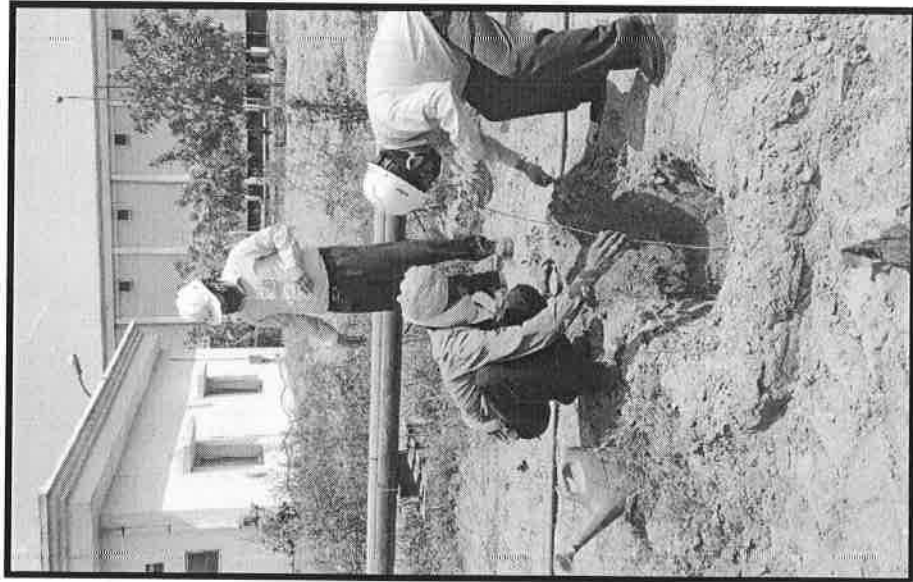
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Tree Planting Campaign at GVKPGSL



Tree Planting Campaign at GVKPGSL



GVKPGSL



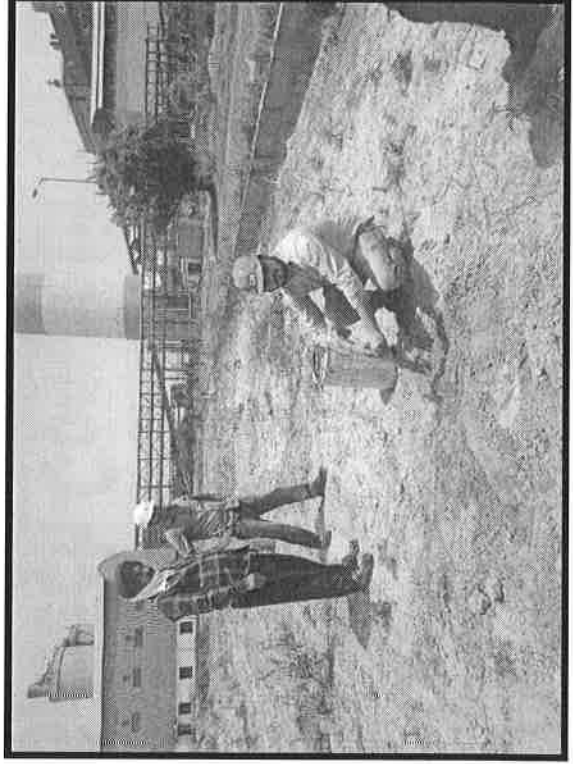
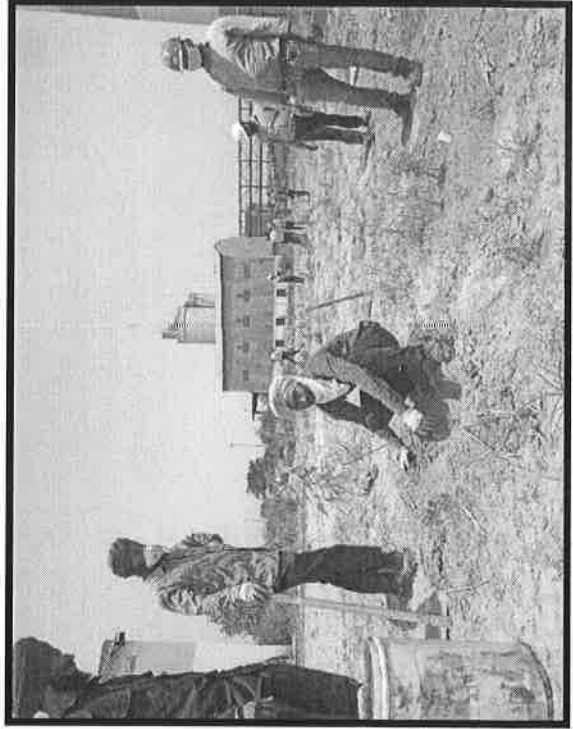
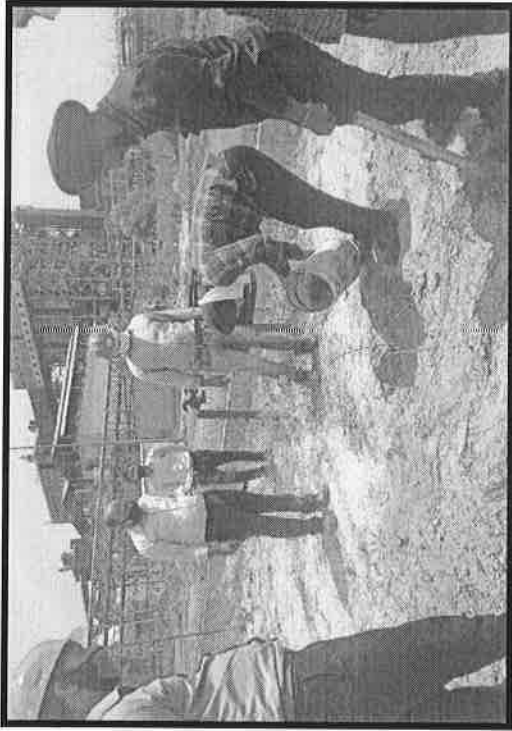
Tree Planting Campaign at GVKPGSL



Tree Planting Campaign at GVKPGSL



Tree Planting Campaign at GVKPGSL





GVK POWER (GOINDWAL SAHIB) LIMITED, GOINDWAL SAHIB

World Environment Day , 5th June 2021

Speech Competition

among

GVK Employee's Children



Conducted Environment awareness programme through Speech Competition from home via video message to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employee's children



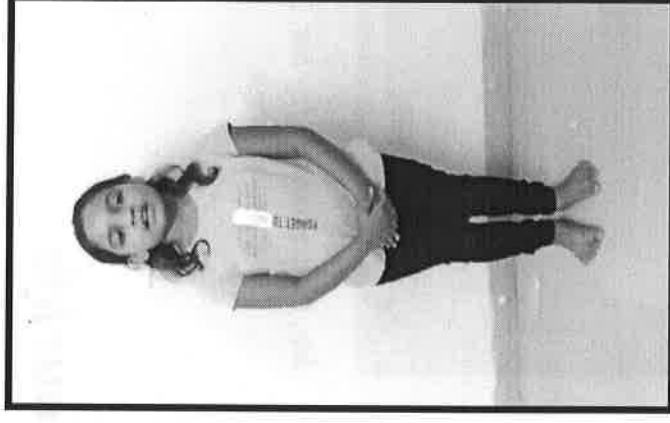
Mr. Anshuman Chouhan S/o
Mr. D S Chouhan (*1st prize winner*)



Miss. Amrita Padhy D/o- Mr.
Chintamani Padhy (*2nd prize winner*)



Miss. Sanvi Gaikwad D/o-
Mr. Sudhir Gaikwad (*3rd prize winner*)



Miss. Supriya tiwari D/o- Mr.
Awdhesh Tiwari

***Topic- Importance of plants & trees in our life
Class 2nd to 4th***



Conducted Environment awareness programme through Speech Competition from home via video message to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employee's children



Mr. Devik shukla S/o Mr. Vikas shukla



Mr. K Ashwin S/o- Mr. S. Kaliswaran



Mr. Riyan Roy S/o- Mr. Raja Roy

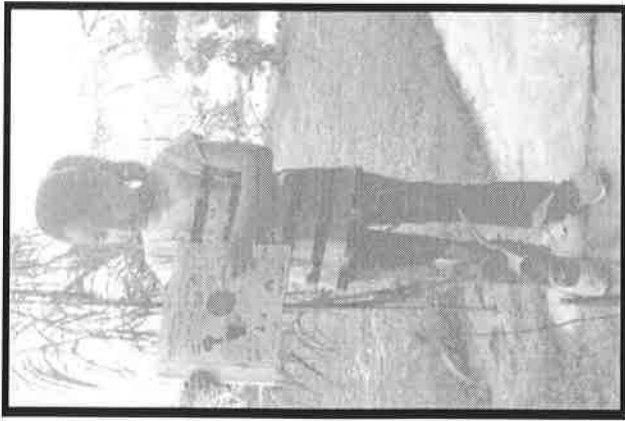


Mr. Rudranaath S/o- Mr. Shiv Basant singh

Topic- Importance of plants & trees in our life
Class 2nd to 4th



Conducted Environment awareness programme through Speech Competition from home via video message to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employee's children



Miss. Partiksh Upadhayay
D/o Mr. D P Upadhayay



Mr. Ikswanku S/o Mr.
Lokendra kumar

Topic- Importance of plants & trees in our life
Class 2nd to 4th

Conducted Environment awareness programme through Speech Competition from home via video message to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employee's children



Miss Prajakta Chakravorty
D/o Ananjyoti Chakravarty
(1st Prize Winner)



Mr. Abhinav verma
S/o Praveen verma
(2nd Prize winner)



Miss Aadiyaa Tiwari
D/o Awadesh Tiwari
(3rd prize Winner)



Mr. Aadhar Bhattacharya S/o
Biplab Bhattacharya

Topic- ECOSYSTEM RESTORATION

Class 5th to 8th



GVK POWER (GOINDWAL SAHIB) LIMITED, GOINDWAL SAHIB

World Environment Day , 5th June 2021

Essay Writing Competition

among

GVK Employees & Family



Conducted Environment awareness programme through Essay Writing Competition from home via Sharing images to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employees and their Families

COVID-19's impacts (Positive & Negative) on Environment

Due to the unusual outbreak of COVID-19, almost every big and small city and village in the affected countries like China, U.K, India, Australia and many more. The pandemic has displayed its contrasting consequences on human civilization, in the sense that, on one hand, it has caused worldwide panic situation, but created a very positive impact on the world environment.

1. Positive environmental impacts:

1.1. Reduction of air pollution and GHGs emission

As industries, transportation and companies have closed down, it has brought a sudden drop of greenhouse gases (GHGs) emissions. It was estimated that nearly 50% reduction of N_2O and CO_2 occurred due to the shutdown of heavy industries.

1.2. Reduction of water pollution

Water pollution is a common phenomenon of a developing country like India and Bangladesh, where domestic and industrial wastes are dumped into rivers without treatment. During the lockdown period, the major industrial sources of pollution have shrunk or completely stopped, which helped to reduce the pollution.

1.3. Ecological restoration and assimilation of tourist spots

Due to the outbreak of COVID-19 and local restrictions, the number of tourists has reduced in the tourist spots around the world. As a result of restriction, the color of water is changed, which usually remain turbid because of swimming, bathing, playing and riding motorized boats. Nature gets a time to assimilate human annoyance.

2. Negative environmental effects:

2.1. Increase of biomedical waste generation

Since the outbreak of COVID-19, medical waste generation is increased globally, which is a major threat to public health and environment. Treatment of huge number of

patients, and disinfection purpose lots of infectious and biomedical wastes are generated from hospitals. Such a sudden rise of hazardous waste and their proper management has become a significant challenge to the local waste management authorities.

2.2. Safety equipment use and haphazard disposal

Since the outbreak of COVID-19, the production and use of plastic based PPE is increased worldwide. However, due to lack of knowledge about infectious waste management, most people dump these (e.g., face mask, hand gloves etc.) in open places and in some cases with household wastes leads to increase in environmental pollutants worldwide.

Way Forward

The reduced pollution levels and replenished wildlife is a silver-lining amidst COVID-19 Crisis. It is an eye-opener for mankind but this has come at a major humanitarian cost, taking a toll on both human life and economy. A long-term vision with a targeted stimulus towards sustainable goals is the need of the hour.

Topic- COVID 19 IMPACTS ON ENVIRONMENT

Mr. Sashwat Mishra (1st Prize winner)

Conducted Environment awareness programme through Essay Writing Competition from home via Sharing images to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employees and their Families

COVID-19 IMPACT ON ENVIRONMENT

The Covid-19 pandemic has created a very tense situation all over the world. There was a time when people could go anywhere they wanted to and whenever they needed to but now a person has to think twice before taking the next step as it has become a life and death situation.

The pros are people all over the world are now following proper hygiene by frequently washing their hands, wearing a nose mask when meeting others, getting the house and office premises cleaned on a regular basis. The Work from Home concept has led to people staying indoors most of the time thereby decreasing the vehicle pollution and not littering the environment thereby making it clean and green.

However, the cons outnumber the pros as a lot of people have been infected with this virus and having to be hospitalized. This has in turn led to hospitals being totally occupied all over and new patients are unable to be admitted. A lot of deaths have also taken place creating a void in their households. The lockdown situation has also impacted the economy and livelihood of people as many have been rendered jobless due to this pandemic.

Looking on the bright side, people are getting vaccinated day by day and hopefully by following proper Covid protocol we should be rid of this virus and going back to our normal lives very soon.

Topic- COVID 19 IMPACTS ON ENVIRONEMENT

Mr. Mrinaal Abraham (2nd Prize winner)

Conducted Environment awareness programme through Essay Writing Competition from home via Sharing images to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employees and their Families

COVID-19 IMPACTS ON ENVIRONMENT

A) POSITIVE IMPACT:

- ❖ **Air Quality:**
 - Air quality improved largely because of a reduction in road traffic, air traffic, and factory emissions of carbon dioxide (CO₂), Nitrogen oxide (NOx), ozone, and particulate matter formation.
- ❖ **Water Quality:**
 - As the majority of industries have reduced activities, the water consumption of the industrial sector has decreased to about 20-30%.
 - Water bodies have also been clearing and the rivers Yamuna and Ganga have seen significant improvement.
- ❖ **THE WILDLIFE IS FLOURISHING:**
 - The Intergovernmental Panel on Climate Change (IPCC) predicted a 1.5 deg.C average rise in atmospheric temperatures.
- ❖ **DECREASING DEMAND FOR OIL:**
 - Due to the decrease in fuel demands for factories and travel, there has been a sharp decline by 25,000 barrels a day in the first quarter of 2020, due to the pandemic.
 - As combustion of fossil fuels is one of the leading cause of pollution, this decrease is a positive sign for the environment.

A line of oil can be contaminated / without litres of water

 - Oil pollution also harms animals and insects, disrupts the food chain, and prevents photosynthesis in plants.
 - Apart from its effect on wildlife, oil contamination can make water unusable for irrigation and damage irrigation plants.
- ❖ **THE VEGETATION IS GROWING BETTER:**
 - Due to less human interference, plants are exposed to better air quality and clean water.
 - The amount of oxygen and other nutrients required for their growth are not polluted and hence allow plants to grow and harvest healthy produce which is essential for improving the food cycle of the planet.

B) NEGATIVE IMPACTS OF THE PANDEMIC ON THE ENVIRONMENT:

- ❖ **INCREASING NON-RECYCLABLE WASTE:**
 - With increasing home deliveries during the lockdown, meals and online shopping surged which requires a lot of plastic packaging.
 - Due to an increase in health concerns, food retailers have resumed using single-use plastic bags at checkout points instead of reusable paper bags which was slowly becoming a norm before the pandemic.
 - Production and disposal of surgical masks, gloves, protective equipment, and body bags have increased due to the COVID-19 crisis but all the waste generated ends up adding on the landfills and the environment.
- ❖ **INCREASING ORGANIC WASTE:**
 - Due to a sharp decline in the availability of cargo transportation services, the export and imports of various essential commodities have come to a standstill.
 - Severe cuts in agriculture and fishery export levels have led to wastage of large quantities of produce.
- ❖ **ECOSYSTEM AT RISK – ILLEGAL DEFORESTATION, FISHING, AND WILDLIFE:**
 - Environmental protection workers at national parks, land, marine conservation zones were required to stay at home during lockdown resulting in leaving these areas unmonitored.
 - The decline in ecotourism activity has led to an increase in unemployment in the regions frequented by tourists hence, to manage their income, there has been a rise in illegal deforestation, fishing, and wildlife hunting.
- ❖ **WASTE MANAGEMENT IS GETTING DIFFICULT:**
 - Garbage contaminated with Medical waste has increased.
 - Many local waste recycling centres have suspended their activities even the fear of virus circulation in the recycling centre.

Topic- COVID 19 IMPACTS ON ENVIRONNEMENT

Mr. Arup Pandit (3rd Prize winner)

Conducted Environment awareness programme through Essay Writing Competition from home via Sharing images to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employees and their Families

NEGATIVE AND POSITIVE IMPACTS OF COVID-19 ON ENVIRONMENT

INTRODUCTION

The outbreak of coronavirus first emerged at the end of December 2019, from the Hubei province, located in central China. It spread rapidly, and was declared as an international public health emergency in the early months of 2020. It has caused a global health crisis, with millions of people affected. The global outbreak of this deadly disease is affecting every part of human life, including the physical world. The outbreak means to control the spread of the virus and the outbreak of coronavirus activities have significant effect on the environment.

Coronavirus outbreak has led to pandemic situations. It has led to a global health crisis, with millions of people affected. The global outbreak of this deadly disease is affecting every part of human life, including the physical world. The outbreak means to control the spread of the virus and the outbreak of coronavirus activities have significant effect on the environment.

Coronavirus outbreak has led to pandemic situations. It has led to a global health crisis, with millions of people affected. The global outbreak of this deadly disease is affecting every part of human life, including the physical world. The outbreak means to control the spread of the virus and the outbreak of coronavirus activities have significant effect on the environment.

NEGATIVE IMPACTS

I. INCREASING NON-RECYCLABLE WASTE.

There is a massive increase in the amount of non-recyclable waste generated during the pandemic, mainly due to the use of single-use plastic bottles, masks, gloves, and other disposable items. This waste is often discarded in landfills, contributing to environmental pollution.

II. INCREASING DRAMATIC WASTE.

The pandemic has led to a massive increase in the amount of waste generated, particularly in the form of single-use plastic bottles, masks, gloves, and other disposable items. This waste is often discarded in landfills, contributing to environmental pollution.

III. ECOSYSTEM AT RISK - ILLEGAL WILDLIFE TRADE.

The pandemic has led to a massive increase in the amount of waste generated, particularly in the form of single-use plastic bottles, masks, gloves, and other disposable items. This waste is often discarded in landfills, contributing to environmental pollution.

POSITIVE IMPACTS

I. Reducing air pollution.

Due to the pandemic, many people have stopped traveling, leading to a significant reduction in air pollution. This has led to a decrease in the amount of greenhouse gases in the atmosphere, which is a positive step towards reducing climate change.

II. Increasing recycling.

Many people have started recycling more, particularly in the form of plastic bottles, masks, gloves, and other disposable items. This has led to a decrease in the amount of waste generated, which is a positive step towards reducing environmental pollution.

III. Increasing awareness.

The pandemic has led to a massive increase in the amount of waste generated, particularly in the form of single-use plastic bottles, masks, gloves, and other disposable items. This waste is often discarded in landfills, contributing to environmental pollution.

II. THERE IS MORE FRESHWATER AVAILABLE:

Due to the pandemic, many people have stopped traveling, leading to a significant reduction in air pollution. This has led to a decrease in the amount of greenhouse gases in the atmosphere, which is a positive step towards reducing climate change.

III. Increasing recycling.

Many people have started recycling more, particularly in the form of plastic bottles, masks, gloves, and other disposable items. This has led to a decrease in the amount of waste generated, which is a positive step towards reducing environmental pollution.

IV. Increasing awareness.

The pandemic has led to a massive increase in the amount of waste generated, particularly in the form of single-use plastic bottles, masks, gloves, and other disposable items. This waste is often discarded in landfills, contributing to environmental pollution.

Topic- COVID 19 IMPACTS ON ENVIRONMENT
Mrs. Puja Chouhan W/o Mr. D S Chouhan (1st Prize winner)

Conducted Environment awareness programme through Essay Writing Competition from home via Sharing images to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employees and their Families

Impact of Covid-19 on Environment

The entire world is on the back track of the most serious virus known the Covid-19 pandemic has created a havoc on the world economy and even in this crisis, a lot of things could be felt if we already know in detail with the nature the impact of Covid-19 on environment.

It was a noticeable virus on the earth. The harmful virus of corona being made after a long time, for which lots of people had been doing lockdown work. The pandemic found the solution of using industrial waste which emitted the virus from your that was really in threat to the environment. The lockdown reported that even which various operations had to down which various power generation due to less demand

to prevent the spread of corona virus, all have added a threat to the normal flora and fauna in the nature.

The quarantine and less system in means the pandemic committee had led to various shopping which again has an impact on the flora variety due to feeding and transportation which can again be a serious issue of concern.

The impact management of National parks and sanctuaries may lead to the illegal encroachment of wildlife and illegal wild animal trade.

To conclude, in the words of Sirna Bhat, "I felt my lungs inflate with the sound of birds and mountains, trees and people and I thought this is what it is to be happy." So, it is

which has led to drastic reduction in the pollution the pandemic led reduction upon that is impact on the quality of air as has been seen a tremendous reduction in the harmful traffic and many other activities as the environment focus in the environment associated in a slow pace.

The reduction in different parts of world had a great hit out of the pandemic but the wild life had a painful time during the period. People, birds and small wild animals taking in painful life to the death mainly was again noticeable the global means had a dramatic impact on the traffic due to strict quarantine imposed by countries which also had a further impact on the atmosphere.

which is bad for the entire human life to down environment threat from the human hand during this lockdown pandemic, when people need for oxygen, also they have necessity for material clean, shopping etc. in the world. So let us begin to time for the nature so that nature will not dry its.

The need for Water Around

Basically during the struggling period as a sign of what the underlying steps of water could be taken in the world of trouble there began vegetable abstract from down areas increased during the lockdown food and the effectiveness of home working stopped was not effective by people being stay in home, which again was a further sign for the same of nature.

The right clean water and the solution coming from the reaction on all signs of the reduction in the industrial waste dumped into the water thus making the water polluted. There was a reduction in the foreign tourists visiting the rivers and taking by both which also showed a reduction in the

Sustainability of water and their consuming the quality of water.

As in the backdrop of the rain the reduction of Covid-19 the list in an increase in the amount of rainfall events which can affect the water way. Similarly, it is a challenge to the water management forces all over the world. The future use of water and the and the proper disposal of their may worsen the choice of environment pollution while using and recycling of water has created a great challenge.

But also people who are in the frontline of water management can be aware of what the amount of water which they are creating disposal of effluents which are water. The decision use of technologies and the use of alternative

Topic- COVID 19 IMPACTS ON ENVIRONMENT
Mrs. Somya thomas W/o Mr. Rejin K Alex (2nd Prize winner)

Conducted Environment awareness programme through Essay Writing Competition from home via Sharing images to follow the social Distancing in COVID-19 National Pandemic situation among GVK Employees and their Families

Covid - 19's Impacts (Positive and Negative) on Environment

कोविड वायरस दुनिया भर में एक महामारी बन चुका है। पूरा विश्व इस समय इस महामारी से जूझ रहा है। इस वायरस के प्रसार को रोकने के लिए सरकार ने Lockdown लगाया है।

जहाँ तक हमारे परिवारों का शालीन प्रभाव और सकारात्मक और नकारात्मक प्रभाव दोनों देखने का मिलता है।

Covid 19 का परिवारों पर सकारात्मक प्रभाव

Lockdown के चलते कई घरों का अस्तित्व रखा हुआ है। जिसके कारण कई कारखाने बंद हो चुके हैं। इस कारण से वाहन चालकों का इलाज काफी कम हो गया है। जिसके परिणाम स्वरूप अत्यन्त कम हो चुका है। यही नहीं बल्कि वाहन चालकों को भी नुकसान हुआ है। जिसके कारण वाहनों को अचलाना भी कम हुआ है। अतः प्रदूषण कम हो सका है।

Lockdown के दौरान नदियों का पानी भी स्वच्छ हो चुका था।

द्वितीय सकारात्मक प्रभाव यह है कि कोविड वायरस के प्रसारित करने के दौरान लोगों को Lockdown के कारण हुआ है।

ये सकारात्मक प्रभाव केवल अस्थायी नहीं हैं। और अन्य नकारात्मक प्रभावों पर ध्यान देना पड़ेगा।

कोविड-19 के परिवारों पर नकारात्मक प्रभाव

Covid-19 ने परिवारों को भी गंवार और अस्थिरता से प्रभावित किया है। पिछले कुछ दिनों में कोविड-19, साइकिल, डिजिटल डिवाइस, प्लास्टिक आदि का उपयोग कम होना और बढ़ना है। परिवारों पर इसका अंतर स्पष्ट है।

जहाँ तक हमारे परिवारों का शालीन प्रभाव और सकारात्मक और नकारात्मक प्रभाव दोनों देखने का मिलता है।

Covid 19 का परिवारों पर सकारात्मक प्रभाव

Lockdown के चलते कई घरों का अस्तित्व रखा हुआ है। जिसके कारण कई कारखाने बंद हो चुके हैं। इस कारण से वाहन चालकों का इलाज काफी कम हो गया है। जिसके परिणाम स्वरूप अत्यन्त कम हो चुका है। यही नहीं बल्कि वाहन चालकों को भी नुकसान हुआ है। जिसके कारण वाहनों को अचलाना भी कम हुआ है। अतः प्रदूषण कम हो सका है।

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और सुरक्षाओं के लिए बहुत सावधानी बरतनी है।

Covid-19 के चलते Biomedical waste को उचित ढंग से नष्ट करना है। इसका management भी सही ढंग से करना है।

जहाँ तक हमारे परिवारों का शालीन प्रभाव और सकारात्मक और नकारात्मक प्रभाव दोनों देखने का मिलता है।

Covid 19 का परिवारों पर सकारात्मक प्रभाव

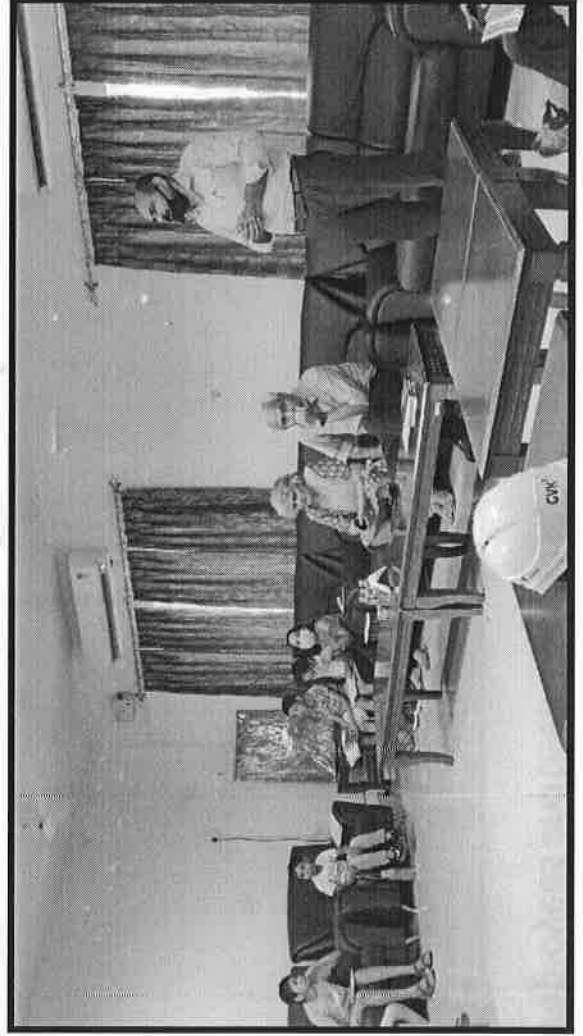
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Lockdown के दौरान नदियों का पानी भी स्वच्छ हो चुका था।

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Topic- COVID 19 IMPACTS ON ENVIRONMENT
Mrs. Suman Verma W/o Mr. Praveen Verma (3rd Prize winner)

Concluding Function for WED 2021 at GVKPGSL



Prize distribution by plant head Shri. V.C. Shukla to the winners & Participants in all the activities



Prize distribution by plant head Shri. V.C. Shukla to the prize winners in all the activities



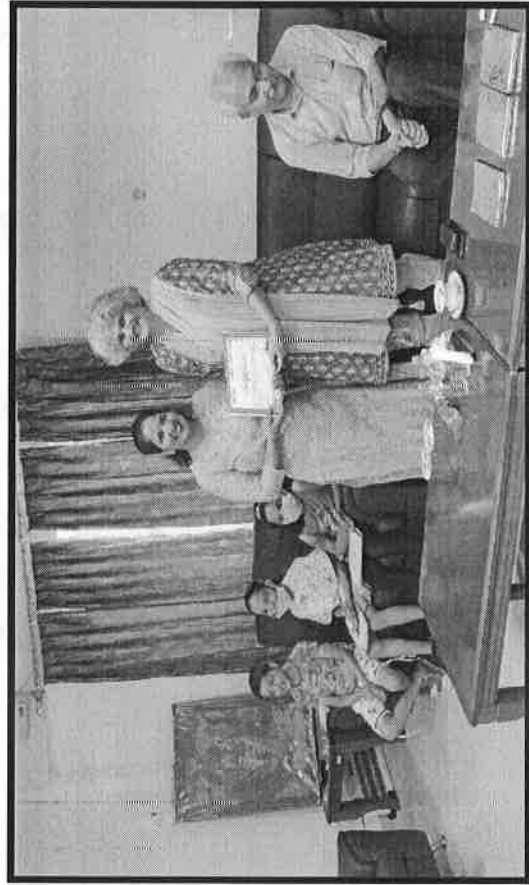
Prize distribution by plant head Shri. V.C. Shukla to the prize winners in all the activities



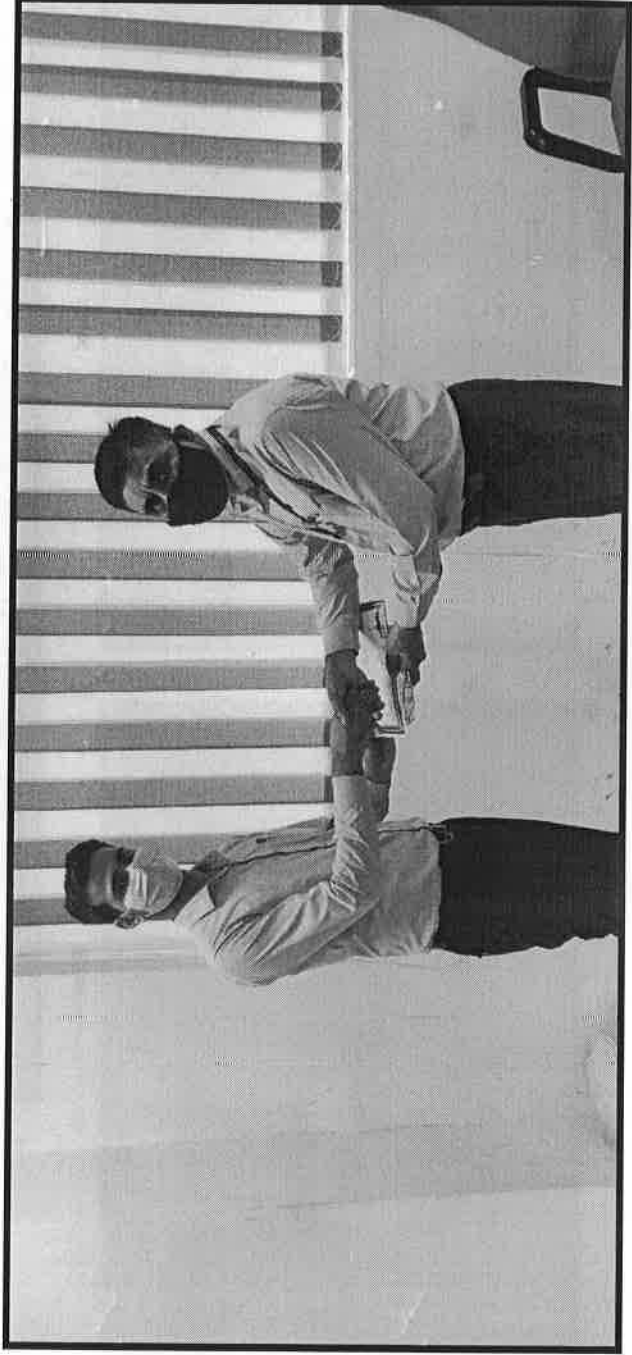
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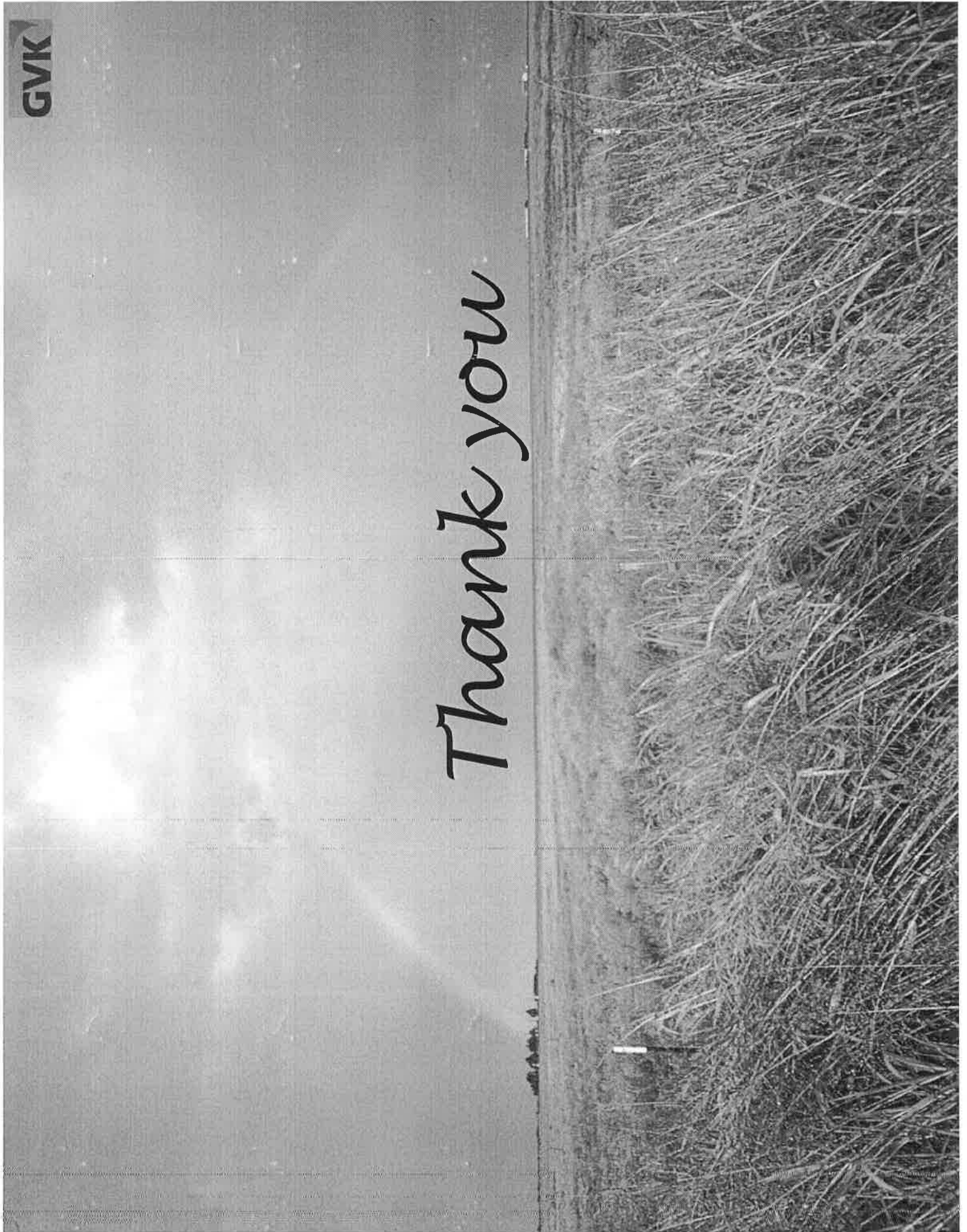


Prize distribution by plant head Shri. V.C. Shukla to the prize winners in all the activities



GVK

Thank you



ANNEXURE-I

ETP & STP Test Report



Envirochem Testing Lab & Research Centre

Govt. Approved Lab

An ISO 9001 : 2008 & OSHAS 18001 : 2007 certified
 Plot No. 165, 1st Floor Sector - 25 Part-II, HUDA, Panipat
 M. +91-90348-91129, Ph. 0180-4022392
 Email - envirochemtestinglab@gmail.com

TEST REPORT

Report No:	ETL/PPCB/2020-197	Report Date:	06.07.2020	Doc No.:	ETL/QF/7.8/01
Issue to: M/s GVK Power (Gandwal Sahib) Ltd. Kapurthala Road, Gandwal Sahib, Dist. Tarn Taran - 147422		Party's Ref No: As per agreement Work Order No: PPCB - 197 Period of Testing: 01.07.2020 - 06.07.2020			

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	STP Inlet and Outlet
3	Date of sample collection/ received	:	30.06.2020
4	Purpose of analysis	:	Consent
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	5 Litre each
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Inlet	Outlet	General Std. Limits For Discharge			Protocol used
				Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Greyish	Colourless	--	-	-	IS 3025 (P-4) 1983
2.	Odour	Foul	Odourless	--	-	-	IS 3025 (P-5) 1983
3.	pH	7.69	7.33	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/l.	456	22.0	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/l.	129.6	7.25	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/L	208	<2.0	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/L	<2.0	<2.0	10	20	10	IS 3025 (P-39) 1991

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

P. Dhoke
Manager Lab./ Sr. Chemist

Authority Signatory
QM/TM



Facilities : Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environment Consultancy Etc.

NOTE:

1. Samples shall be deposited till after 24 hours from the test report getting specified.
2. Results listed always related to the only tested samples. Environment of the sample holder followed the same method.
3. The test report shall not be reproduced till as in part and cannot be used as proof in the court of law.
4. The test report should be prepared in any advertising agencies without the written approval of laboratory.



Envirochem Testing Lab & Research Centre

Govt. Approved Lab

As ISO 9001 : 2008 & OSHAS 18001 : 2007 certified
Plot No. 165, 1st Floor Sector : 29 Part-II, HUDA, Faridkot
M. +91-30345-91129, P. 0180-4022362
Email : envirochemtestinglab@gmail.com

TEST REPORT

Report No	ETL/PPCB/2020-198	Report Date	06.07.2020	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: PPCB - 198 Period of Testing: 01.07.2020 - 06.07.2020			
SAMPLE PARTICULARS					
1	Type of sample	:	EFFLUENT WATER		
2	Point of Sample Collection	:	ETP Inlet & Outlet		
3	Date of sample collection/ received	:	30.06.2020		
4	Purpose of analysis	:	Consent purpose		
5	Sample collected/ supplied by	:	By Lab Representative		
6	Quantity of Sample	:	5 Litre each + 20 Ltr. Outlet for Bio - assay		
7	Method of Sampling	:	IS 3025 (P-1) 1987		

TEST RESULTS

Sr. No.	Parameters	Inlet	Outlet	General Std. Limits For Discharge (Inland Surface Water)	Protocol used
1.	Appearance *	Light Turbid	Colourless	-	IS 3025 (P-4) 1983
2.	Odour *	Mild	Odourless	-	IS 3025 (P-5) 1983
3.	pH	7.44	7.19	5.5-9.0	IS 3025 (P-11) 1983
4.	Temperature °C	45	43	--	IS 3025 (P-9) : 1984
5.	COD, mg/L	232	44	250	IS 3025 (P-58) 2006
6.	BOD at 27°C for 3 Days, mg/L	52.8	9.12	30	IS 3025 (P-44) 1993
7.	Total Suspended Solids, mg/L	52.0	< 2.0	100	IS 3025 (P-17) 1984
8.	Total Dissolved Solids, mg/L	1218	786	2100	IS 3025 (P-16) 1984
9.	Oil & Grease, mg/L	2.2	< 2.0	10	IS 3025 (P-39) 1991
10.	Free Ammonia, mg/L	ND	ND	5.0	IS 3025 (Part-34): 1988
11.	Ammonium as NH ₄ -N, mg/L	16.85	1.26	10	IS 3025 (Part-34): 1988
12.	Arsenic as As, mg/L	< 0.01	< 0.01	0.2	IS 3025 (P-37) : 1988
13.	Copper as Cu, mg/L	0.43	0.32	3.0	IS 3025 (P-42) : 1992
14.	Nickel as Ni, mg/L	0.24	0.12	3.0	IS 3025 (P-54) : 2003
15.	Total Kjeldahl Nitrogen as N, mg/L	35.49	3.02	10	IS 3025 (P-34) : 1988
16.	Total Chromium as Cr, mg/L	< 0.05	< 0.01	2.0	IS 3025 (P-52) : 2003
17.	Hexavalent Chromium, as Cr ⁶⁺ , mg/L	< 0.01	< 0.01	0.1	IS 3025 (P-52) : 2003

1 of 2

Facilities : Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environment Consultancy Etc.

NOTE:

1. Samples shall be delivered after 24 hours prior to our representative visit.
2. Results/observations/feedback will be given to the client, independent of the type of whether referred for implementation.
3. The test report shall not be considered valid if the print and copy is used as proof in the court of law.
4. The test report shall not be used for any advertisement, publicity or other without the written approval of laboratory.



Envirochem Testing Lab & Research Centre

Govt. Approved Lab

An ISO 9001 : 2008 & OSHAS 18001 : 2007 certified
Plot No. 105, 6th Floor Sector - 25 Part-II, HUDA, Patparghat
M.+01-90348-01129, Ph: 0180-4022288
Email : envirochemtestinglab@gmail.com

TEST REPORT

Report No	ETL/PPCB/2020-198	Report Date	06.07.2020	Doc No.	ETL/QF/7,8/01
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Sr. No.	Parameters	Inlet	Outlet	General Std. Limits For Discharge (Inland Surface Water)	Protocol used
18.	Phosphate (as P), mg/l.	2.48	0.91	5	IS 3025 (P-31) : 1988
19.	Cadmium as Cd mg/L	<0.003	<0.003	2.0	IS 3025 (P-41) : 1998
20.	Zinc as Zn, mg/L	0.41	0.28	5.0	IS 3025 (P-49) : 1994
21.	Sulphide as SO ₂ , mg/L	1.98	0.79	2.0	APHA Method
22.	Fluoride (as F), mg/L	<0.1	<0.1	2.0	APHA Method
23.	Phenolic compounds (as C ₆ H ₅ OH), mg/L	<0.001	<0.001	1.0	IS 3025 (P-43) : 1992
24.	Manganese (as Mn), mg/l.	<0.01	<0.01	2.0	APHA Method
25.	Nitrate Nitrogen as N, mg/L	0.75	0.32	10	IS 3025 (P-34) : 1988
26.	Residual Free Chlorine, mg/l	<0.1	<0.1	1	IS 3025 (P-26) : 1986
27.	Cyanide as CN, mg/L	<0.02	<0.02	0.2	APHA Method
28.	Mercury as Hg, mg/L	<0.001	<0.001	No Relaxation	IS 3025 (P-48)
29.	Bioassay (96 hrs), %	-	90 % fish survival after 96 hrs in 100 % effluent	90% fish survival after 96 hrs in 100 % effluent	IS 6582 : 1971

*Parameter not covered under NABL scope

2 of 2

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

Alindia
Manager Lab./ Sr. Chemist

Rajul
(Authority Signatory)
QM/TM

Facilities : Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environment Consultancy Etc.

NOTE

1. Samples shall be disposed off after 24 days from the test report unless specified.
2. Preserve listed above related to the city tested samples. Environmental of the water is neither retained nor implemented.
3. The test report shall not be reproduced full or in part and cannot be used as proof in the court of law.
4. The test report should not be used in any advertising agency without the written approval of laboratory.



ENVIROCHEM TESTING LAB & Research Centre

(GOVT. APPROVED LAB)

(An ISO 9001 : 2015, ISO 14001 : 2015, ISO 18001 : 2007 Certified Lab)

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TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-209	Report Date	28.09.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd, Kaparthala Road, Goindwal Sahib, Distt. Tam Taraon - 143422		Party's Ref No: As per agreement Work Order No: PPCB - 209 Period of Testing: 21.09.2020 - 28.09.2020			

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	STP Inlet and Outlet
3	Date of sample collection/ received	:	18.09.2020
4	Purpose of analysis	:	Consent
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	5 Litre each
7	Method of Sampling	:	IS 3025 (P-1) 1987

TEST RESULTS

Sr. No.	Parameters	Inlet	Outlet	General Std. Limits For Discharge			Protocol used
				Inland Surface Water	Sewerage Water	Irrigation	
1.	Appearance	Greyish	Colourless	-	-	-	IS 3025 (P-4) 1983
2.	Odour	Foul	Odourless	-	-	-	IS 3025 (P-5) 1983
3.	pH	7.56	7.12	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	502	26	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/L	142.8	8.01	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/L	162	<2.0	100	600	200	IS 3025 (P-17) 1984
7.	Oil & Grease, mg/L	<2.0	<2.0	10	20	10	IS 3025 (P-39) 1991

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

P. Prudh
Manager Lab/ Sr. Chemist

Authority Signatory



- W 1. Samples shall be disposed off after 30 days (Date of test report unless specified).
 O 2. Results found above notified in the listed samples. Endorsement of the same is neither intended nor implemented.
 Y 3. This test report shall not be reproduced total or in part & shall be used as proof in the court of law.
 E 4. This document shall not be used in any other testing agency/ministry without the written approval of laboratory.



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Web : www.etlc.com



TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-210	Report Date	28.09.2020	Doc No.	ETL/QF/7.8/0
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: As per agreement Work Order No: PPCB - 210 Period of Testing: 21.09.2020 - 28.09.2020			
SAMPLE PARTICULARS					
1	Type of sample	:	EFFLUENT WATER		
2	Point of Sample Collection	:	ETP Inlet & Outlet		
3	Date of sample collection/ received	:	18.09.2020		
4	Purpose of analysis	:	Consent purpose		
5	Sample collected/ supplied by	:	By Lab Representative		
6	Quantity of Sample	:	5 Litre each + 20 Ltr. Outlet for Bio - assay		
7	Method of Sampling	:	IS:3025 (P-1) 1987		

TEST RESULTS

Sr. No.	Parameters	Inlet	Outlet	General Std. Limits For Discharge (Inland Surface Water)	Protocol used
1.	Appearance *	Light Turbid	Colourless	-	IS 3025 (P-4) 1983
2.	Odour *	Mild	Odourless	-	IS 3025 (P-5) 1983
3.	pH	8.01	7.11	5.5-9.0	IS 3025 (P-11) 1983
4.	Temperature °C	42	42	--	IS 3025 (P-9) : 1984
5.	COD, mg/L	332	48	250	IS 3025 (P-58) 2006
6.	BOD at 27°C for 3 Days, mg/L	71.2	9.74	30	IS 3025 (P-44) 1993
7.	Total Suspended Solids, mg/L	66	<2.0	100	IS 3025 (P-17) 1984
8.	Total Dissolved Solids, mg/L	1120	624	2100	IS 3025 (P-16) 1984
9.	Oil & Grease, mg/L	2.8	<2.0	10	IS 3025 (P-39) 1991
10.	Free Ammonia, mg/L	ND	ND	5.0	IS 3025 (Part-34): 1988
11.	Ammonium as NH ₄ -N, mg/L	18.9	2.01	10	IS 3025 (Part-34): 1988
12.	Arsenic as As, mg/L	<0.01	<0.01	0.2	IS 3025 (P-37) : 1988
13.	Copper as Cu, mg/L	0.74	0.26	3.0	IS 3025 (P-42) : 1992
14.	Nickel as Ni, mg/L	0.30	0.10	3.0	IS 3025 (P-54) : 2003
15.	Total Kjeldahl Nitrogen as N, mg/L	34.2	5.03	10	IS 3025 (P-34) : 1988
16.	Total Chromium as Cr, mg/L	<0.05	<0.01	2.0	IS 3025 (P-52) : 2003
17.	Hexavalent Chromium (as Cr ⁶⁺), mg/L	<0.01	<0.01	0.1	IS 3025 (P-52) : 2003

1 of 2

ENVIROCHEM TESTING LAB & RESEARCH CENTRE

1. Samples shall be delivered till after 21 days (from date of receipt) unless otherwise specified.
2. Results shall remain valid only for the tested samples. Endorsement of the same is neither intended nor implied.
3. The test report shall not be legal evidence in court & can't be used as proof in the court of law.
4. The test report should not be used as any advertising agency/media without the written approval of the agency.



ENVIROCHEM TESTING LAB & Research Centre

(GOVT. APPROVED LAB)

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TC-6015

TEST REPORT

Report No.	ETL/PPCB/2020-210	Report Date	28.09.2020	Doc No.	ETL/QF/7.8/01
Sr. No.	Parameters	Inlet	Outlet	General Std. Limits For Discharge (Inland Surface Water)	Protocol used
18.	Phosphate (as P), mg/L	3.11	0.78	5	IS 3025 (P-31) : 1988
19.	Cadmium as Cd mg/L	<0.003	<0.003	2.0	IS 3025 (P-41) : 1998
20.	Zinc as Zn, mg/L	0.74	0.33	5.0	IS 3025 (P-49) : 1994
21.	Sulphide as SO ₄ mg/L	2.02	0.60	2.0	APHA Method
22.	Fluoride (as F), mg/L	<0.1	<0.1	2.0	APHA Method
23.	Phenolic compounds (as C ₆ H ₅ OH), mg/L	<0.001	<0.001	1.0	IS 3025 (P-43) : 1992
24.	Manganese (as Mn), mg/L	<0.01	<0.01	2.0	APHA Method
25.	Nitrate Nitrogen as N, mg/L	0.8	0.23	10	IS 3025 (P-34) : 1988
26.	Residual Free Chlorine, mg/l	<0.1	<0.1	1	IS 3025 (P-26) : 1986
27.	Cyanide as CN, mg/l	<0.02	<0.02	0.2	APHA Method
28.	Mercury as Hg, mg/L	<0.001	<0.001	No Relaxation	IS 3025 (P-48)
29.	Bioassay (96 hrs), %	-	90 % fish survival after 96 hrs in 100 % effluent	90% fish survival after 96 hrs in 100 % effluent	IS 6582 : 1971

*Parameter not covered under NABL scope

2 of 2

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

P. K. Datta
Manager Lab/ Sr. Chemist

(Authority Signatory)
QM/TM

- H 1. Samples shall be disposed of after 21 days issue of test report unless specified.
 O 2. Results listed herein are valid for the tested samples. Enforcement of the same in further referred case implemented.
 I 3. The test report shall not be reproduced for sale or in part & shall be used as proof in the court of law.
 K 4. The test report shall not be used for any advertising agency/website without the written approval of laboratory.



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Web. : www.etlrc.com



TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-223 B	Report Date	29.01.2021	Doc No.	ETL/QP/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: PPCB - 223 B Period of Testing: 25.01.2021 - 29.01.2021			

SAMPLE PARTICULARS

1	Type of sample	:	WASTE WATER
2	Point of Sample Collection	:	STP Outlet
3	Date of sample collection/ received	:	23.01.2021
4	Purpose of analysis	:	Consent
5	Sample collected/ supplied by	:	By Lab Representative
6	Quantity of Sample	:	5 Litre each
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	7.34	5.5-9.0	5.5-9.0	5.5-9.0	IS 3025 (P-11) 1983
4.	COD, mg/L	24	250	-	-	IS 3025 (P-58) 2006
5.	BOD at 27°C for 3 Days, mg/L	8.43	30	350	100	IS 3025 (P-44) 1993
6.	Total Suspended Solids, mg/L	< 2.0	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*****

P. K. Sharma
Manager Lab./ Sr. Chemist



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



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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2020-224 B	Report Date	29.01.2021	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tam Taran - 143422		Party's Ref No: As per agreement Work Order No: PPCB - 224 B Period of Testing: 25.01.2021 - 29.01.2021			
SAMPLE PARTICULARS					
1	Type of sample	:	EFFLUENT WATER		
2	Point of Sample Collection	:	ETP Outlet		
3	Date of sample collection/ received	:	23.01.2021		
4	Purpose of analysis	:	Consent purpose		
5	Sample collected/ supplied by	:	By Lab Representative		
6	Quantity of Sample	:	5 Litre each + 20 Ltr. Outlet for Bio - assay		
7	Method of Sampling	:	IS 3025 (P - 1) 1987		

TEST RESULTS

Sr. No.	Parameters	Outlet	General Std. Limits For Discharge (Inland Surface Water)	Protocol used
1.	Appearance *	Colourless	-	IS 3025 (P-4) 1983
2.	Odour *	Odourless	-	IS 3025 (P-5) 1983
3.	pH	7.14	5.5-9.0	IS 3025 (P-11) 1983
4.	Temperature °C	23	--	IS 3025 (P-9) : 1984
5.	COD, mg/L	42	250	IS 3025 (P-58) 2006
6.	BOD at 27°C for 3 Days, mg/L	10.02	30	IS 3025 (P-44) 1993
7.	Total Suspended Solids, mg/L	< 2.0	100	IS 3025 (P-17) 1984
8.	Total Dissolved Solids, mg/L	702	2100	IS 3025 (P-16) 1984
9.	Oil & Grease, mg/L	ND (DL-2.0)	10	IS 3025 (P-39) 1991
10.	Free Ammonia, mg/L	ND	5.0	IS 3025 (Part-34): 1988
11.	Ammonium as NH ₄ - N, mg/L	2.44	10	IS 3025 (Part-34): 1988
12.	Arsenic as As, mg/L	ND (DL- 0.01)	0.2	IS 3025 (P-37) : 1988
13.	Copper as Cu, mg/L	0.21	3.0	IS 3025 (P-42) : 1992
14.	Nickel as Ni, mg/L	ND (DL- 0.01)	3.0	IS 3025 (P-54) : 2003
15.	Total Kjeldhal Nitrogen as N, mg/L	4.9	10	IS 3025 (P-34) : 1988
16.	Total Chromium as Cr, mg/L	ND (DL- 0.01)	2.0	IS 3025 (P-52) : 2003
17.	Hexavalent Chromium (as Cr ^{VI}), mg/l	ND (DL- 0.01)	0.1	IS 3025 (P-52) : 2003

1 of 2

- 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



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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2020-224 B	Report Date	29.01.2021	Doc No.	ETL/QF/7.8/01
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Sr. No.	Parameters	Outlet	General Std. Limits For Discharge (Inland Surface Water)	Protocol used
18.	Phosphate (as P), mg/l.	0.76	5	IS 3025 (P-31) : 1988
19.	Cadmium as Cd mg/L	ND (DL- 0.003)	2.0	IS 3025 (P-41) : 1998
20.	Zinc as Zn, mg/L	ND (DL- 0.05)	5.0	IS 3025 (P-49) : 1994
21.	Sulphide as SO ₂ mg/L	0.54	2.0	APHA Method
22.	Fluoride (as F), mg/L	ND (DL- 0.1)	2.0	APHA Method
23.	Phenolic compounds (as C ₆ H ₅ OH), mg/L	ND (DL- 0.001)	1.0	IS 3025 (P-43) : 1992
24.	Manganese (as Mn), mg/L	ND (DL- 0.01)	2.0	APHA Method
25.	Nitrate Nitrogen as N, mg/L	0.22	10	IS 3025 (P-34) : 1988
26.	Residual Free Chlorine, mg/l	ND (DL- 0.1)	1	IS 3025 (P-26) : 1986
27.	Cyanide as CN, mg/L	ND (DL- 0.02)	0.2	APHA Method
28.	Mercury as Hg , mg/L	ND (DL- 0.001)	No Relaxation	IS 3025 (P-48)
29.	Bioassay (96 hrs), %	90 % fish survival after 96 hrs in 100 % effluent	90% fish survival after 96 hrs in 100 % effluent	IS 6582 : 1971

* *Parameter not covered under NABL scope ND- Not Detectable, DL- Detection Limit

2 of 2

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

P. K. Singh
Manager Lab./ Sr. Chemist



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ANNEXURE-II
Stack emission & Ambient Air Quality
Monitoring Report

Environmental Status Report

Ambient Air Quality Location wise

Inside the Plant Premises

Location 1 - Near Railway Over Bridge (ROB)

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)
1	Apr, 20													
2	May-20													
3	Jun-20	37	67	11	21	ND	23	ND	ND	16	ND	ND	ND	ND
4	Jul-20	42	72	11	23	ND	25	ND	ND	17	ND	ND	ND	ND
5	Aug-20	43	71	11	24	ND	22	ND	ND	20	ND	ND	ND	ND
6	Sep-20	44	74	10	22	ND	24	ND	ND	20	ND	ND	ND	ND
7	Oct-20	43	76	10	22	ND	22	ND	ND	21	ND	ND	ND	ND
8	Nov-20	44	76	11	23	ND	24	ND	ND	20	ND	ND	ND	ND
9	Dec-20	42	70	10	21	ND	24	ND	ND	22	ND	ND	ND	ND
10	Jan-21	40	72	12	23	ND	23	ND	ND	20	ND	ND	ND	ND
11	Feb-21	40	71	10	22	ND	22	ND	ND	17	ND	ND	ND	ND
12	Mar-21	41	72	11	23	ND	24	ND	ND	18	ND	ND	ND	ND
Minimum		37	67	10	21	0	22	0	0	16	0	0	0	0
Maximum		44	76	12	24	0	25	0	0	22	0	0	0	0
Mean		41.60	72.10	10.70	22.40	#DIV/0!	23.30	#DIV/0!	#DIV/0!	19.10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		2.2	2.7	0.7	1.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	0.0	0.0
98 Percentile		44	76	11.82	23.82	#NUM!	24.82	#NUM!	#NUM!	21.82	#NUM!	#NUM!	#NUM!	#NUM!

Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic



for

Location 2 - PLL Colony

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)	
1	Apr-20														
2	May-20														
<i>Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic</i>															
3	Jun-20	38	68	11	21	ND	23	ND	ND	16	ND	ND	ND	ND	ND
4	Jul-20	40	70	10	23	ND	24	ND	ND	18	ND	ND	ND	ND	ND
5	Aug-20	37	67	10	22	ND	20	ND	ND	20	ND	ND	ND	ND	ND
6	Sep-20	42	75	12	22	ND	23	ND	ND	20	ND	ND	ND	ND	ND
7	Oct-20	38	71	10	22	ND	21	ND	ND	22	ND	ND	ND	ND	ND
8	Nov-20	42	73	11	23	ND	22	ND	ND	21	ND	ND	ND	ND	ND
9	Dec-20	41	71	10	20	ND	23	ND	ND	23	ND	ND	ND	ND	ND
10	Jan-21	41	71	11	22	ND	22	ND	ND	18	ND	ND	ND	ND	ND
11	Feb-21	40	70	12	22	ND	22	ND	ND	20	ND	ND	ND	ND	ND
12	Mar-21	41	73	11	23	ND	25	ND	ND	21	ND	ND	ND	ND	ND
Minimum		37	67	10	20	0	20	0	0	16	0	0	0	0	0
Maximum		42	75	12	23	0	25	0	0	23	0	0	0	0	0
Mean		40.00	70.90	10.80	22.00	#DIV/0!	22.50	#DIV/0!	#DIV/0!	19.90	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		12.2	2.4	0.8	0.9	0.0	1.4	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
98 Percentile		42	74.64	12	23	#NUM!	24.82	#NUM!	#NUM!	22.82	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!

202



Location 3 - DM Plant

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)	
1	Apr-20														
2	May-20														
<i>Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic</i>															
3	Jun-20	39	69	11	21	ND	23	ND	ND	16	ND	ND	ND	ND	ND
4	Jul-20	42	71	11	23	ND	25	ND	ND	19	ND	ND	ND	ND	ND
5	Aug-20	42	73	11	24	ND	24	ND	ND	22	ND	ND	ND	ND	ND
6	Sep-20	45	76	11	23	ND	23	ND	ND	21	ND	ND	ND	ND	ND
7	Oct-20	43	75	10	22	ND	22	ND	ND	23	ND	ND	ND	ND	ND
8	Nov-20	43	76	11	23	ND	23	ND	ND	20	ND	ND	ND	ND	ND
9	Dec-20	43	70	10	22	ND	23	ND	ND	23	ND	ND	ND	ND	ND
10	Jan-21	41	76	12	22	ND	23	ND	ND	18	ND	ND	ND	ND	ND
11	Feb-21	40	71	12	22	ND	22	ND	ND	19	ND	ND	ND	ND	ND
12	Mar-21	43	74	11	23	ND	25	ND	ND	20	ND	ND	ND	ND	ND
Minimum		39	69	10	21	0	22	0	0	16	0	0	0	0	0
Maximum		45	76	12	24	0	25	0	0	23	0	0	0	0	0
Mean		42.10	73.10	11.00	22.50	#DIV/0!	23.30	#DIV/0!	#DIV/0!	20.10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		12.8	2.7	0.7	0.8	0.0	1.1	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
98 Percentile		44.64	76	12	23.82	#NUM!	25	#NUM!	#NUM!	23	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!



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Location 4 - Residential Colony

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)	
1	Apr-20														
2	May-20														
3	Jun-20	38	68	11	21	ND	22	ND	ND	15	ND	ND	ND	ND	ND
4	Jul-20	39	69	10	23	ND	24	ND	ND	17	ND	ND	ND	ND	ND
5	Aug-20	40	70	11	24	ND	22	ND	ND	21	ND	ND	ND	ND	ND
6	Sep-20	44	73	10	23	ND	23	ND	ND	20	ND	ND	ND	ND	ND
7	Oct-20	42	75	10	23	ND	22	ND	ND	22	ND	ND	ND	ND	ND
8	Nov-20	43	75	11	24	ND	23	ND	ND	20	ND	ND	ND	ND	ND
9	Dec-20	43	69	9	21	ND	23	ND	ND	21	ND	ND	ND	ND	ND
10	Jan-21	41	71	12	22	ND	22	ND	ND	19	ND	ND	ND	ND	ND
11	Feb-21	40	72	12	22	ND	23	ND	ND	18	ND	ND	ND	ND	ND
12	Mar-21	41	72	13	23	ND	25	ND	ND	19	ND	ND	ND	ND	ND
Minimum		38	68	9	21	0	22	0	0	15	0	0	0	0	0
Maximum		44	75	13	24	0	25	0	0	22	0	0	0	0	0
Mean		41.10	71.40	10.90	22.60	#DIV/0!	22.90	#DIV/0!	#DIV/0!	19.20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		12.5	2.5	1.2	1.1	0.0	1.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
98 Percentile		43.82	75	12.82	24	#NUM!	24.82	#NUM!	#NUM!	21.82	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!

Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic



Red

**Outside the Plant premises
Location 5 - Goindwal Sahib**

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)
1	Apr-20													
2	May-20													
<i>Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic</i>														
3	Jun-20	39	69	12	22	ND	23	ND	ND	15	ND	ND	ND	ND
4	Jul-20	42	72	11	24	ND	23	ND	ND	19	ND	ND	ND	ND
5	Aug-20	40	73	11	24	ND	22	ND	ND	21	ND	ND	ND	ND
6	Sep-20	45	74	13	24	ND	23	ND	ND	21	ND	ND	ND	ND
7	Oct-20	44	77	10	23	ND	21	ND	ND	21	ND	ND	ND	ND
8	Nov-20	44	77	11	24	ND	23	ND	ND	20	ND	ND	ND	ND
9	Dec-20	44	71	11	22	ND	24	ND	ND	22	ND	ND	ND	ND
10	Jan-21	42	72	12	22	ND	23	ND	ND	18	ND	ND	ND	ND
11	Feb-21	42	72	11	21	ND	22	ND	ND	20	ND	ND	ND	ND
12	Mar-21	42	74	11	22	ND	26	ND	ND	19	ND	ND	ND	ND
Minimum		39	69	10	21	0	21	0	0	15	0	0	0	0
Maximum		45	77	13	24	0	26	0	0	22	0	0	0	0
Mean		42.40	73.10	11.30	22.80	#DIV/0!	23.00	#DIV/0!	#DIV/0!	19.60	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		12.9	2.5	0.8	1.1	0.0	1.3	0.0	0.0	2.0	0.0	0.0	0.0	0.0
98 Percentile		44.82	77	12.82	24	#NUM!	25.64	#NUM!	#NUM!	21.82	#NUM!	#NUM!	#NUM!	#NUM!

jar



Location 6 - Hansawala

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)
1	Apr-20													
2	May-20													
3	Jun-20	39	69	12	21	ND	23	ND	ND	16	ND	ND	ND	ND
4	Jul-20	43	73	10	19	ND	23	ND	ND	19	ND	ND	ND	ND
5	Aug-20	44	73	11	25	ND	23	ND	ND	20	ND	ND	ND	ND
6	Sep-20	44	74	10	23	ND	24	ND	ND	21	ND	ND	ND	ND
7	Oct-20	44	77	11	22	ND	21	ND	ND	20	ND	ND	ND	ND
8	Nov-20	43	76	11	24	ND	23	ND	ND	21	ND	ND	ND	ND
9	Dec-20	43	70	11	22	ND	23	ND	ND	23	ND	ND	ND	ND
10	Jan-21	41	70	10	21	ND	22	ND	ND	18	ND	ND	ND	ND
11	Feb-21	40	71	12	22	ND	23	ND	ND	19	ND	ND	ND	ND
12	Mar-21	43	74	11	25	ND	23	ND	ND	19	ND	ND	ND	ND
Minimum		39	69	10	19	0	21	0	0	16	0	0	0	0
Maximum		44	77	12	25	0	24	0	0	23	0	0	0	0
Mean		42.40	72.70	10.90	22.40	#DIV/0!	22.80	#DIV/0!	#DIV/0!	19.60	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		12.9	2.7	0.7	1.9	0.0	0.8	0.0	0.0	1.9	0.0	0.0	0.0	0.0
98 Percentile		44	76.82	12	25	#NUM!	23.82	#NUM!	#NUM!	22.64	#NUM!	#NUM!	#NUM!	#NUM!

Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic



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Location 7 – Vill. Vairowal

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)	
1	Apr-20														
2	May-20														
<i>Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic</i>															
3	Jun-20	38	69	11	21	ND	23	ND	ND	16	ND	ND	ND	ND	ND
4	Jul-20	42	72	12	23	ND	24	ND	ND	18	ND	ND	ND	ND	ND
5	Aug-20	42	73	12	24	ND	22	ND	ND	21	ND	ND	ND	ND	ND
6	Sep-20	43	75	11	24	ND	23	ND	ND	21	ND	ND	ND	ND	ND
7	Oct-20	41	77	11	22	ND	23	ND	ND	22	ND	ND	ND	ND	ND
8	Nov-20	43	77	10	23	ND	23	ND	ND	20	ND	ND	ND	ND	ND
9	Dec-20	42	71	10	22	ND	23	ND	ND	21	ND	ND	ND	ND	ND
10	Jan-21	42	72	12	22	ND	22	ND	ND	19	ND	ND	ND	ND	ND
11	Feb-21	41	70	11	22	ND	23	ND	ND	20	ND	ND	ND	ND	ND
12	Mar-21	45	74	12	21	ND	24	ND	ND	18	ND	ND	ND	ND	ND
Minimum		38	69	10	21	0	22	0	0	16	0	0	0	0	0
Maximum		45	77	12	24	0	24	0	0	22	0	0	0	0	0
Mean		41.90	73.00	11.20	22.40	#DIV/0!	23.00	#DIV/0!	#DIV/0!	19.60	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		12.7	2.7	0.8	1.1	0.0	0.7	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
98 Percentile		44.64	77	12	24	#NUM!	24	#NUM!	#NUM!	21.82	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!



jay

Location 8 - Mundi Village

Sr. No.	Month	PM-2.5 (µg/m3)	PM-10 (µg/m3)	SO2 (µg/m3)	NOX (µg/m3)	CO (mg/m3)	O3 (µg/m3)	Hg (µg/m3)	Pb (µg/m3)	NH3 (µg/m3)	C6H6 (µg/m3)	BaP (ng/m3)	As (ng/m3)	Ni (ng/m3)
1	Apr-20													
2	May-20													
3	Jun-20	38	69	11	21	ND	23	ND	ND	18	ND	ND	ND	ND
4	Jul-20	43	72	10	23	ND	25	ND	ND	19	ND	ND	ND	ND
5	Aug-20	43	73	10	24	ND	23	ND	ND	22	ND	ND	ND	ND
6	Sep-20	45	74	11	22	ND	22	ND	ND	21	ND	ND	ND	ND
7	Oct-20	43	77	11	23	ND	22	ND	ND	22	ND	ND	ND	ND
8	Nov-20	43	75	11	25	ND	22	ND	ND	22	ND	ND	ND	ND
9	Dec-20	43	71	11	22	ND	23	ND	ND	21	ND	ND	ND	ND
10	Jan-21	41	72	12	23	ND	23	ND	ND	18	ND	ND	ND	ND
11	Feb-21	42	72	11	23	ND	24	ND	ND	20	ND	ND	ND	ND
12	Mar-21	42	72	11	24	ND	23	ND	ND	16	ND	ND	ND	ND
Minimum		38	69	10	21	0	22	0	0	16	0	0	0	0
Maximum		45	77	12	25	0	25	0	0	22	0	0	0	0
Mean		42.30	72.70	10.90	23.00	#DIV/0!	23.00	#DIV/0!	#DIV/0!	19.90	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation		12.9	2.2	0.6	1.2	0.0	0.9	0.0	0.0	2.1	0.0	0.0	0.0	0.0
98 Percentile		44.64	76.64	11.82	24.82	#NUM!	24.82	#NUM!	#NUM!	22	#NUM!	#NUM!	#NUM!	#NUM!

Ambient air quality monitoring was not done during the April & May 2020 due to COVID-19 Pandemic



Jan



Envirochem Testing Lab & Research Centre

Govt. Approved Lab

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TEST REPORT

Report No	ETL/PPCB/2020-195	Report Date	03.07.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Tara Taran - 143422		Party's Ref No: As per agreement Work Order No: PPCB - 195 Period of Testing: 01.07.2020 - 03.07.2020			

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	:	24.06.2020
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)	:	42
2.	Stack Temperature (°C)	:	120
3.	Velocity (m/sec)	:	18.53
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)	:	879545

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	34.97	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	864.8	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	362.3	300	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.

Manager Lab./ Sr. Chemist

Authority Signatory
 QM/TM
 3-7-20

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Facilities: Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environmental Contaminants, Etc.

NOTE:
 1. Samples should be deposited only after 24 hours since of test report unless specified.
 2. Results listed above related to the only method employed, measurement of the same is liable if/when the implemented.
 3. This test report shall not be reproduced or in any part and cannot be used as proof in the court of law.
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Email - envirochemtestinglab@gmail.com

TEST REPORT

Report No.	ETL/PPCB/2020-196	Report Date	03.07.2020	Doc No.	ETL/QP/7.8/01
Issue for: 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: PPCB - 196 Period of Testing: 01.07.2020 - 03.07.2020			

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	:	24.06.2020
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)	:	44
2.	Stack Temperature (°C)	:	130
3.	Velocity (m/sec)	:	19.3
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	:	ESPs
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	893362

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	37.36	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	879.5	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	373.27	300	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



Capacities - Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environmental Compliance Etc.

W33P

1. Samples shall be disposed off after 21 days of test report/analysis generated.
2. Results listed above are valid in the city/sector/zone/area. Extrapolation of the data is neither intended nor recommended.
3. The test report shall not be reproduced fully or partly and cannot be used as proof in the court of law.
4. The test report should not be used in any other legal/agency/media without the written approval of laboratory.



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Email: envirochemtestinglab@gmail.com

TEST REPORT

Report No	ETL/PPCB/2020-187	Report Date	03.07.2020	Doc No.	ETL/QF/7.8/01
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Issue to:
M/s GVK Power (Goindwal Sahib) Ltd.
Kaparthala Road, Goindwal Sahib,
Distt. Tarn Taran - 143422

Party's Ref No: Nil
Work Order No: PPCB - 187
Period of Testing: 01.07.2020 - 03.07.2020

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	:	25.06.2020
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)	:	40
2.	Stack Temperature (°C)	:	47
3.	Velocity (m/sec)	:	13.97
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)	:	3181

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	17.48	150	IS 11255 (Part 1) 1985

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

P. K. Singh
Manager Lab/ Sr. Chemist

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Facilities: Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Storage & Environment Consultancy Etc.

NOTE

1. Copies shall be destroyed after 21 days issue of test report unless specified.
2. Results listed above relative to the only listed standards. Discrepancies of the labors is neither inferred nor implied.
3. The test report shall not be re-issued full or in part and cannot be used as evidence in the court of law.
4. This test report should not be used in any advertising agency/ media without the written approval of laboratory.



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TEST REPORT

Report No	ETL/PPCB/2020-188	Report Date	03.07.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: PPCB - 188 Period of Testing: 01.07.2020 - 03.07.2020			
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 - II) 10000M ³ /Hr		
4.	Sampling Point	:	Front the port hole		
5.	Date of Sampling	:	25.06.2020		
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)	:	42		
2.	Stack Temperature (°C)	:	48		
3.	Velocity (m/sec)	:	14.52		
4.	Source of Emission & capacity	:	Process Stack (Ash Silo Plant - 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)	:	3296		

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	16.08	150	IS 11255 (Part 1) 1985

*****Lab Report*****

Dilucko

Manager Lab./Sr. Chemist

Authority Signatory
QM / TM

Rajesh
3-7-20

Facilities: Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environment Consultancy Etc.

NOTE

1. Samples shall be disposed off after 21 days issue of test report unless specified.
2. Results listed above relates to the only tested samples. Understatement of the same is neither intended nor implied.
3. This test report shall not be reproduced, full or in part, and should be used as proof in the court of law.
4. The test report shall not be made in any circulating agency/media without the written approval of laboratory.



Envirochem Testing Lab & Research Centre

Govt. Approved Lab

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Email : envirochemtestinglab@gmail.com

TEST REPORT

Report No	ETL/ PPCB/ 2020-189	Report Date	03.07.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: PPCB - 189 Period of Testing: 01.07.2020 - 03.07.2020			

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	: 26.06.2020
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)	: 43
2.	Stack Temperature (°C)	: 56
3.	Velocity (m/sec)	: 12.33
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	: 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)	: 49404

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	51.73	150	IS 11255 (Part 1) 1985

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

P. Dhillon

Manager Lab./Sr. Chemist

NOT FOR COMMERCIAL PURPOSES
NOT FOR LEGAL PROCEEDINGS



Facilities : Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Bridge & Environment Consultancy Etc.

NOTE

1. Samples shall be disposed off after 24 (twenty four) hours of test report (where specified)
2. Results listed above reported to the Govt. issued authorities. Enforcement of the same is entirely the responsibility of the client.
3. The test report shall not be introduced in any court of law as evidence without the written approval of laboratory.
4. This test report shall not be used in any advertising agency or media without the written approval of laboratory.



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TEST REPORT

Report No	ETL/PPCB/2020-190	Report Date	03.07.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: PPCB - 190 Period of Testing: 01.07.2020 - 03.07.2020			

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	: 26.06.2020
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)	: 41
2.	Stack Temperature (°C)	: 56
3.	Velocity (m/sec)	: 11.63
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)	: 7561

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	49.61	150	IS 11255 (Part 1) 1985

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

P. K. Singh
 Manager Lab/ Sr. Chemist

Authority Signatory
 QM / TM
Rajendra
 3-7-20

Facilities - Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, ESH, Storage & Environment Consultancy Etc.

NOTE:

1. Sample should be delivered to the lab 24 days before of test report unless specified.
2. Results report always related to the city, tested samples. Endorsement of the name of either officer for authentication.
3. The test report should not be reproduced full or in part and copy should be used as per the test report.
4. This test report should not be placed in any advertising agency without the prior approval of laboratory.



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TEST REPORT

Report No	ETL/PPCB/2020-191	Report Date	03.07.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Gandwal Sahib) Ltd. Kapurthala Road, Gandwal Sahib, Distt. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: PPCB - 191 Period of Testing: 01.07.2020 - 03.07.2020			

SAMPLE PARTICULARS

1	Name of the Unit	: M/s GVK Power (Gandwal 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	: 27.06.2020
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)	: 41
2.	Stack Temperature (°C)	: 51
3.	Velocity (m/sec)	: 12.13
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	: 43 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)	: 8008

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	44.68	150	IS 11255 (Part 1) 1985

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

Prakash
Manager Lab./Sr. Chemist

Authority Signatory
QM/TM

Rajesh
3-7-20

Facilities : Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environmental Consultancy Etc.

NOTE

1. Samples shall be disposed off after 21 days issue of test report unless specified.
2. Results listed above related to the only testing samples. Extraneous use of the same or similar material is not recommended.
3. This test report shall not be reproduced full or in part (and carry) periodical payment as per the terms of lab.
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TEST REPORT

Report No	ETL/PPCB/2020-192	Report Date	03.07.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurbhala Road, Goindwal Sahib, Distt. Tara Taran - 143422		Party's Ref No: Nil Work Order No: PPCB - 192 Period of Testing: 01.07.2020 - 03.07.2020			

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	: 27.06.2020
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)	: 43
2.	Stack Temperature (°C)	: 53
3.	Velocity (m/sec)	: 12.6
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)	: 20734

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	50.38	150	IS 11255 (Part 1) 1985

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

P. Singh
Manager Lab./ Sr. Chemist

REPORT IS VALID
ONLY FOR CONSENT PURPOSES
NOT FOR MONITORING PURPOSE

Authority Signatory
QM/TM
Rajesh
3-7-20

Facilities: Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Storage & Environment Consultancy Etc.

NOTE:

1. Samples shall be disposed off after 21 days unless of test report unless specified.
2. Methods listed above related to this test are subject to change. Endorsement of the same is neither intended nor implemented.
3. The test report shall not be reproduced full or in part and cannot be used as proof of the fact of law.
4. The test report should not be used in any advertising agency/media, without the written approval of laboratory.



TC-6015

Envirochem Testing Lab & Research Centre

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TEST REPORT

Report No	ETL/ PPCB/ 2020-193	Report Date	03.07.2020	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. Tam Taran - 143422

Party's Ref No: Nil
 Work Order No: PPCB - 193
 Period of Testing: 01.07.2020 - 03.07.2020

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	:	29.06.2020
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)	:	42
2.	Stack Temperature (°C)	:	170
3.	Velocity (m/sec)	:	12.24
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	:	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)	:	924

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), (gm/Kwh)	0.14	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)	1.16	4.0	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), (gm/Kwh)	0.48	3.5	ETL-SOP - S 06
5.	Hydrocarbons (HC), (gm/Kwh)	0.13	1.30	HC Meter

Remarks: Analysed Parameters meet the Standards Limits.

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

[Signature]

Manager Lab./ Sr. Chemist

OFFICE OF THE
 JUDICIAL OFFICER IN CHARGE
 OF PCB AND/ OR WQ/ AIR PCB



Facilities : Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emission, Soil, Sludge & Environmental Consultancy Etc.

NOTE

1. Samples shall be collected after 24 days issue of test report unless specified
2. Results listed above referred to the only tested samples. Enforcement of the same is neither implied nor understood.
3. The test report shall not be reproduced in its part and cannot be used as proof in the court of law.
4. The test report should not be used in any advertising agencies/media without the written approval of laboratory.



Envirochem Testing Lab & Research Centre

Govt. Approved Lab

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TEST REPORT

Report No	ETL/ PPCB/ 2020-194	Report Date	03.07.2020	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 - 194 Period of Testing: 01.07.2020 - 03.07.2020			

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	: 29.06.2020
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)	: 43
2.	Stack Temperature (°C)	: 215
3.	Velocity (m/sec)	: 13.6
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)	: 932

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), (gm/Kwh)	0.13	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)	1.21	4.0	IS 11255 (Part 7) 2005
4.	Carbon Monoxide (CO), (gm/Kwh)	0.51	3.5	ETL-SOP - S 06
5.	Hydrocarbons (HC), (gm/Kwh)	0.14	1.50	HC Meter

Remarks: Analysed Parameters meet the Standards Limits.

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

[Signature]
 Manager Lab/ Sr. Chemist

FOR CO-TEST PURPOSE
 NOT FOR MULTIPLE USE



Facilities: Drinking Water, Waste Water, Air Quality, Ambient Air, Stack Emissions, Soil, Sludge & Environment Compatibility Etc.

NOTE:

1. Samples shall be preserved till 30th/21 days from the report unless specified.
2. Results listed above related to the only testing purpose. Extension of the same is on their interest not implemented.
3. The test report shall not be reproduced for any other purpose without the written approval of the client.
4. The test report shall not be used as any evidence without the written approval of laboratory.



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TC-6015

TEST REPORT

Report No.	ETL/ PNP/2350	Report Date	06.08.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Dist. Yamunanagar - 143422		Party's Ref No: Nil Work Order No: 2350 Period of Testing: 01.08.2020 - 06.08.2020			

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	: 27.07.2020
6	Purpose of Analysis	: Self 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)	: 40
2.	Stack Temperature (°C)	: 118
3.	Velocity (m/sec)	: 18.44
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	: 30 min
9.	Emission Control	: ESPs
10.	General sensory observation	: Normal
11.	Recovery of material	: Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	: 879750

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	33.4	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	889.6	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	388.4	300	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (DL - 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 (DL - Detectable Limit). *Parameter not covered under NABL scope.

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

P. Singh
Manager Lab./ Sr. Chemist

Rajendra
Authority Signatory

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

- 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.



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TC-6015

TEST REPORT

Report No	ETL/ PNP/2351	Report Date	06.08.2020	Doc No.	ETL/QE/7.8/0-1
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kapurihala Road, Goindwal Sahib, Distt. Yam Taran - 143422	Party's Ref No:	Nil	Work Order No:	2351
		Period of Testing:	01.08.2020 - 06.08.2020		

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	:	28.07.2020
6	Purpose of Analysis	:	Self Monitoring Purpose
7	Sample Collected by / Supplied by	:	By Lab Representative
8	Method of sampling	:	IS 11255 (P - I & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	40
2.	Stack Temperature (°C)	:	125
3.	Velocity (m/sec)	:	19.65
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	:	30 min
9.	Emission Control	:	ESP's
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	920989

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	31.4	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	840.8	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	399.4	300	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (DL - 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 (DL - Detectable Limit). *Parameter not covered under NABL scope.

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

Manager Lab./ Sr. Chemist

Authority Signatory

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



- N 1. Samples shall be disposed off after 21 days issue of the 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 shall not be used in any advertising agency/media without the written approval of laboratory



ENVIROCHEM TESTING LAB & Research Centre

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Web : www.etlrc.com

TEST REPORT

Report No	ETL/ PNP/2424	Report Date	04.09.2020	Doc No.	ETL/QF/7.8/G1
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Tam Taran - 143422		Party's Ref No: Nil Work Order No: 2424 Period of Testing: 29.08.2020 – 04.09.2020			

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	:	27.08.2020
6	Purpose of Analysis	:	Self 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)	:	39
2.	Stack Temperature (°C)	:	122
3.	Velocity (m/sec)	:	19.66
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	:	30 min
9.	Emission Control	:	ESPs
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	928456

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	41.2	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	906.9	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	378.4	300	IS 11255 (Part 7) 2005
4.	Mercury (Hg), mg/NM ³ *	ND (DL - 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 (DL - Detectable Limit). *Parameter not covered under NABL scope.

P. Chahal
Manager Lab./ Sr. Chemist

Rajend
Authority Signatory
QM / TM

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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.
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TEST REPORT

Report No.	ETL/PNP/2425	Report Date	04.09.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tara Taran - 143422		Party's Ref No: Nil Work Order No: 2425 Period of Testing: 29.08.2020 – 04.09.2020			

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	:	27.08.2020
6	Purpose of Analysis	:	Self 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)	:	39
2.	Stack Temperature (°C)	:	130
3.	Velocity (m/sec)	:	20.04
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	:	30 min
9.	Emission Control	:	ESPs
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	927615

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	36.9	50	IS 11255 (Part 1) 1983
2.	Sulphur Dioxide (SO ₂), mg/NM ³	799.4	600	IS 11255 (Part 2) 1983
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	401.5	300	IS 11255 (Part 7) 2003
4.	Mercury (Hg), mg/NM ³ *	ND (DL - 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 (DL - Detectable Limit). *Parameter not covered under NABL scope.

Manager Lab/ Sr. Chemist

Authority Signatory
QM / TM

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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.
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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2020-207	Report Date	28.09.2020	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: PPCB - 207 Period of Testing: 21.09.2020 - 28.09.2020			

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	: 15.09.2020
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)	: 40
2.	Stack Temperature (°C)	: 125
3.	Velocity (m/sec)	: 20.99
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)	: 983795

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	32.7	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	882.4	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	410.5	300	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*****

(Signature)
Manager Lab./ Sr. Chemist

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NOT FOR MONITORING PURPOSES



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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2020-208	Report Date	28.09.2020	Doc No.	ETL/QF/7.8/03
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: PPCB - 208 Period of Testing: 21.09.2020 - 28.09.2020			

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	:	15.09.2020
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)	:	41
2.	Stack Temperature (°C)	:	128
3.	Velocity (m/sec)	:	20.90
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	:	ESPs
10.	General sensory observation	:	Normal
11.	Recovery of material	:	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	:	972248

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	40.4	50	IS 11255 (Part 1) 198
2.	Sulphur Dioxide (SO ₂), mg/NM ³	902.5	600	IS 11255 (Part 2) 198
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	342.8	300	IS 11255 (Part 7) 200
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-6035

TEST REPORT

Report No	ETL/PPCB/2020-199	Report Date	28.09.2020	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Yam Taran - 143422		Party's Ref No: Nil			
		Work Order No: PPCB - 199			
		Period of Testing: 21.09.2020 - 28.09.2020			

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	:	16.09.2020
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)	:	41
2.	Stack Temperature (°C)	:	49
3.	Velocity (m/sec)	:	13.91
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)	:	4284

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	20.44	150	IS 11255 (Part I) 1984

*****Test Report*****

P. K. Singh
Manager Lab/ Sr. Chemist



1. Samples shall be disposed off after 21 days issue of test report unless specified
2. Results stated above related to the tested sample. Enforcement of the same is neither warranted nor implemented
3. The test report shall not be reproduced full or in part & can't be used as proof in the court of law
4. This test report should not be used in any advertising agency/media without the prior approval of laboratory



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TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-200	Report Date	28.09.2020	Doc No.	ETL/QF/7.8/31
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Issue to:

M/s GVK Power (Goidwal Sahib) Ltd.
Kaparthala Road, Goidwal Sahib,
Distt. Tam Taran - 143422

Party's Ref No: Nil

Work Order No: PPCB - 200

Period of Testing: 21.09.2020 - 28.09.2020

SAMPLE PARTICULARS

1	Name of the Unit	:	M/s GVK Power (Goidwal Sahib) Ltd.
2	Type of Industry	:	Thermal Power Plant
3	Type of Sample	:	Process Stack (Ash Silo Plant - II) 10000M ³ /Hr
4	Sampling Point	:	From the port hole
5	Date of Sampling	:	16.09.2020
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)	:	39
2.	Stack Temperature (°C)	:	50
3.	Velocity (m/sec)	:	14.23
4.	Source of Emission & capacity	:	Process Stack (Ash Silo Plant - 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)	:	4383

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), ng/NM ³	22.2	150	IS 11255 (Part 1) 1983

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

P. Singh
Manager Lab/ Sr. Chemist



1. Samples shall be dispatched after 24 days issue of test report unless specified.
2. Results based on/related to this report samples. If duplicates of the same is/are received no implementation.
3. The test report shall be the responsibility of the user & shall be used as proof in the court of law.
4. The test report should not be used as an advertising agency/media without the written approval of laboratory.



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TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-201	Report Date	28.09.2020	Doc No.	ETL/QF/7.8/01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kaparthala Road, Goindwal Sahib, Distt. Tarn Taran - 143422	Party's Ref No:	Nil	Work Order No:	PPCB - 201
		Period of Testing:	21.09.2020 - 28.09.2020		

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	: 17.09.2020
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)	: 41
2	Stack Temperature (°C)	: 58
3	Velocity (m/sec)	: 12.64
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	: 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)	: 47875

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	52.85	150	IS 11255 (Part 1) 1983

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

P. K. Singh
Manager Lab./ Sr. Chemist



- N 1. Samples shall be disposed off after 21 days/issue of test report (where specified)
 O 2. Results have to be reported to the tested samples. Embroachment of the same is neither allowed 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.
 Y 4. The test report shall not be used in any advertising agency/media without the written approval of authority.



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TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-202	Report Date	28.09.2020	Doc No.	ETL/QP/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tam Taran - 143423		Party's Ref No: Nil Work Order No: PPCB - 202 Period of Testing: 21.09.2020 - 28.09.2020			

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	: 18.09.2020
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)	: 39
2.	Stack Temperature (°C)	: 59
3.	Velocity (m/sec)	: 11.52
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)	: 7422

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	46.2	150	IS 11255 (Part 1) 1984

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

P. Kumar
Manager Lab/ Sr. Chemist

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GOINDWAL SAHIB, DISTT. TAM TARAN, HARYANA



- N 1. Samples shall be retained till after 21 days issue of test report unless specified.
 D 2. Results listed above, issued to the client is/are, endorsement of the same is neither intended 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.
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TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-203	Report Date	28.09.2020	Doc.No.	ETL/QF/7.8-01
Issue to:	M/s GVK Power (Goindwal Sahib) Ltd. Kaporthala Road, Goindwal Sahib, Distt. Tam Taraon - 143422	Party's Ref No:	Nil	Work Order No:	PPCB - 203
		Period of Testing:	21.09.2020 - 28.09.2020		

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	: 18.09.2020
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)	: 38
2.	Stack Temperature (°C)	: 54
3.	Velocity (m/sec)	: 12.08
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	: 43 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)	: 7902

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	40.1	150	IS 11255 (Part 1) 198

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

P. K. Datta

Manager Lab/ Sr. Chemist

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Rajesh
28.09.20
Authority Signatory
QM/TM

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O 2. Results listed above related to the tested sample. Endorsement of this report is neither intended 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 shall not be used in any advertising agency provided without the written approval of laboratory.



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TC-6015

TEST REPORT

Report No	ETL/PPCB/2020-204	Report Date	28.09.2020	Doc No.	ETL/QP/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Dist. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: PPCB - 204 Period of Testing: 21.09.2020 - 28.09.2020			

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 - J) 25200 M ³ /Hr
4	Sampling Point	: From the port hole
5	Date of Sampling	: 19.09.2020
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)	: 38
2.	Stack Temperature (°C)	: 57
3.	Velocity (m/sec)	: 11.42
4.	Source of Emission & capacity	: Process Stack-Stack Attached to Bag Filter (Junction Tower - J) 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)	: 18278

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	53.4	150	IS 11255 (Part 1) 1987

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

P. Singh
Manager Lab/ Sr. Chemist



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2. Results listed above related to the listed samples. Estimates of the same or higher order are not recommended.
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TC-6015

TEST REPORT

Report No.	ETL/ PPCB/ 2020-205	Report Date	28.09.2020	Doc No.	ETL/QP/7.8/01
Issue to: M/s GVK Power (Goidwal Sahib) Ltd. Kapurthala Road, Goidwal Sahib, Dist. Tarn Taran - 143422		Party's Ref No: Nil Work Order No: PPCB - 205 Period of Testing: 21.09.2020 - 28.09.2020			

SAMPLE PARTICULARS

1.	Name of the Unit	: M/s GVK Power (Goidwal 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	: 18.09.2020
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)	: 40
2.	Stack Temperature (°C)	: 192
3.	Velocity (m/sec)	: 12.45
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	: HSD - 60 Lit/ Hr
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)	: 899

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM) ₁₀ (gm/Kwh)	0.12	0.2	IS 11255 (Part 1) 1982
2.	Sulphur Dioxide (SO ₂) (gm/Kwh)	<0.05	-	IS 11255 (Part 2) 1982
3.	Oxides of Nitrogen (NO _x) (gm/Kwh)	0.99	4.0	IS 11255 (Part 7) 2002
4.	Carbon Monoxide (CO) ₁ (gm/Kwh)	0.42	3.5	ETL-SOP - S 06
5.	Hydrocarbons (HC) ₁ (gm/Kwh)	0.11	1.30	HC Meter

Remarks: Analysed Parameters meet the Standards Limits.

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

P. Singh
Manager Lab/ Sr. Chemist

Authority Signator
QM / TA



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TC-6015

TEST REPORT

Report No.	ETL/PPCB/2020-206	Report Date	28.09.2020	Doc No.	ETL/QF7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurbhala Road, Goindwal Sahib, Dist. Yam Tarn - 143422		Party's Ref No: Nil Work Order No: PPCB - 206 Period of Testing: 21.09.2020 - 28.09.2020			

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	: 19.09.2020
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)	: 40
2.	Stack Temperature (°C)	: 219
3.	Velocity (m/sec)	: 13.44
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/ Hr
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)	: 913

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) 1987
2.	Sulphur Dioxide (SO ₂), (gm/Kwh)	< 0.05	-	IS 11255 (Part 2) 1987
3.	Oxides of Nitrogen (NO _x), (gm/Kwh)	1.28	4.0	IS 11255 (Part 7) 2003
4.	Carbon Monoxide (CO), (gm/Kwh)	0.65	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*****

P. Singh
Manager Lab/ Sr. Chemist

Authority Signator:
QM / TS





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TEST REPORT

Report No.	ETL/ PNP/2579	Report Date	06.11.2020	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: 2579 Period of Testing: 31.10.2020 – 06.11.2020			

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	:	29.10.2020
6.	Purpose of Analysis	:	Self Monitoring
7.	Sample Collected by / Supplied by	:	By Lab Representative
8.	Method of sampling	:	IS 11255 (P – 1 & 3)

OBSERVATIONS

1.	Metering Temperature (°C)	:	33
2.	Stack Temperature (°C)	:	120
3.	Velocity (m/sec)	:	21.02
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)	:	997735

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	43.8	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	900.2	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO ₂), mg/NM ³	416.8	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. At the time of sampling only Unit- I is in operational.

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

Manager Lab./ Sr. Chemist



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TC-6015

TEST REPORT

Report No	ETL/ PPCB/2021 - 222	Report Date	29.01.2021	Doc No.	ETL/QF/7,S/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 - 222 Period of Testing: 25.01.2021 - 29.01.2021			

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	: 23.01.2021
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)	: 15
2.	Stack Temperature (°C)	: 128
3.	Velocity (m/sec)	: 20.99
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)	: 976435

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	35	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	812	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	340	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. At the time of sampling only Unit- I is in operational.

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

Manager Lab/ Sr. Chemist

Authority Signatory
QM / TM
Date: _____
Panipat

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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2020-225	Report Date	08.02.2021	Doc No.	ETL/QF/7.8/01
Issue to:	Party's Ref No: As per agreement				
M/s GVK Power (Goindwal Sahib) Ltd.	Work Order No: PPCB - 225				
Kapurthala Road, Goindwal Sahib,	Period of Testing: 04.02.2021 - 08.02.2021				
Distt. Tarn Taran - 143422					

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	: 03.02.2021
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)	: 17
2.	Stack Temperature (°C)	: 130
3.	Velocity (m/sec)	: 21.02
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	: ESPs
10.	General sensory observation	: Normal
11.	Recovery of material	: Nil
12.	Volumetric flow rate VFR (NM ³ Hr)	: 972977

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits, CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	36.7	50	IS 11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	755	600	IS 11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	374.2	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



REPORT IS VALID
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NOT FOR MONITORING PURPOSE

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TC-6015

TEST REPORT

Report No	ETL/PCCB/2021-232	Report Date	10.03.2021	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: PPCB - 232 Period of Testing: 08.03.2021 - 10.03.2021			

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 - 1) - 865 TPH
4	Sampling Point	From the port hole
5	Date & Time of Sampling	06.03.2021
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)	26
2.	Stack Temperature (°C)	140
3.	Velocity (m.sec)	20.12
4.	Source of Emission & capacity	Boiler Stack (Unit - 1) - 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)	908768

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits (CPCB)	Protocol Used
1	Particulate Matter (PM), mg/NM ³	40.2	50	IS 11255 (Part 1) 1985
2	Sulphur Dioxide (SO ₂), mg/NM ³	756	600	IS 11255 (Part 2) 1985
3	Oxides of Nitrogen (NO _x), mg/NM ³	371	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/PCB/ 2021-233	Report Date	10.03.2021	Doc No.	ETL/QP/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: PCB - 233			
		Period of Testing: 08.03.2021 - 10.03.2021			

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	06.03.2021
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)	26
2.	Stack Temperature (°C)	128
3.	Velocity (m/sec)	20.40
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	ESPs
10.	General sensory observation	Normal
11.	Recovery of material	Nil
12.	Volumetric flow rate VFR (NM ³ /Hr)	948988

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits CPCB	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	16	50	IS-11255 (Part 1) 1985
2.	Sulphur Dioxide (SO ₂), mg/NM ³	796	600	IS-11255 (Part 2) 1985
3.	Oxides of Nitrogen (NO _x), mg/NM ³	412	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/2021-226	Report Date	10.03.2021	Doc No.	ETL/QP/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: PPCB - 226			
		Period of Testing: 08.03.2021-10.03.2021			

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 - I (Ash Silo Plant)
4	Sampling Point	: From the port hole
5	Date of Sampling	: 06.03.2021
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)	: 27
2.	Stack Temperature (°C)	: 50
3.	Velocity (m/sec)	: 14.01
4.	Source of Emission & capacity	: Process Stack - I (Ash Silo Plant)
5.	Diameter of Stack	: 30 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)	: 3212

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	64	150	IS 11255 (Part 1) 1985

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

P. Anand
Manager Lab./ Sr. Chemist

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NOT FOR MONITORING PURPOSE



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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2021-227	Report Date	10.03.2021	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Feroz Khan - 143422		Party's Ref No: As per agreement Work Order No: PPCB - 227 Period of Testing: 08.03.2021-10.03.2021			

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 - II (Ash Silo Plant)
4	Sampling Point	From the port hole
5	Date of Sampling	05.03.2021
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)	26
2.	Stack Temperature (°C)	50
3.	Velocity (m-sec)	14.60
4.	Source of Emission & capacity	Process Stack - II (Ash Silo Plant)
5.	Diameter of Stack	30 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)	3198

TEST RESULTS

Sl. No.	Parameters	Results	Standard Limits	Protocol Used
1	Particulate Matter (PM), mg/NM ³	61	150	IS 11255 (Part 1) 1985

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

P. White
Manager Lab./ Sr. Chemist

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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.
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ENVIROCHEM TESTING LAB & Research Centre

(NABL ACCREDITED AND GOVT. APPROVED LAB)

(An ISO 9001 : 2015, ISO 14001 : 2015, ISO 18001 : 2007 Certified Lab)

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Email : envirochemtestinglab@gmail.com

Web. : www.etlrc.com



TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2021-228	Report Date	10.03.2021	Doc No.	ETL/QF/7.8/01
Issue to: M/s GVK Power (Goindwal Sahib) Ltd. Kapurthala Road, Goindwal Sahib, Distt. Tam Taran - 143422		Party's Ref No: As per agreement Work Order No: PPCB - 228 Period of Testing: 08.03.2021-10.03.2021			

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	: 05.03.2021
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)	: 26
2.	Stack Temperature (°C)	: 52
3.	Velocity (m/sec)	: 13.01
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	: 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)	: 50121

TEST RESULTS

Sl. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	73	150	IS 11255 (Part 1) 1985

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

P. Kumar
Manager Lab/ Sr. Chemist

Rajender Kumar
(Dr. Rajender Kumar)
MD



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TC-6015

TEST REPORT

Report No.	ETL/ PPCB/ 2021-229	Report Date	10.03.2021	Doc No.	ETL/QP/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: PPCB - 229 Period of Testing: 08.03.2021-10.03.2021			

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	05.03.2021
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)	26
2.	Stack Temperature (°C)	52
3.	Velocity (m/sec)	11.66
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)	7615

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1	Particulate Matter (PM), mg/NM ³	71	150	IS 11255 (Part 1) 1985

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

P. K. Singh
Manager Lab./ Sr. Chemist

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(Dr. Rajender Kumar)
MD
Rajender
10-3-21

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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2021-230	Report Date	10.03.2021	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: PPCB - 230			
		Period of Testing: 08.03.2021-10.03.2021			

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	:	04.03.2021
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)	:	27
2.	Stack Temperature (°C)	:	52
3.	Velocity (m/sec)	:	13.11
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	:	43 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)	:	7988

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1.	Particulate Matter (PM), mg/NM ³	70	150	IS 11255 (Part 1) 1985

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

P. Anand
Manager Lab./ Sr. Chemist



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TC-6015

TEST REPORT

Report No	ETL/ PPCB/ 2021-231	Report Date	10.03.2021	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: PPCB - 231 Period of Testing: 08.03.2021-10.03.2021			

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	04.03.2021
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)	51
3.	Velocity (m/sec)	12.33
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)	19788

TEST RESULTS

Sr. No.	Parameters	Results	Standard Limits	Protocol Used
1	Particulate Matter (PM), mg/NM ³	67	150	IS 11255 (Part 1) 1985

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

Rajender
Manager Lab./ Sr. Chemist

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FOR MONITORING PURPOSES

