



Green Crescent

Environmental Consultants (Pvt) Ltd.



Punjab-EPA Certified
Lahore Laboratory
Federal-EPA Certified
Islamabad Laboratory

Monitoring & Test Report

- Ground Water
- Waste Water
- Ambient Air Monitoring
- Noise Monitoring
- Stack Emission

**JK SUGAR MILL
(PVT) LTD.**

20th Jan. 2023

Job Reference No.: GCEC-PK-PU-14/2023

Green Crescent Environmental Consultant Pvt. Ltd.

has prepared this report in accordance with the instructions of
Client for their specific purpose. Any other individuals using the content presented in
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Client Detail:

Name of Contact Person:	Mr Noor-ul-Amin
Designation:	DGM-Admin
Contact Number:	0323-4856346
Telephone:	-
Email:	nooramin@jksugarmills.com
Address:	JKS Unit-1, Chak # 84/15L, 15 Km, Vehari Road, Kacha Khoo, Mian Chanu, District Khanewal

GCEC Details:

Director:	Mr. Mian Khurram Usman
Telephone:	+92 42 35962885
Fax:	-
Email:	manager.operations@gcee.ac
Address	House No. 368-B Block B, Canal View, Lahore

Signatories:

Zara Yousaf
(Coordination Department)

CHEMICAL ANALYSIS TEST REPORT (GROUND WATER)

Sample Details			
Job Ref. No:	GCEC-PK-PU-14/2023	Client Name:	JK Sugar Mill (Pvt) Ltd.
Telephone No.	0323-4856346	Sample Matrix:	Ground Water Sample
Sample Date:	15-01-2023	Sampled By:	GCEC
Sample Receipt Date:	16-01-2023	Date of Completion of Analysis:	18-01-2023
Grab/Composite:	Grab Sampling		
Address:	JKS Unit-1, Chak # 84/15L, 15 Km, Vehari Road, Kacha Khoo, Mian Chanu, District Khanewal		
Sample Identification			
01	Tubewell Near Residential Colony		

Parameters	Analysis Method	Unit	LOR	Results	PEQS
				01	
pH**	APHA-4500H ⁺ B	-	0.01	7.51	6.5-8.5
Total Hardness**	APHA-2340 B&C	mg/l	0.1	164.0	< 500 mg/l
Total Dissolved Solid (TDS)**	APHA-2540 C	mg/l	1.0	838.0	< 1000
Chloride**	APHA-4500Cl ⁻ B	mg/l	0.24	66.53	< 250
Fluoride (F)**	APHA-4500F ⁻ C	mg/l	0.01	1.1	≤ 1.5
Nitrite	APHA-4500NO ₂ ⁻ B	mg/l	0.01	<0.01	≤ 3 (P)
Nitrate**	APHA-4500NO ₃ ⁻ C	mg/l	0.1	<0.1	≤ 50
Residual Chlorine	APHA-4500Cl ⁻ G	mg/l	0.1	<0.1	0.2-0.5

MICROBIOLOGICAL ANALYSIS

Total Coliforms	APHA:9222 B	CFU/100ml	Absent	0/100ml
Faecal Coliforms (Ecoli)	APHA:9222 D	CFU/100ml	Absent	0/100ml

Abbreviations:

ND: Not Detected

LOR: Limit of Reporting

PEQS: Punjab Environmental Quality Standards

Note:

* Uncertainty of all the parameters and laboratory conditions at the time of analysis will be provided as per the client's requirement. The lab environmental conditions are maintained at 25±5C° and humidity at 50±20%.

Disclaimer: The results are sole of the sample provided. ** All starred parameters are PNAC accredited.

Sample Analyzed By:

Analyst

Mr. Idrees Zaman

Name of Chief Analyst with Seal:

Mr. Usman Raza Jaswal

CHEMICAL ANALYSIS TEST REPORT (WASTE WATER)

Sample Details			
Job Ref. No:	GCEC-PK-PU-14/2023	Client Name:	JK Sugar Mill (Pvt) Ltd
Telephone No.	0323-4856346	Sample Matrix:	Waste Water Sample
Sample Date:	15-01-2023	Sampled By:	GCEC
Sample Receipt Date:	16-01-2023	Date of Completion of Analysis:	20-01-2023
Grab/Composite:	Grab Sampling		
Address:	JKS Unit-1, Chak # 84/15L, 15 Km, Vehari Road, Kacha Khoo, Mian Chanu, District Khanewal		
Sample Identification			
01	ETP Outlet		

Parameters	Analysis Method	Unit	LOR	Result 01	PEQS
PHYSICAL & CHEMICAL ANALYSIS					
Temperature	APHA-2550-B	⁰ C	-	1.5	≤3
pH**	APHA-4500-H ⁺ B	pH unit	0.01	7.77	6-9
Total Dissolved Solid (TDS)**	APHA-2540 C	mg/l	1.0	772.0	3500
Oil and Grease**	USEPA-1664	mg/l	0.2	<0.2	10
Biological Oxygen Demand	APHA-5210 B	mg/l	1.0	16.0	80
Chemical Oxygen Demand**	APHA-5220-D	mg/l	1.0	46.0	150
Total Suspended Solid**	APHA-2540-C	mg/l	1.0	44.0	200
Abbreviations: ND: Not Detected LOR: Limit of Reporting PEQS: Punjab Environmental Quality Standards Note: <i>* Uncertainty of all the parameters and laboratory conditions at the time of analysis will be provided as per client's requirement. The lab environmental conditions are maintained at 25±5C° and humidity at 50±20%..</i> Disclaimer: The results are solely of the sample provided. **All the starred parameters are PNAC accredited.					

Sample Analyzed By:

Name of Chief Analyst with Seal:

Analyst
Mr. Idrees Zaman

Mr. Usman Raza Jaswal

Ambient Air & Noise Monitoring

NEAR FACTORY LAB

(JK Sugar Mill, Vehari)

DRAFT

Ambient Air Quality Monitoring

Job Reference Number	GCEC-PK-PU-14/2023
Monitoring Point	Near Factory Lab
Date of Intervention	14-01-2023 to 15-01-2023
Monitoring Coordinates	30°14'57.0"N 72°11'24.1"E
Monitoring Validated By	Mr. Shamshad Ahmad

Parameter	Unit	Monitoring Duration	LDL	Average Obtained Concentration	PEQS
Suspended Particulate Matter (SPM)	µg/m ³	24 Hours	1.00	163.5	500.0
Abbreviations: µg/m ³ = Micrograms per Cubic Meter LDL= Lowest Detection Limit PEQS= Punjab Environmental Quality Standards					

Monitoring Performed By:

Name of Chief Analyst with Seal:

Deputy Analyst
Ahmed Malik

Mr. Usman Raza Jaswal

DRAFT

Noise Level Monitoring Report

Job Reference Number	GCEC-PK-PU-14/2023
Monitoring Point	Near Factory Lab
Date of Intervention	14-01-2023 to 15-01-2023
Monitoring Coordinates	30°14'57.0"N 72°11'24.1"E
Monitoring Validated By	Mr. Shamshad Ahmad

Sr. #	Time	Method/Technique	Unit	Results LAavg	PEQS (Commercial)
Night Time					
1.	23:00	Noise Meter	dB	42.5	55.0
2.	00:00	Noise Meter	dB	40.2	
3.	01:00	Noise Meter	dB	39.7	
4.	02:00	Noise Meter	dB	42.8	
5.	03:00	Noise Meter	dB	43.7	
6.	04:00	Noise Meter	dB	41.9	
7.	05:00	Noise Meter	dB	44.2	
8.	06:00	Noise Meter	dB	42.5	
Night Time Average			dB	42.18	55.0
Day Time					
9.	07:00	Noise Meter	dB	51.1	65.0
10.	08:00	Noise Meter	dB	54.2	
11.	09:00	Noise Meter	dB	53.2	
12.	10:00	Noise Meter	dB	52.8	
13.	11:00	Noise Meter	dB	53.3	
14.	12:00	Noise Meter	dB	51.7	
15.	13:00	Noise Meter	dB	53.2	
16.	14:00	Noise Meter	dB	54.6	
17.	15:00	Noise Meter	dB	52.5	
18.	16:00	Noise Meter	dB	54.4	
19.	17:00	Noise Meter	dB	54.8	
20.	18:00	Noise Meter	dB	52.1	
21.	19:00	Noise Meter	dB	50.6	
22.	20:00	Noise Meter	dB	48.9	
23.	21:00	Noise Meter	dB	44.4	
24.	22:00	Noise Meter	dB	51.1	
Day Time Average			dB	51.95	65.0

Monitoring Performed By:

Name of Chief Analyst with Seal:

Deputy Analyst
Ahmed Malik

Mr. Usman Raza Jaswal

Stack Emission Monitoring Report

Client Name: JK Sugar Mill (PVT) LTD. Reporting Date: 20-Jan-2023
Job Number: GCEC-PK-PU-14/2023

Monitoring Point Details & Monitoring Results

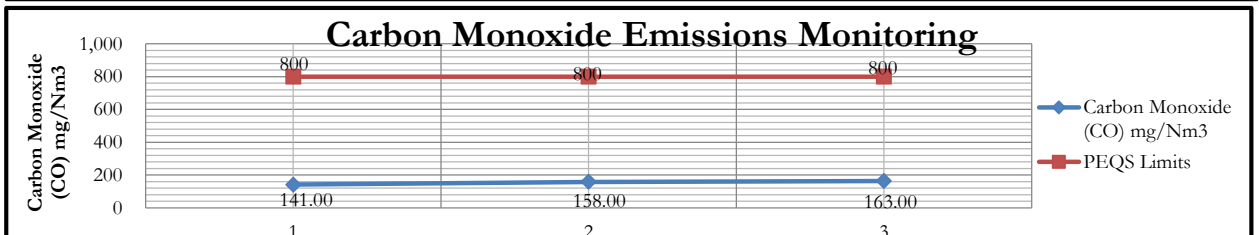
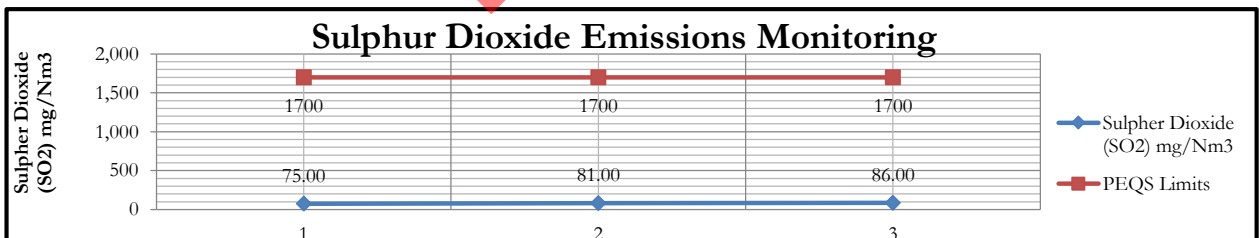
Monitoring Point:	Boiler-3	Monitoring Time:	17:49
Load:	On Load	Monitoring Date:	14-Jan-23
Fuel Type:	Baggasse	Instrument Used:	Lancom-IV
Monitoring Location:	Vehari	Capacity	82 Tons
Monitoring Validation By:	Mr.Shamshad Ahmad		

Parameters	Unit	Reading 01	Reading 02	Reading 03	Limits as per PEQS
Carbon Dioxide (CO ₂)	%	7.56	8.17	8.25	-
Oxygen (O ₂)	%	13.02	12.58	11.85	-
Carbon Monoxide (CO)	mg/Nm ³	141.00	158.00	163.00	800
Sulphur Dioxide (SO ₂)	mg/Nm ³	75.00	81.00	86.00	1700
Nitrogen Dioxide (NO ₂)	mg/Nm ³	12.00	17.00	22.00	-
Nitrogen Oxide (NO)	mg/Nm ³	208.00	217.00	231.00	-
NO _x	mg/Nm ³	220.00	234.00	253.00	-
Smoke	Ringlemann	1.00			2
Particulate Matter	mg/Nm ³	115.30			-

Abbreviations

PEQS=Punjab Environmental Quality Standards

mg/Nm³=Milligram/Normal meter cube



Deputy Analyst
Ahmed Malik

Name of Chief Analyst with Seal
Usman Raza Jaswal

Stack Emission Monitoring Report

Client Name: JK Sugar Mill (PVT) LTD. Reporting Date: 20-Jan-2023
Job Number: GCEC-PK-PU-14/2023

Monitoring Point Details & Monitoring Results

Monitoring Point:	Generator - 1	Monitoring Time:	18:20
Load:	On Load	Monitoring Date:	14-Jan-23
Fuel Type:	Diesel	Instrument Used:	Lancom-IV
Monitoring Location:	Vehari	Capacity	520 KVA
Monitoring Validation By:	Mr.Shamshad Ahmad		

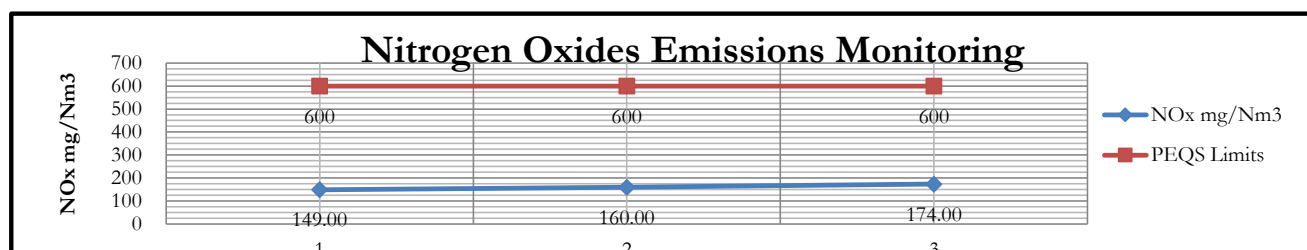
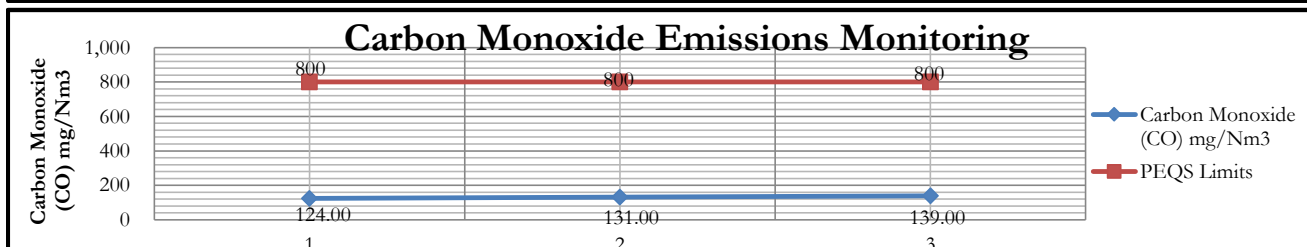
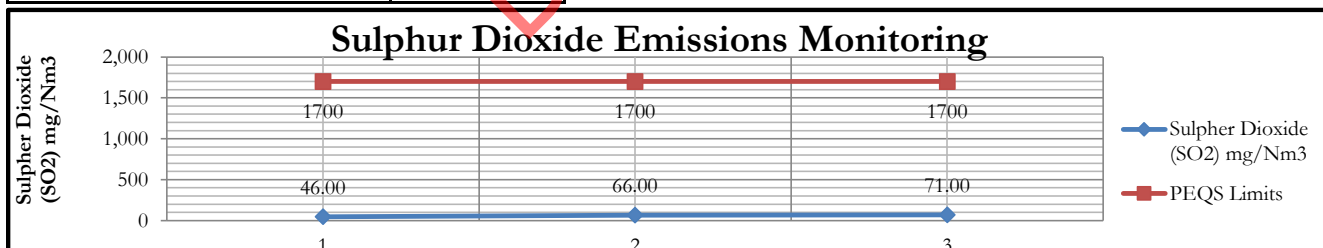
Parameters	Unit	Reading 01	Reading 02	Reading 03	Limits as per PEQS
Carbon Dioxide (CO ₂)	%	7.08	7.38	8.11	-
Oxygen (O ₂)	%	12.25	11.97	11.59	-
Carbon Monoxide (CO)	mg/Nm ³	124.00	131.00	139.00	800
Sulphur Dioxide (SO ₂)	mg/Nm ³	46.00	66.00	71.00	1700
Nitrogen Dioxide (NO ₂)	mg/Nm ³	5.00	9.00	15.00	-
Nitrogen Oxide (NO)	mg/Nm ³	144.00	151.00	159.00	-
NOx	mg/Nm ³	149.00	160.00	174.00	600*
Smoke	Ringlemann	1.00			2
Particulate Matter	mg/Nm ³	72.90			300

*Levels of NOx according to Fuel type as per PEQS

Oil Fired	600
Coal Fired	1200
Gas Fired	400

Abbreviations

PEQS=Punjab Environmental Quality Standards
mg/Nm³=Milligram/Normal meter cube



Deputy Analyst
Ahmed Malik

Name of Chief Analyst with Seal
Usman Raza Jaswal

**PICTORIAL EVIDENCE OF AMBIENT AIR, NOISE, STACK EMISSION
MONITORING AND WATER SAMPLING**



Figure 1:SPM Monitoring Near Factory Lab



Figure 2: Noise Monitoring Near Factory Lab



Figure 3: Stack Emission Monitoring of Generator-1



Figure 4: Stack Emission Monitoring of Boiler-3



Figure 5: Ground Water Sampling of Tubewell Near Residential Colony



Figure 6: Waste Water Sampling of ETP Outlet

End of Report