JSW Energy (Barmer) Limited
Village & Post : Bhadresh, Post Box No. 30,
Distt : Barmer – 344001 (Rajasthan)
CIN : U31102MH1996PLC185098
Phone : +91 2982 229100
Website : www.jsw.in

Ref: JSWE(B)L/ENV/22-23/003 Date: 31.05.2022

To,

Ministry of Environment Forests & Climate Change,
Integrated Regional Office,
A-209&218, Aranya Bhavan, M. G. Road,
Jaipur-304002, Rajasthan.

Sub: Compliance Report-Environmental Clearance for 1080 MW Lignite based Power Plant at Village-Bhadresh, District Barmer.

Dear Sir,

With reference to your letter No. J-13011/58/2006-IA-II (T) dated 20.07.2007 and 19.11.2009, and followed by Letter no. IV/ENV/R/Th-39/679/08/273, we herewith submit half-yearly compliance report, for the period pertaining to **OCTOMBER- 2021 to MARCH- 2022,** for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on JSWEBL website – http://www.jsw.in/energy/about-barmer-plant.

We have taken up the Project activity at proposed site incorporating the conditions stipulated in this environmental clearance.

Thanking you.

For JSW ENERGY (BARMER) Ltd**.**

Vinod Jindal
DGM (Environment & Chemistry)

Enclosure:

1. Compliance Report
2. Water consumption Data **-Annexure I**
3. Effluent Water Data **-Annexure II**
4. Coal Analysis Data **-Annexure III**
5. CEMS & Stack Monitoring DATA **-Annexure IV**
6. Ash Utilization Data **-Annexure V**
7. Noise Monitoring **-Annexure VI**
8. AAQ Monitoring Data -**Annexure VII**
9. Environmental Expenditure **- Annexure VIII**
10. Last Compliance Report **-Annexure IX**

C.C.
The Director – MOEF, Delhi
The Director – MOEF, Lucknow.
The Member Secretary – Central Pollution Control Board, Delhi
The Member Secretary – RSPCB, Jaipur
The Regional Officer – RSPCB, Balotra.

Compliance report for MOEF conditions stipulated in Environmental Clearance (dt. 20-07-2007 as amended on 19-11-2009) for 1080 MW Lignite-based power project of RWPL at Village-Bhadresh, District-Barmer

Reporting Period: OCT, 2021- MAR-2022

S.N.	Condition	Status
i	No land in excess of 468 ha shall be acquired for any activity of the project.	Land acquisition has been carried at the time of setting up the Power Project. No additional land been acquired for this Project.
ii	The water requirement for the project shall not exceed 35.5 cusecs. No ground water shall be abstracted for any activity of the project.	Water in excess of the mandated 35.5 cusecs would not be drawn during the operation of the Project. IGNP supplied water is being used for generation of Electricity as per EC conditions. Water being used Records of Water received from IGNP is enclosed. **ANNEXURE-I**
iii	*Closed Circuit Cooling System with induced draft cooling towers shall be installed.*	Four numbers of closed circuit cooling tower blocks with induced draft cooling towers have been erected and are in operation.
iv	*Treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. No effluents shall be discharged outside the plant boundary.*	A common **ETP (Aeration – Clarifier – Filtration – Ultra Filtration – Reverse Osmosis)** to cater to all the 8 power generating units has erected. All the process effluents generated is being treated in this ETP and reused within the plant ensuring zero discharge outside the plant boundary. Effluent Water Quality Data – **Annexure – II**
v	*Lignite with ash content not exceeding 20% and sulphur content not exceeding 2.0% shall be used.*	Lignite with ash content less than 20% and Sulphur content less than 2% being used. Third party analysis reports for the same are enclosed. **ANNEXURE-III**

vi	*Space provision for FGD shall be made, if required at a later stage.*	The Project is based on Circulating Fluidized Base Combustion technology for fuel firing and involves injection of lime, which absorbs Sulphur. As such, there is no requirement for FGD. However space provision has been made for FGD.
vii	*Four stacks of 122 m height each with exit velocity of at least 20 m/s shall be provided with continuous online monitoring system.*	A total of four bi-flue stacks, each flue of 122 m height, shall release the flue gases to the atmosphere. All these stacks being equipped with Continuous Emission Monitoring Systems (CEMS), to ensure the emission of PM, SO2, NOx & CO to be within prescribed levels. **ANNEXURE-IV**
viii	*Low NOx burners shall be installed.*	The boiler is designed on Circulating Fluidized Bed Combustion, system attains to very low NOx generation. **ANNEXURE-IV**
ix	*High efficiency Electrostatic Precipitator (ESPs) having efficiency of 99.9% shall be installed so as to ensure that particulate emissions do not exceed 100 mg/Nm^3.*	High efficiency ESPs are installed to maintain PM emission levels at less than 100 mg/Nm^3. **ANNEXURE-IV**
xi	*Fly ash shall be collected in dry form and its 100% utilization shall be ensured within 3 years from the day of the commissioning of the plant. Ash to be disposed off in the ash pond shall be through HCSD system.*	Fly ash is being collected in dry form from the currently operational EIGHT Units and is being lifted by M/s Shree Cement, M/s. JK Lakshmi, M/s. Ambuja Cement Limited & M/s Binani Cements and many Local Brick and Tiles Block manufacturer. Unutilized ash, if any, would be disposed off to the emergency ash pond through HCSD system. **Ash Utilization data ANNEXURE-V**
xii	*Ash pond shall be lined with 0.5 mm thick HDPE geo-membrane lining.*	The ash pond is lined with 0.5 mm thick HDPE geo-membrane, to avoid any leachate to the ground.

xiii	*Details of compensation to be paid to the land oustees along with number of land oustees shall be worked out and submitted to this Ministry within three months from the date of issue of this letter or before the start of work on the project whichever is earlier.*	Resettlement Action Plan (RAP) was compiled and submitted to the MOEF on 30-07-2007.
xiv	*Necessary prior clearance from NHAI shall be obtained before laying the pipeline.*	All necessary prior clearance from NHAI had obtained before laying the pipeline and a copy Submitted.
xv	*Necessary prior clearance from Indian Air Force shall be obtained for construction of stacks of requisite height before starting the work on the project.*	Before commencing the civil work on the stacks, necessary clearance had obtained from the Indian Air Force.
xvi	*Adequate measures shall be taken up to maintain the sanctity and protection from any adverse impact from the proposed power project to the temple of Sant Ishardas Samadhi.*	The Temple is outside the plant premises. In consultation with the local population, suitable developmental measures such as supply of lighting and electricity have been taken for this temple.
xvii	*Regular monitoring of ground water quality including heavy metals shall be undertaken in the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from the ash disposal area.*	There is hardly any ground water within 20 km of the Project area.
xviii	*Noise levels shall be limited to 75 dBA. For people working in the high noise area, protective devices such as earplugs etc. shall be provided.*	The machinery has been designed to limit the noise levels to 75 dB (A). All personnel working in the Plant have PPEs issued. **ANNEXURE-VI**
xix	*A greenbelt shall be developed all around the plant boundary and ash pond covering an area of 154 ha.*	A total of 154 Ha area brought under green belt developed as designated greenbelt area. Mortality replacement work is continuous process and is being carried.
xx	*Regular monitoring of the air quality shall be carried out in and around the power plant and records shall be maintained. The location of monitoring stations and frequency of monitoring shall be finalized in consultation with SPCB. Six monthly reports shall be submitted to this Ministry.*	Regular monitoring of AAQ is being carried out in and around the power plant at locations and frequency finalized in consultation with the RSPCB and records are maintained. **ANNEXURE-VII**

xxi	*For controlling fugitive dust, regular sprinkling of water in lignite handling area and other vulnerable areas of the plant shall be ensured.*	Regular sprinkling of water is being practiced to minimize the fugitive dust emissions.
xxii	*The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/Committee and may also be seen in the Website of the Ministry of Environment and Forests in the http://envfor.nic.in.*	Published in Rajasthan Patrika Jodhpur Edition, Dt 19/08/2007
xxiii	*A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.*	A dedicated environment monitoring cell with qualified staff has been established and is operative.
xxiv	*Half yearly report on the status of implementation of the conditions and environmental safeguards should be submitted to this Ministry, its Regional Office, CPCB and SPCB.*	Being complied with. Copy of Submission enclosed – **Annexure IX**
xxv	*Regional Office of the Ministry of Environment & Forests located at Lucknow will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact Assessment Report and Management Plan along with additional information submitted to this Ministry should be forwarded to the Regional Office for their use during monitoring.*	Submitted.
xxvi	*Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.*	The funds earmarked for environmental protection measures will not be diverted for other purposes. **Annexure VIII**
xxvii	*Full cooperation should be extended to the Scientists/Officers from the Ministry and its Regional Office at Lucknow /the CPCB/the SPCB during monitoring of the project.*	Being complied.

ANNEXURE - I

IGNP WATER BILL

Octomber-2021 To MARCH -2022

Month	Cuft/Month	Cum/Month	Cuft/day	Cusecs – Day
OCTOBER	79577356	2253392	2567011	29.71
NOVEMBER	63608151	1801192	2120272	24.54
DECEMBER	59161069	1675264	1908422	22.09
JANUARY	56903203	1611328	1835587	21.25
FEBRUARY	31290320	886048	1117511	12.93
MARCH	73524279	2081987	2371751	27.45

ANNEXURE-I

Government of Rajasthan
Indira Gandhi Nahar Project

No. 445 01/11/2021 Date:

The General Manager
J.S.W Energy Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period oct/2021

S.No.	Particular	Reading on 01/10/21	Reading on 31/10/21	Difference as per flow meter	Qty. in CFT 0.028317	Unit	Rate	Ammount
1	Supply of raw water from IGMN to JSW for industrial purpose	130823656	133077048	2253392	79577356.36	/1000 cft	250	19894339.09

Rs.- one cr ~~fifty nine~~ ninty eight lac ~~fourty one~~ ninty two thousand ~~five~~ once hundred ~~fourty seven~~ thirty nine only

Assistant Engineer
Sub dn. 3rd/28th u/c tmc dn.
IGNP Mohangarh

Government of Rajasthan
Indira Gandhi Nahar Project

No. 457 2/12/2021 Date:

The General Manager
J.S.W Energy Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period nov/2021

S.No.	Particular	Reading on 01/11/21	Reading on 30/11/21	Difference as per flow meter	Qty. in CFT 0.028317	Unit	Rate	Ammount
1	Supply of raw water from IGMN to JSW for industrial purpose	133077048	134878240	1801192	63608150.58	/1000 cft	250	15902037.65

Rs.- one cr fifty nine lac two thousand thirty eight only

Assistant Engineer
Sub dn. 3rd/28th u/c tmc dn.
IGNP Mohangarh

Government of Rajasthan
Indira Gandhi Nahar Project

No. 487 4/01/2022 Date:

The General Manager
J.S.W Energy Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

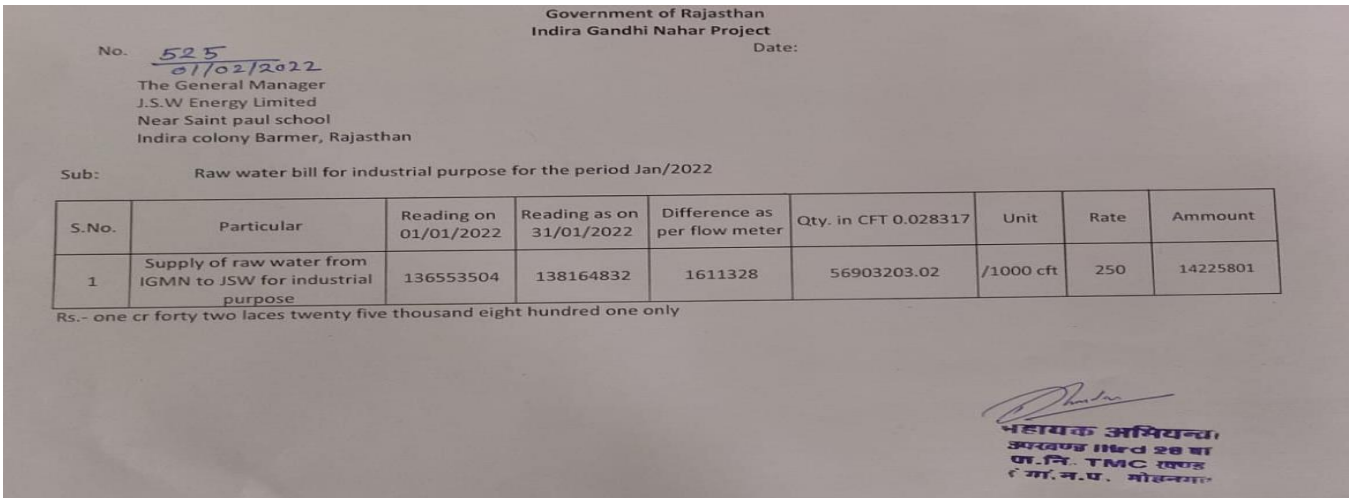
Sub: Raw water bill for industrial purpose for the period Dec/2021

S.No.	Particular	Reading on 1/12/2021	Reading as on 31/12/2021	Difference as per flow meter	Qty. in CFT 0.028317	Unit	Rate	Ammount
1	Supply of raw water from IGMN to JSW for industrial purpose	134878240	136553504	1675264	59161069.32	/1000 cft	250	14790267.33

Rs.-one cr fourty seven lacs ninty thousand two hundred sixty seven
Please pay before 10/01/2022 otherwise 18% intrest should be recover as per instruction of higher authorities

Assistant Engineer
Sub dn. III28th u/c tmc dn.
IGNP Mohangarh

ANNEXURE-I



Government of Rajasthan
Indira Gandhi Nahar Project
Date:

No. 525
01/02/2022

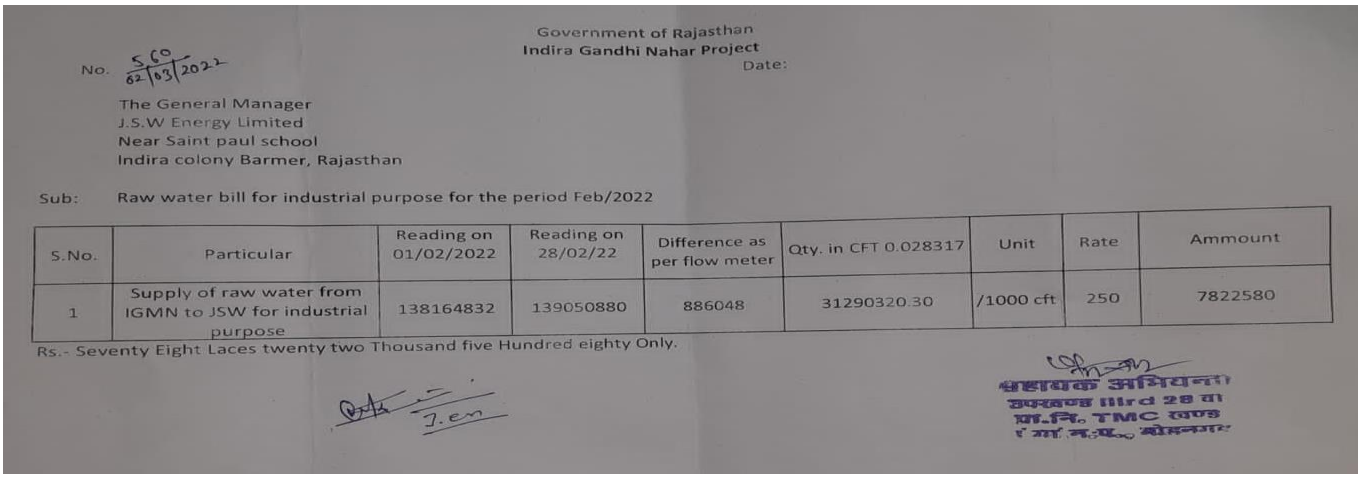
The General Manager
J.S.W Energy Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period Jan/2022

S.No.	Particular	Reading on 01/01/2022	Reading as on 31/01/2022	Difference as per flow meter	Qty. in CFT 0.028317	Unit	Rate	Ammount
1	Supply of raw water from IGMN to JSW for industrial purpose	136553504	138164832	1611328	56903203.02	/1000 cft	250	14225801

Rs.- one cr forty two laces twenty five thousand eight hundred one only

सहायक अभियन्ता
उपखण्ड IIIrd 28 वा
प्र.नि. TMC खण्ड
इं गां.न.प. बोहनगर



Government of Rajasthan
Indira Gandhi Nahar Project
Date:

No. 560
02/03/2022

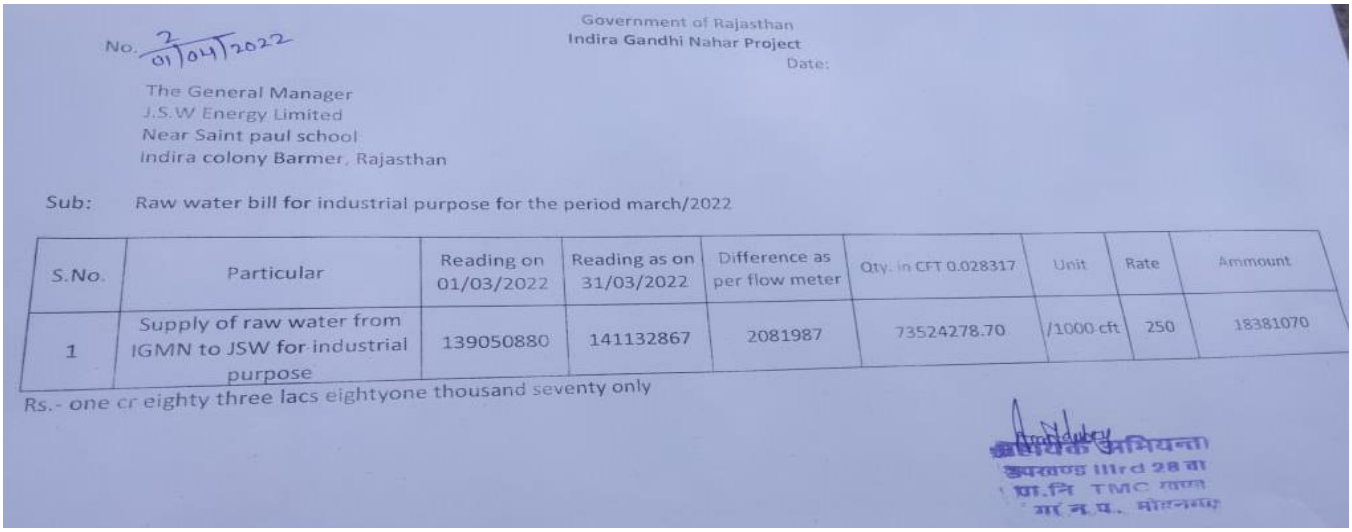
The General Manager
J.S.W Energy Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period Feb/2022

S.No.	Particular	Reading on 01/02/2022	Reading on 28/02/22	Difference as per flow meter	Qty. in CFT 0.028317	Unit	Rate	Ammount
1	Supply of raw water from IGMN to JSW for industrial purpose	138164832	139050880	886048	31290320.30	/1000 cft	250	7822580

Rs.- Seventy Eight Laces twenty two Thousand five Hundred eighty Only.

सहायक अभियन्ता
उपखण्ड IIIrd 28 वा
प्र.नि. TMC खण्ड
इं गां.न.प. बोहनगर



Government of Rajasthan
Indira Gandhi Nahar Project
Date:

No. 2
01/04/2022

The General Manager
J.S.W Energy Limited
Near Saint paul school
Indira colony Barmer, Rajasthan

Sub: Raw water bill for industrial purpose for the period march/2022

S.No.	Particular	Reading on 01/03/2022	Reading as on 31/03/2022	Difference as per flow meter	Qty. in CFT 0.028317	Unit	Rate	Ammount
1	Supply of raw water from IGMN to JSW for industrial purpose	139050880	141132867	2081987	73524278.70	/1000 cft	250	18381070

Rs.- one cr eighty three lacs eightyone thousand seventy only

सहायक अभियन्ता
उपखण्ड IIIrd 28 वा
प्र.नि. TMC खण्ड
इं गां.न.प. बोहनगर

ANNEXURE-II

Effluent Water Quality OCT – 2021 to MAR – 2022

SN	Parameters	UoM	CPCB Limits	Results					
				Oct	Nov	Dec	Jan	Feb	Mar
1.	pH		**6.5-8.5**	7.77	7.67	7.57	7.45	7.37	7.45
2.	Biochemical Oxygen Demand (BOD) @ 27Deg C for 3 days	mg/L	**< 30.0**	18.75	16.25	17.00	15.25	16.00	13.00
3.	Chemical Oxygen Demand (COD)	mg/L	**< 250**	128.5	131.2	127.2	122.5	120.0	117.7
4.	Total Kjeldhal Nitrogen as NH3	mg/L	**< 100**	17.35	15.69	14.19	14.77	12.02	11.14
5.	Free Available Chlorine	mg/L	**< 0.5**	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18	BDL<0.18
6.	Oil & Grease	mg/L	**< 20**	3.37	2.85	2.52	2.15	2.07	2.00
7.	Copper as Cu	mg/L	**< 1**	0.045	0.021	0.017	0.017	0.018	0.057
8.	Zinc as Zn	mg/L	**< 1**	0.042	0.037	0.029	0.033	0.028	0.027
9.	Iron as Fe	mg/L	**< 1**	0.59	0.50	0.41	0.38	0.32	0.28
10.	Total Suspended Solid	mg/L	**< 100**	73.5	70.7	61.5	65.2	65.2	71.5
11.	Ammonical Nitrogen as N	mg/L	**< 50**	6.37	6.15	5.66	4.77	4.47	4.38
12.	Nitrate Nitrogen	mg/L	**< 10**	3.05	2.62	2.52	2.31	1.96	1.81
13.	Total Chromium as Cr	mg/L	**< 1**	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01	BDL<0.01

ANNEXURE-III

COAL ANALYSIS REPORT

COAL ANALYSIS REPORT OCT, 2021 – MAR, 2022

	AVERAGE		
Month	**Total Moisture**	**Gross Calorific Value**	**Sulfur**
	%	**Kcal/Kg**	**%**
OCTOMBER - 21	42.48	3122.91	0.44
November - 21	42.82	2802.29	0.30
DECEMBER - 21	42.77	3150.78	0.38
JANUARY – 22	42.57	3238.17	0.41
FEBRUARY – 22	40.60	3161.76	0.47
MARCH - 22	40.11	3238.52	0.46

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/CR/36
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: October'21

Date: 08th Nov'2021

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of October'21 is mentioned below:

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/366	01-10-2021	42.80	23.75	12.97	20.48	2971	0.40
QCI/COAL/JSW/SH/367	02-10-2021	41.85	23.09	14.10	20.96	3000	0.43
QCI/COAL/JSW/SH/368	03-10-2021	41.90	23.80	13.56	20.74	3047	0.49
QCI/COAL/JSW/SH/369	04-10-2021	42.35	23.88	15.29	18.49	2799	0.30
QCI/COAL/JSW/SH/370	05-10-2021	41.80	22.79	14.68	20.73	2937	0.33
QCI/COAL/JSW/SH/371	06-10-2021	43.90	24.61	10.14	21.35	3148	0.30
QCI/COAL/JSW/SH/372	07-10-2021	43.15	23.71	12.47	20.67	3083	0.33
QCI/COAL/JSW/SH/373	08-10-2021	42.35	24.34	11.54	21.76	3127	0.42
QCI/COAL/JSW/SH/374	09-10-2021	43.95	24.93	8.85	22.28	3272	0.41
QCI/COAL/JSW/SH/375	10-10-2021	44.20	24.32	9.73	21.75	3181	0.49
QCI/COAL/JSW/SH/376	11-10-2021	42.80	23.74	12.09	21.37	3107	0.57
QCI/COAL/JSW/SH/377	12-10-2021	41.65	23.74	13.55	21.06	3028	0.82
QCI/COAL/JSW/SH/378	13-10-2021	42.20	24.61	11.56	21.63	3155	0.78
QCI/COAL/JSW/SH/379	14-10-2021	43.40	24.19	10.34	22.07	3206	0.49
QCI/COAL/JSW/SH/380	15-10-2021	43.25	25.02	9.76	21.97	3024	0.61
QCI/COAL/JSW/SH/381	16-10-2021	42.70	23.64	12.78	20.88	3232	0.46
QCI/COAL/JSW/SH/382	17-10-2021	41.15	25.26	12.05	21.54	3154	0.48
QCI/COAL/JSW/SH/383	18-10-2021	42.30	25.38	9.73	22.59	3243	0.43
QCI/COAL/JSW/SH/384	19-10-2021	41.15	25.56	11.63	21.66	3217	0.49
QCI/COAL/JSW/SH/385	20-10-2021	40.75	25.78	11.32	22.14	3248	0.45
QCI/COAL/JSW/SH/386	21-10-2021	40.95	24.93	11.73	22.38	3204	0.71

Quality Council of India

Mr. F.C. Srivastava
Deputy Director
Account Division, QCI

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/CR/36 **Date:** 08th Nov'2021

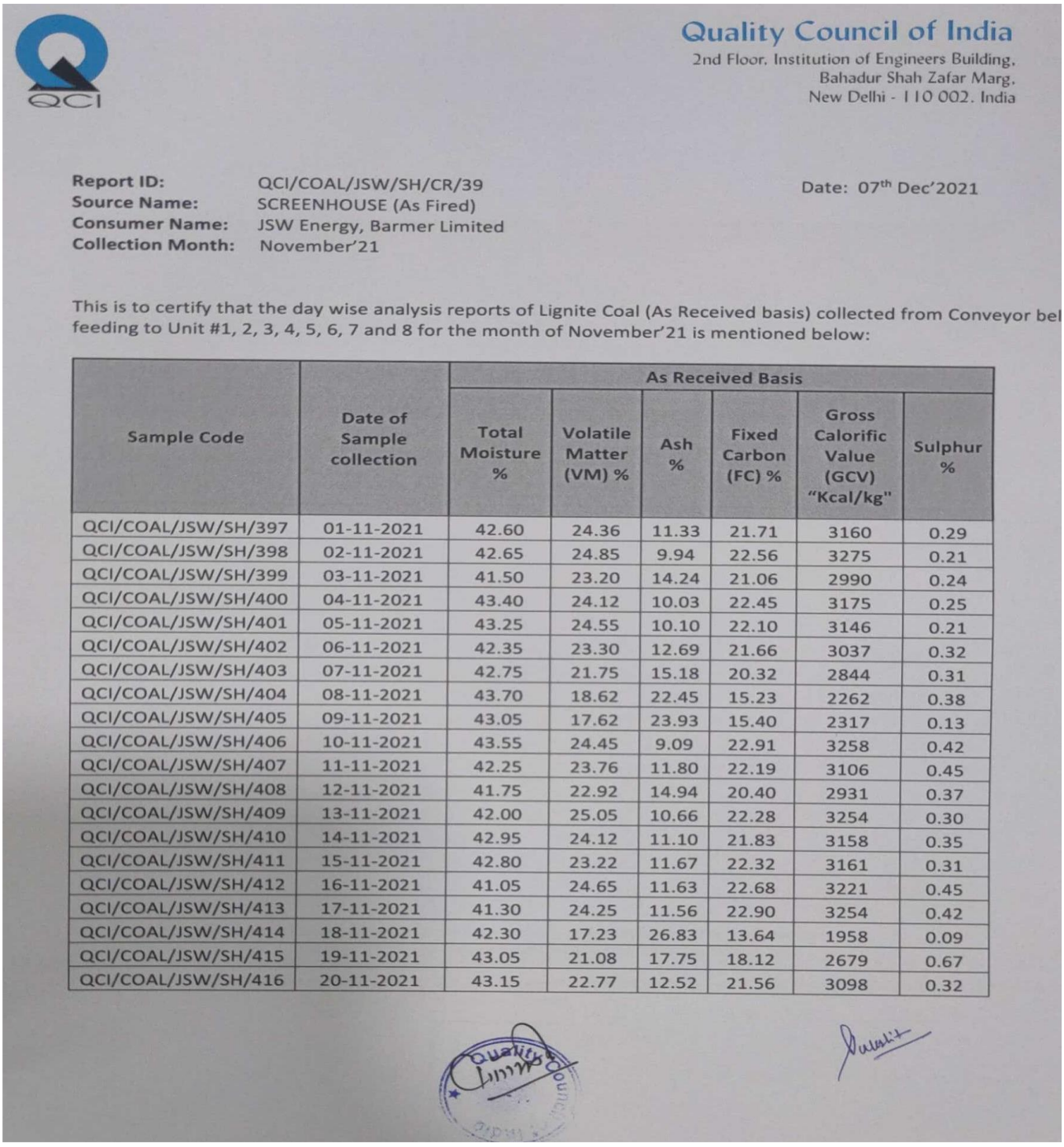
Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/387	22-10-2021	41.15	24.01	13.90	20.94	3057	0.44
QCI/COAL/JSW/SH/388	23-10-2021	41.85	23.47	13.81	20.88	3008	0.30
QCI/COAL/JSW/SH/389	24-10-2021	41.70	24.25	12.84	21.21	3074	0.37
QCI/COAL/JSW/SH/390	25-10-2021	42.65	25.19	10.12	22.04	3247	0.44
QCI/COAL/JSW/SH/391	26-10-2021	43.25	26.34	9.11	21.30	3139	0.30
QCI/COAL/JSW/SH/392	27-10-2021	44.00	24.38	8.73	22.89	3304	0.22
QCI/COAL/JSW/SH/393	28-10-2021	41.45	23.20	13.96	21.39	3081	0.39
QCI/COAL/JSW/SH/394	29-10-2021	43.35	23.47	11.30	21.88	3080	0.28
QCI/COAL/JSW/SH/395	30-10-2021	43.25	25.50	9.00	22.25	3303	0.41
QCI/COAL/JSW/SH/396	31-10-2021	42.95	25.51	8.92	22.62	3329	0.33

Quality Council of India

Mr. F.C. Srivastava
Deputy Director
Account Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III



Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi - 110 002, India

Report ID: QCI/COAL/JSW/SH/CR/39
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: November'21

Date: 07th Dec'2021

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor bel feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of November'21 is mentioned below:

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/397	01-11-2021	42.60	24.36	11.33	21.71	3160	0.29
QCI/COAL/JSW/SH/398	02-11-2021	42.65	24.85	9.94	22.56	3275	0.21
QCI/COAL/JSW/SH/399	03-11-2021	41.50	23.20	14.24	21.06	2990	0.24
QCI/COAL/JSW/SH/400	04-11-2021	43.40	24.12	10.03	22.45	3175	0.25
QCI/COAL/JSW/SH/401	05-11-2021	43.25	24.55	10.10	22.10	3146	0.21
QCI/COAL/JSW/SH/402	06-11-2021	42.35	23.30	12.69	21.66	3037	0.32
QCI/COAL/JSW/SH/403	07-11-2021	42.75	21.75	15.18	20.32	2844	0.31
QCI/COAL/JSW/SH/404	08-11-2021	43.70	18.62	22.45	15.23	2262	0.38
QCI/COAL/JSW/SH/405	09-11-2021	43.05	17.62	23.93	15.40	2317	0.13
QCI/COAL/JSW/SH/406	10-11-2021	43.55	24.45	9.09	22.91	3258	0.42
QCI/COAL/JSW/SH/407	11-11-2021	42.25	23.76	11.80	22.19	3106	0.45
QCI/COAL/JSW/SH/408	12-11-2021	41.75	22.92	14.94	20.40	2931	0.37
QCI/COAL/JSW/SH/409	13-11-2021	42.00	25.05	10.66	22.28	3254	0.30
QCI/COAL/JSW/SH/410	14-11-2021	42.95	24.12	11.10	21.83	3158	0.35
QCI/COAL/JSW/SH/411	15-11-2021	42.80	23.22	11.67	22.32	3161	0.31
QCI/COAL/JSW/SH/412	16-11-2021	41.05	24.65	11.63	22.68	3221	0.45
QCI/COAL/JSW/SH/413	17-11-2021	41.30	24.25	11.56	22.90	3254	0.42
QCI/COAL/JSW/SH/414	18-11-2021	42.30	17.23	26.83	13.64	1958	0.09
QCI/COAL/JSW/SH/415	19-11-2021	43.05	21.08	17.75	18.12	2679	0.67
QCI/COAL/JSW/SH/416	20-11-2021	43.15	22.77	12.52	21.56	3098	0.32

ANNEXURE-III

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2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi - 110 002, India

Report ID: QCI/COAL/JSW/SH/CR/39 **Date:** 07th Dec'2021

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/417	21-11-2021	43.15	23.58	11.63	21.64	3124	0.39
QCI/COAL/JSW/SH/418	22-11-2021	43.65	20.36	19.99	16.00	2482	0.14
QCI/COAL/JSW/SH/419	23-11-2021	44.30	23.44	9.98	22.28	3176	0.69
QCI/COAL/JSW/SH/420	24-11-2021	42.90	23.51	11.42	22.17	3100	0.25
QCI/COAL/JSW/SH/421	25-11-2021	41.85	24.22	12.41	21.52	3130	0.23
QCI/COAL/JSW/SH/422	26-11-2021	42.75	23.36	11.78	22.11	3114	0.41
QCI/COAL/JSW/SH/423	27-11-2021	43.85	17.83	26.32	12.00	1897	0.07
QCI/COAL/JSW/SH/424	28-11-2021	43.55	21.17	26.10	9.19	1621	0.08
QCI/COAL/JSW/SH/425	29-11-2021	43.95	20.20	20.41	15.44	2301	0.18
QCI/COAL/JSW/SH/426	30-11-2021	42.75	24.86	9.98	22.40	3260	0.55

Quality Council of India

Mr. F.C. Srivastava
Deputy Director
Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
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New Delhi - 110 002. India

Report ID: QCI/COAL/JSW/SH/CR/42
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: December'21

Date: 06th Jan'2022

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor be feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of December'21 is mentioned below:

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/427	01-12-2021	42.10	24.57	10.78	22.56	3212	0.58
QCI/COAL/JSW/SH/428	02-12-2021	43.05	25.60	8.56	22.79	3325	0.63
QCI/COAL/JSW/SH/429	03-12-2021	43.25	24.12	9.57	23.06	3245	0.30
QCI/COAL/JSW/SH/430	04-12-2021	42.00	23.60	12.70	21.70	3189	0.38
QCI/COAL/JSW/SH/431	05-12-2021	43.55	23.80	11.64	21.01	3046	0.24
QCI/COAL/JSW/SH/432	06-12-2021	41.90	24.78	11.70	21.62	3185	0.31
QCI/COAL/JSW/SH/433	07-12-2021	44.30	20.46	15.50	19.74	2654	0.32
QCI/COAL/JSW/SH/434	08-12-2021	43.15	21.20	15.14	20.52	2782	0.44
QCI/COAL/JSW/SH/435	09-12-2021	42.40	22.86	12.52	22.22	3103	0.40
QCI/COAL/JSW/SH/436	10-12-2021	43.05	22.73	14.45	19.77	2922	0.31
QCI/COAL/JSW/SH/437	11-12-2021	44.00	23.02	14.79	18.19	2662	0.16
QCI/COAL/JSW/SH/438	12-12-2021	42.65	23.19	13.49	20.67	2984	0.44
QCI/COAL/JSW/SH/439	13-12-2021	40.35	24.68	12.89	22.08	3125	0.41
QCI/COAL/JSW/SH/440	14-12-2021	42.75	25.07	10.88	21.30	3217	0.37
QCI/COAL/JSW/SH/441	15-12-2021	42.75	26.02	7.60	23.63	3452	0.48
QCI/COAL/JSW/SH/442	16-12-2021	43.25	24.50	9.79	22.46	3150	0.31
QCI/COAL/JSW/SH/443	17-12-2021	44.05	22.77	9.81	23.37	3063	0.26
QCI/COAL/JSW/SH/444	18-12-2021	44.10	25.73	7.83	22.33	3438	0.41
QCI/COAL/JSW/SH/445	19-12-2021	42.90	24.70	10.13	22.27	3297	0.52
QCI/COAL/JSW/SH/446	20-12-2021	43.70	24.14	11.10	21.07	3177	0.31
QCI/COAL/JSW/SH/447	21-12-2021	42.90	24.95	10.16	21.99	3212	0.42

Quality Council of India

QCI is an autonomous body, setup by Government of India, to establish & operate national accreditation structure and promote quality
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ANNEXURE-III

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2nd Floor, Institution of Engineers Building,
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New Delhi - 110 002. India

Report ID: QCI/COAL/JSW/SH/CR/42 Date: 06th Jan'2022

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/448	22-12-2021	42.25	24.67	11.10	21.98	3170	0.36
QCI/COAL/JSW/SH/449	23-12-2021	42.25	25.74	9.93	22.09	3324	0.40
QCI/COAL/JSW/SH/450	24-12-2021	40.85	24.79	12.84	21.52	3000	0.41
QCI/COAL/JSW/SH/451	25-12-2021	40.90	25.62	10.73	22.75	3356	0.52
QCI/COAL/JSW/SH/452	26-12-2021	42.75	25.61	7.77	23.87	3434	0.38
QCI/COAL/JSW/SH/453	27-12-2021	43.15	25.62	7.36	23.87	3433	0.41
QCI/COAL/JSW/SH/454	28-12-2021	42.10	25.08	10.67	22.15	3260	0.31
QCI/COAL/JSW/SH/455	29-12-2021	41.75	23.95	13.38	20.92	3145	0.51
QCI/COAL/JSW/SH/456	30-12-2021	44.05	25.54	7.48	22.93	3464	0.29
QCI/COAL/JSW/SH/457	31-12-2021	43.25	24.2	11.39	21.16	3174	0.33

Quality Council of India

Mr. F.C. Srivastava
Deputy Director
Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building
Bahadur Shah Zafar Marg,
New Delhi - 110002, India

Report ID: QCI/COAL/JSW/SH/CR/45
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: January'22

Date: 07th Feb'2022

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of January'22 is mentioned below:

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/458	01-01-2022	43.80	25.38	8.94	21.88	3310	0.35
QCI/COAL/JSW/SH/459	02-01-2022	43.45	25.01	12.69	18.85	3018	0.46
QCI/COAL/JSW/SH/460	03-01-2022	42.85	25.35	8.10	23.70	3459	0.48
QCI/COAL/JSW/SH/461	04-01-2022	42.70	27.43	7.95	21.92	3506	0.68
QCI/COAL/JSW/SH/462	05-01-2022	42.70	24.37	10.06	22.87	3211	0.47
QCI/COAL/JSW/SH/463	06-01-2022	44.45	24.92	8.55	22.09	3341	0.36
QCI/COAL/JSW/SH/464	07-01-2022	42.60	24.86	10.71	21.83	3247	0.45
QCI/COAL/JSW/SH/465	08-01-2022	43.15	25.07	9.76	22.02	3312	0.49
QCI/COAL/JSW/SH/466	09-01-2022	43.55	21.49	10.15	24.80	2799	0.33
QCI/COAL/JSW/SH/467	10-01-2022	42.30	24.75	10.86	22.09	3236	0.33
QCI/COAL/JSW/SH/468	11-01-2022	43.00	25.00	9.09	22.91	3333	0.40
QCI/COAL/JSW/SH/469	12-01-2022	43.95	28.44	5.21	22.41	3636	0.29
QCI/COAL/JSW/SH/470	13-01-2022	44.10	25.28	10.57	20.05	3115	0.35
QCI/COAL/JSW/SH/471	14-01-2022	43.25	23.67	11.77	21.31	3110	0.37
QCI/COAL/JSW/SH/472	15-01-2022	40.90	24.19	12.65	22.26	3210	0.36
QCI/COAL/JSW/SH/473	16-01-2022	42.00	24.40	13.19	20.41	3103	0.36
QCI/COAL/JSW/SH/474	17-01-2022	40.80	24.49	13.02	21.68	3243	0.44
QCI/COAL/JSW/SH/475	18-01-2022	40.95	25.81	11.44	21.80	3274	0.31
QCI/COAL/JSW/SH/476	19-01-2022	43.25	25.09	8.68	22.98	3344	0.43
QCI/COAL/JSW/SH/477	20-01-2022	44.15	25.17	7.95	22.73	3341	0.50
QCI/COAL/JSW/SH/478	21-01-2022	43.05	24.91	9.81	22.23	3322	0.38

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building
Bahadur Shah Zafar Marg,
New Delhi - 110002, India

Report ID: QCI/COAL/JSW/SH/CR/45 Date: 07th Feb'2022

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/479	22-01-2022	41.70	24.48	11.37	22.45	3313	0.37
QCI/COAL/JSW/SH/480	23-01-2022	41.90	24.64	11.49	21.97	3263	0.27
QCI/COAL/JSW/SH/481	24-01-2022	43.30	25.10	8.85	22.76	3338	0.35
QCI/COAL/JSW/SH/482	25-01-2022	42.05	24.97	8.47	24.51	3507	0.32
QCI/COAL/JSW/SH/483	26-01-2022	41.85	24.92	9.46	23.77	3438	0.40
QCI/COAL/JSW/SH/484	27-01-2022	42.45	23.60	13.55	20.41	3049	0.47
QCI/COAL/JSW/SH/485	28-01-2022	40.15	20.17	22.40	17.28	2565	0.27
QCI/COAL/JSW/SH/486	29-01-2022	41.10	23.51	12.12	23.28	3273	0.60
QCI/COAL/JSW/SH/487	30-01-2022	42.75	22.92	11.04	23.28	3271	0.59
QCI/COAL/JSW/SH/488	31-01-2022	42.25	24.46	11.62	21.67	3197	0.31

Quality Council of India

Mr. F.C. Srivastava
Deputy Director
Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building
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New Delhi - 110002, India

Report ID: QCI/COAL/JSW/SH/CR/48
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: February'22

Date: 07th Mar'2022

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of February'22 is mentioned below:

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/489	01-02-2022	40.80	24.85	13.68	20.67	3161	0.37
QCI/COAL/JSW/SH/490	02-02-2022	40.70	25.15	11.65	22.50	3313	0.39
QCI/COAL/JSW/SH/491	03-02-2022	41.35	24.79	10.65	23.20	3313	0.45
QCI/COAL/JSW/SH/492	04-02-2022	39.45	23.80	15.18	21.57	3077	0.50
QCI/COAL/JSW/SH/493	05-02-2022	39.45	23.99	14.54	22.02	3089	0.49
QCI/COAL/JSW/SH/494	06-02-2022	39.40	24.44	14.65	21.50	3098	0.42
QCI/COAL/JSW/SH/495	07-02-2022	42.10	24.77	10.76	22.37	3249	0.67
QCI/COAL/JSW/SH/496	08-02-2022	41.15	24.69	11.81	22.35	3259	0.61
QCI/COAL/JSW/SH/497	09-02-2022	39.70	24.68	14.40	21.22	3134	0.44
QCI/COAL/JSW/SH/498	10-02-2022	39.40	24.38	14.09	22.13	3272	0.63
QCI/COAL/JSW/SH/499	11-02-2022	39.55	24.03	14.77	21.65	3189	0.60
QCI/COAL/JSW/SH/500	12-02-2022	40.45	22.78	16.02	20.76	3042	0.46
QCI/COAL/JSW/SH/501	13-02-2022	41.55	22.46	15.70	20.29	2976	0.35
QCI/COAL/JSW/SH/502	14-02-2022	42.40	22.00	15.76	19.84	2929	0.41
QCI/COAL/JSW/SH/503	15-02-2022	40.60	23.82	14.13	21.45	3187	0.39
QCI/COAL/JSW/SH/504	16-02-2022	40.55	24.51	11.70	23.24	3304	0.56
QCI/COAL/JSW/SH/505	17-02-2022	43.60	24.39	8.58	23.43	3322	0.52
QCI/COAL/JSW/SH/506	18-02-2022	41.65	24.63	10.01	23.71	3356	0.43
QCI/COAL/JSW/SH/507	19-02-2022	42.00	21.10	11.65	25.26	3217	0.32
QCI/COAL/JSW/SH/508	20-02-2022	39.20	23.80	14.01	22.98	3206	0.38

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ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building
Bahadur Shah Zafar Marg,
New Delhi - 110002, India

Report ID: QCI/COAL/JSW/SH/CR/48 Date: 07th Mar'2022

Sample Code	Date of Sample collection	As Received Basis					
		Total Moisture %	Volatile Matter (VM) %	Ash %	Fixed Carbon (FC) %	Gross Calorific Value (GCV) "Kcal/kg"	Sulphur %
QCI/COAL/JSW/SH/509	21-02-2022	38.90	23.21	16.21	21.69	3068	0.49
QCI/COAL/JSW/SH/510	22-02-2022	41.20	22.13	16.32	20.34	2916	0.41
QCI/COAL/JSW/SH/511	23-02-2022	39.10	24.35	14.70	21.85	3132	0.37
QCI/COAL/JSW/SH/512	24-02-2022	40.90	23.38	14.76	20.96	3023	0.54
QCI/COAL/JSW/SH/513	25-02-2022	40.30	23.65	15.07	20.98	3076	0.50
QCI/COAL/JSW/SH/514	26-02-2022	42.15	24.83	10.27	22.75	3315	0.54
QCI/COAL/JSW/SH/515	27-02-2022	39.20	24.85	14.47	21.49	3152	0.40
QCI/COAL/JSW/SH/516	28-02-2022	40.15	23.93	13.80	22.11	3092	0.44

Quality Council of India

Mr. F.C. Srivastava
Deputy Director
Accounts Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
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New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/CR/51
Source Name: SCREENHOUSE (As Fired)
Consumer Name: JSW Energy, Barmer Limited
Collection Month: March'22

Date: 11th Apr'2022

This is to certify that the day wise analysis reports of Lignite Coal (As Received basis) collected from Conveyor belt feeding to Unit #1, 2, 3, 4, 5, 6, 7 and 8 for the month of March'22 is mentioned below:

Sample Code	Date of Sample collection	As Received Basis					
		Moisture	Volatile Matter(VM)	Ash	Fixed Carbon (FC)	Gross Calorific Value (GCV)	Sulphur
QCI/COAL/JSW/SH/517	01.03.2022	39.40	23.19	16.80	20.61	2968	0.53
QCI/COAL/JSW/SH/518	02.03.2022	41.95	23.83	12.49	21.73	3139	0.54
QCI/COAL/JSW/SH/519	03.03.2022	41.30	22.86	15.77	20.07	2889	0.48
QCI/COAL/JSW/SH/520	04.03.2022	40.35	20.46	21.80	17.39	2617	0.25
QCI/COAL/JSW/SH/521	05.03.2022	42.15	21.85	15.90	20.10	2880	0.42
QCI/COAL/JSW/SH/522	06.03.2022	42.15	22.98	13.84	21.04	3052	0.50
QCI/COAL/JSW/SH/523	07.03.2022	43.45	24.55	10.04	21.96	3223	0.41
QCI/COAL/JSW/SH/524	08.03.2022	41.55	23.59	13.94	20.91	3089	0.36
QCI/COAL/JSW/SH/525	09.03.2022	41.05	23.23	13.69	22.03	3145	0.44
QCI/COAL/JSW/SH/526	10.03.2022	41.80	18.97	11.60	27.63	3197	0.44
QCI/COAL/JSW/SH/527	11.03.2022	42.10	24.70	10.71	22.49	3329	0.46
QCI/COAL/JSW/SH/528	12.03.2022	39.05	24.44	15.81	20.70	3123	0.35
QCI/COAL/JSW/SH/529	13.03.2022	40.10	24.85	12.51	22.54	3269	0.48
QCI/COAL/JSW/SH/530	14.03.2022	39.30	25.15	13.21	22.34	3275	0.55
QCI/COAL/JSW/SH/531	15.03.2022	40.35	24.41	12.14	23.10	3306	0.53
QCI/COAL/JSW/SH/532	16.03.2022	39.15	26.17	10.32	24.35	3501	0.44
QCI/COAL/JSW/SH/533	17.03.2022	39.50	26.15	11.79	22.56	3278	0.38
QCI/COAL/JSW/SH/534	18.03.2022	38.85	26.48	11.06	23.61	3367	0.27
QCI/COAL/JSW/SH/535	19.03.2022	40.05	25.61	11.53	22.80	3317	0.38
QCI/COAL/JSW/SH/536	20.03.2022	37.45	27.44	11.39	23.71	3527	0.38

Quality Council of India

Mr. F.C. Srivastava
Deputy Director
Account Division, QCI

ANNEXURE-III

Quality Council of India
2nd Floor, Institution of Engineers Building,
Bahadur Shah Zafar Marg,
New Delhi – 110 002, India

Report ID: QCI/COAL/JSW/SH/CR/51 **Date:** 11th Apr'2022

Sample Code	Date of Sample collection	As Received Basis					
		Moisture	Volatile Matter(VM)	Ash	Fixed Carbon (FC)	Gross Calorific Value (GCV)	Sulphur
QCI/COAL/JSW/SH/537	21.03.2022	37.15	26.46	14.27	22.12	3362	0.50
QCI/COAL/JSW/SH/538	22.03.2022	39.95	25.27	11.32	23.46	3361	0.43
QCI/COAL/JSW/SH/539	23.03.2022	41.00	25.33	10.47	23.20	3390	0.53
QCI/COAL/JSW/SH/540	24.03.2022	39.50	25.71	11.65	23.15	3450	0.46
QCI/COAL/JSW/SH/541	25.03.2022	38.80	23.81	15.02	22.37	3143	0.34
QCI/COAL/JSW/SH/542	26.03.2022	36.90	26.01	13.27	23.82	3382	0.61
QCI/COAL/JSW/SH/543	27.03.2022	36.65	28.60	11.79	22.96	3625	0.64
QCI/COAL/JSW/SH/544	28.03.2022	39.30	27.26	11.31	22.13	3469	0.67
QCI/COAL/JSW/SH/545	29.03.2022	39.85	27.09	10.10	22.95	3489	0.60
QCI/COAL/JSW/SH/546	30.03.2022	39.70	28.81	7.87	23.61	3728	0.68
QCI/COAL/JSW/SH/547	31.03.2022	40.50	25.59	12.42	21.49	3342	0.58

Quality Council of India Barmer

Mr. F.C. Srivastava
Deputy Director
Account Division, QCI

Note:
Sampling and analysis done by Quality Council of India (QCI) with the help of its technical service provider.
GCV analysis has been done in accordance to BIS specification, IS 1350 (Part-II), 1970 Reaffirmed: 2017
Testing and analysis performed at NABL accredited lab.
#Total Moisture determination has been done by QCI with the help of its third-party agency at JSW Energy (Barmer) limited laboratory in accordance to BIS specification, IS 1350 (Part-I), 1984 reaffirmed:2013

ANNEXURE-IV

STACK EMISSION MONITORING RESULTS OCT – 2021 to MAR – 2022

Month: Oct' 2021

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	14.8	16.5	17.5	17.9	18.1	16.8	17.4	18.1
2	Flow	Nm^3/Sec	138	135	136	131	131	131	132	132
3	Stack Exit Temp.	^0C	149	116	129	115	137	148	155	137
4	Particulate Matter	mg/Nm^3	48.5	40.9	40.3	52.9	40.6	45.8	54.6	42.5
5	Sulphur Dioxide	mg/Nm^3	404	382	392	350	425	404	387	397
6	Oxides of Nitrogen	mg/Nm^3	174	141	134	66	177	128	110	120

Month: Nov' 2021

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	14.6	15.8	16.5	18.2	16.9	17.5	16.9	17.5
2	Flow	Nm^3/Sec	135	136	135	134	132	134	133	132
3	Stack Exit Temp.	^0C	133	117	102	92	130	141	143	129
4	Particulate Matter	mg/Nm^3	36.0	36.1	48.0	40.1	42.8	35.5	38.0	39.5
5	Sulphur Dioxide	mg/Nm^3	444	371	426	392	398	422	419	383
6	Oxides of Nitrogen	mg/Nm^3	136	115	111	123	130	169	79	113

Month: Dec' 2021

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	13.9	14.6	15.2	16.5	15.6	16.4	15.9	16.3
2	Flow	Nm^3/Sec	132	134	133	131	135	133	130	135
3	Stack Exit Temp.	^0C	145	123	112	95	125	139	144	135
4	Particulate Matter	mg/Nm^3	42.1	45.7	56.8	52.6	56.9	46.7	57.2	46.2
5	Sulphur Dioxide	mg/Nm^3	453	339	443	346	374	401	456	396
6	Oxides of Nitrogen	mg/Nm^3	123	145	139	118	145	157	65.2	124

ANNEXURE-IV

Month: Jan' 2022

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	14.2	13.5	14.3	15.4	13.9	15.7	16.2	15.7
2	Flow	Nm^3/Sec	131	132	133	134	132	132	136	134
3	Stack Exit Temp.	^0C	130	106	114	94.4	131	155	90.5	129
4	Particulate Matter	mg/Nm^3	31.6	32.1	54.6	58.0	53.0	37.4	37.8	53.3
5	Sulphur Dioxide	mg/Nm^3	497	439	472	463	501	474	499	450
6	Oxides of Nitrogen	mg/Nm^3	169	107	95.5	124	129	98.2	164	107

Month: Feb' 2022

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	13.8	14.2	13.5	15.2	14.6	12.3	14.2	13.5
2	Flow	Nm^3/Sec	135	134	132	133	135	134	135	134
3	Stack Exit Temp.	^0C	147	121	101	130	137	160	151	127
4	Particulate Matter	mg/Nm^3	30.0	27.9	57.4	57.7	52.7	34.6	40.5	45.4
5	Sulphur Dioxide	mg/Nm^3	525	428	461	407	513	486	523	475
6	Oxides of Nitrogen	mg/Nm^3	146	143	147	94	148	108	179	118

Month: Mar' 2022

SN	Parameters	UOM	Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	Unit-VI	Unit-VII	Unit-VIII
1	Average Velocity	m/Sec	14.3	13.6	13.2	14.3	14.6	13.4	14.2	15.2
2	Flow	Nm^3/Sec	136	132	133	135	132	143	136	137
3	Stack Exit Temp.	^0C	149	126	118	136	138	173	158	138
4	Particulate Matter	mg/Nm^3	29.6	36.0	50.5	56.7	40.6	38.3	34.3	44.6
5	Sulphur Dioxide	mg/Nm^3	486	417	444	384	487	486	465	491
6	Oxides of Nitrogen	mg/Nm^3	147	191	117	128	123	124	144	148

ANNEXURE-IV

Unit # 1 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	404	174	48.5
	Max	470	237	60.0
Nov-21	Average	444	136	36.0
	Max	528	197	40.6
Dec-21	Average	487	144	33.6
	Max	556	272	38.0
Jan-22	Average	497	169	31.6
	Max	535	211	38.6
Feb-22	Average	525	146	30.04
	Max	538	197	46.13
Mar-22	Average	486	147	29.61
	Max	535	195	38.29

Unit # 2 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	382	141	40.9
	Max	402	194	52.2
Nov-21	Average	371	115	36.1
	Max	450	246	44.7
Dec-21	Average	437	132	30.6
	Max	453	206	43.9
Jan-22	Average	439	107	32.1
	Max	450	156	39.6
Feb-22	Average	428	143	27.97
	Max	451	207	43.19
Mar-22	Average	417	191	36.09
	Max	447	260	46.12

ANNEXURE-IV

Unit # 3 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	392	134	40.4
	Max	464	187	60.6
Nov-21	Average	426	111	48.0
	Max	515	221	53.6
Dec-21	Average	463	135	42.3
	Max	514	178	50.0
Jan-22	Average	472	95	54.6
	Max	506	197	56.8
Feb-22	Average	461	147	57.43
	Max	510	225	74.24
Mar-22	Average	444	117	50.57
	Max	510	157	75.79

Unit # 4 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	350	66	52.9
	Max	430	96	68.8
Nov-21	Average	392	123	40.1
	Max	520	212	47.6
Dec-21	Average	458	103	39.2
	Max	505	125	50.8
Jan-22	Average	463	98	58.0
	Max	503	107	74.8
Feb-22	Average	407	94	57.70
	Max	486	131	78.46
Mar-22	Average	384	128	56.73
	Max	418	181	67.86

ANNEXURE-IV

Unit # 5 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	425	177	40.6
	Max	452	256	53.0
Nov-21	Average	398	130	42.8
	Max	521	165	56.0
Dec-21	Average	523	160	58.7
	Max	535	276	67.3
Jan-22	Average	501	129	53.0
	Max	527	195	78.9
Feb-22	Average	513	148	52.78
	Max	538	199	79.52
Mar-22	Average	487	123	40.63
	Max	530	175	73.10

Unit # 6 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	404	128	45.8
	Max	449	236	78.0
Nov-21	Average	422	169	35.5
	Max	539	218	46.1
Dec-21	Average	490	175	42.8
	Max	524	287	46.1
Jan-22	Average	474	98	37.4
	Max	523	204	46.1
Feb-22	Average	486	108	34.69
	Max	532	204	46.08
Mar-22	Average	486	124	38.32
	Max	533	180	46.04

ANNEXURE-IV

Unit # 7 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	387	110	54.6
	Max	436	228	75.9
Nov-21	Average	419	79	38.0
	Max	522	101	44.6
Dec-21	Average	502	72	37.4
	Max	524	103	46.1
Jan-22	Average	499	164	37.8
	Max	525	275	46.1
Feb-22	Average	523	179	40.55
	Max	532	247	46.12
Mar-22	Average	465	144	34.32
	Max	529	170	46.09

Unit # 8 - Continuous Emission Monitoring System-CEMS DATA

Month		SOX mg/m3	NOX mg/m3	SPM mg/m3
Oct-21	Average	397	120	42.5
	Max	446	194	66.0
Nov-21	Average	313	113	39.5
	Max	515	165	46.5
Dec-21	Average	490	132	50.2
	Max	519	184	67.3
Jan-22	Average	450	107	53.3
	Max	515	166	59.3
Feb-22	Average	475	118	45.49
	Max	522	199	58.54
Mar-22	Average	491	148	44.64
	Max	523	221	52.77

Regd. Office : JSW Energy (BARMER) Limited, JSW Center, BKC Complex, Bandra (E), Mumbai – 400051
Jaipur Office: Office No. 2 & 3, 7th Floor, Man Upasana Plaza, C-44, Sardar Patel Marg, C-Scheme, Jaipur – 302 001 Ph : 0141 2369772 Fax 0141 2369774

JSW Energy (Barmer) Limited
Village & Post : Bhadresh, Post Box No. 30,
Distt : Barmer – 344001 (Rajasthan)
CIN : U31102MH1996PLC185098
Phone : +91 2982 229100
Website : www.jsw.in

ANNEXURE-V

Ministry of Environment, Forest and Climate Change
Monthly Abstract of Ash Generation and Utilisation

(For the Period from April, 2021 to MARCH, 2022)

Name of Thermal Power Plant: JSW Energy (Barmer) Limited

Sl. No.	ASH GENERATION AND UTILIZATION (in LMT)							MODE OF ASH UTILIZATION AND UTILIZATION IN EACH MODE (in LMT)									
	Month	Coal consumed (Lakh Ton)	Lime consumed (Lakh Ton)	Ash content of coal (%)	Ash Generation (Lakh Ton)	Ash Utilization (Lakh Ton)	% age Utilization	In making of Fly Ash based/ Bricks/ Blocks/ Tiles etc.	In manufacture of Portland Pozzolana Cement Lakh Ton)	In construction of Highways & Roads including Flyovers	Part replacement of cement in concrete	In Hydro Power Sector in RCC Dam Construction	In Ash dyke raising	In reclamation of low lying Area	In Mine filling (Lakh Ton)	In Agriculture/ Waste land Devlopment	Others
1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	April-21	4.48321	0.16315	12.61	0.70890	0.65609	92.55	0.13102	0.49336						0.03171		
2	May- 21	4.63312	0.09689	15.46	0.80154	0.59351	74.05	0.16676	0.42675						0.00000		
3	June-21	5.12105	0.11367	13.81	0.80725	0.71696	88.82	0.16992	0.54704						0.00000		
4	July- 21	5.71423	0.06148	16.64	1.00495	1.00090	99.60	0.22439	0.61241						0.16410		
5	Aug- 21	5.09631	0.02891	16.01	0.84136	0.90330	107.36	0.19705	0.57724						0.12900		
6	Sep- 21	5.34512	0.02723	14.15	0.78030	0.79882	102.37	0.15296	0.45161						0.19425		
7	Oct - 21	5.05197	0.02050	11.73	0.61064	0.65021	106.48	0.15863	0.49159						0.00000		
8	Nov -21	5.70813	0.02585	15.56	0.91093	0.62612	68.73	0.13370	0.34724						0.14518		
9	Dec -21	4.53747	0.03199	11.25	0.53861	0.59508	110.48	0.12630	0.46878						0.00000		
10	Jan -22	4.59471	0.06773	10.85	0.55793	0.53645	96.15	0.17602	0.36043						0.00000		
11	Feb -22	4.51111	0.04830	13.51	0.65196	0.65858	101.02	0.16704	0.49155						0.00000		
12	Mar -22	5.07533	0.11154	12.99	0.75744	0.73176	96.61	0.19328	0.53847						0.00000		
TOTAL		**59.87175**	**0.79723**	**13.81**	**8.97181**	**8.46777**	**94.38**	**1.9970680**	**5.8064649**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6642414**	**0.00**	**0.00**

JSW Energy (Barmer) Limited
Village & Post : Bhadresh, Post Box No. 30,
Distt : Barmer – 344001 (Rajasthan)
CIN : U31102MH1996PLC185098
Phone : +91 2982 229100
Website : www.jsw.in

ANNEXURE-VI

Noise Level Monitoring- OCT'2021 – MAR' 2022

SN	Month	Oct		Nov		Dec		Jan		Feb		Mar	
	Noise Levels dB (A)	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	MAIN GATE INSIDE	69.5	55.9	52.2	52.3	70.1	49.6	67.8	47.3	62.3	45.2	65.4	40.9
2	COOLING TOWER END	71.1	60.5	69.8	57.4	65.5	52.4	62.3	50.1	65.4	48.7	66.8	47.6
3	NORTH WEST CORNER	71.8	65.3	73.2	58.7	70.4	55.6	78.2	55.1	73.6	50.1	75.4	48.9
4	Bhadresh Village	57.9	44.8	55.2	40.9	54.6	41.3	56.7	43.4	52.3	45.6	55.3	43.6
5	Isharpura Village	53.6	40.7	48.6	39.2	45.2	36.5	47.5	37.9	55.5	38.5	54.3	39.2
6	Chuli Village	50.8	43.6	56.3	40.8	54.2	37.4	57.3	40.5	66.2	45.2	65.4	42.3

ANNEXURE-VII

Ambient Air Quality Data- OCT, 2021 – MAR, 2022

Month – OCT' 2021

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Resevoir Area	26.90	18.32	24.56	0.57	8.15
2	Main Gate	21.06	12.90	28.67	0.38	17.69
3	Ash pond	24.45	19.64	23.12	0.51	19.31
4	Bhardesh Village	22.01	8.03	18.67	0.53	15.04
5	Ishrpura Village	27.87	16.66	28.67	0.29	18.41
6	Chuli Village	22.41	19.85	21.54	0.64	20.44

Month – Nov' 2021

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	PM-2.5 (µg/m3)
1	Resevoir Area	25.37	18.56	20.85	0.57	11.36
2	Main Gate	28.12	12.90	29.63	0.46	26.18
3	Ash pond	25.46	19.84	20.84	0.47	16.49
4	Bhardesh Village	21.92	5.73	15.68	0.67	12.84
5	Ishrpura Village	27.67	15.29	29.66	0.36	13.66
6	Chuli Village	28.14	18.53	29.85	0.80	25.82

Month – Dec' 2021

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)	PM-2.5 (µg/m3)
1	Resevoir Area	30.74	18.56	20.85	0.57	11.36
2	Main Gate	28.12	12.90	29.63	0.46	26.18
3	Ash pond	25.46	19.84	20.84	0.47	16.49
4	Bhardesh Village	21.48	5.96	12.63	0.59	12.51
5	Ishrpura Village	27.67	15.29	29.66	0.36	13.66
6	Chuli Village	28.14	18.53	29.85	0.80	25.82

ANNEXURE-VII

Month – Jan' 2022

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Resevoir Area	29.80	18.03	27.10	0.57	10.35
2	Main Gate	29.69	10.97	30.78	0.64	23.40
3	Ash pond	29.96	19.91	26.50	0.47	10.58
4	Bhardesh Village	27.81	5.61	6.06	0.54	12.85
5	Ishrpura Village	40.78	10.98	30.90	0.57	16.36
6	Chuli Village	29.83	18.19	31.19	0.87	24.93

Month – Feb' 2022

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Resevoir Area	30.19	18.21	27.32	0.57	8.62
2	Main Gate	31.45	10.98	31.08	0.65	20.84
3	Ash pond	31.18	18.69	27.36	0.47	10.71
4	Bhardesh Village	24.17	6.46	13.38	0.53	14.70
5	Ishrpura Village	44.78	11.05	31.05	0.57	18.27
6	Chuli Village	29.88	17.92	30.61	0.87	23.04

Month – Mar' 2022

SN	Location (Avg.24 Hrs.)	PM-10 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	CO (mg/m³)	PM-2.5 (µg/m³)
1	Resevoir Area	35.45	18.20	30.46	0.67	7.65
2	Main Gate	35.07	11.02	30.58	0.67	7.32
3	Ash pond	36.52	6.82	30.74	0.69	19.67
4	Bhardesh Village	29.59	11.02	30.58	0.69	23.35
5	Ishrpura Village	23.98	16.22	19.48	0.49	21.66
6	Chuli Village	18.86	7.24	30.49	0.86	8.51

ANNEXURE-VIII

Environmental Expenditure

Actual anticipated - As per WO issued

Environmental Expenditure Detail (FY_2020-21 & 2021-22)			
Sr. No.	**Particulars**	**Amount (Lacs) Rs.**	
		2020-2021	**2021-2022**
1	Effluent Treatment Plant (ETP)	143.59	35.59
2	Sewage Treatment Plant (STP)	31.20	32.80
3	Green Belt Development	60.0	58.0
4	Continuous Emission Monitoring System (CEMS) 8Nos. -(AMC, Spares & Monitoring))	18.5	20.4
5	Continuous Ambient Air Quality Monitoring System (CAAQMS) 6 Nos. -(Rent and Electricity bills for surrounding plant outside installed Three station)	9.72	9.72
6	Environmental Monitoring (annual)& Instruments	7.59	8.05
7	ESP Modification	0.00	2136.00
Total (Lacs) Rs.		**270.60**	**2300.56**

ANNEXURE-IX

O/C

JSW Energy (Barmer) Limited
Village & Post : Bhadresh, Post Box No. 30,
Distt : Barmer – 344001 (Rajasthan)
CIN : U31102MH1996PLC185098
Phone : +91 2982 229100
Website : www.jsw.in

Ref: JSWE(B)L/ENV/21-22/024

Date: 03.12.2021

To,
Ministry of Environment & Forests
Indira Paryavaran Bhavan,
Ali Ganj, Jorbagh Road,
New Delhi, Delhi 110003

Sub: Compliance Report-Environmental Clearance for 1080 MW Lignite based Power Plant at Village-Bhadresh, District Barmer.

Dear Sir,

With reference to your letter No. J-13011/58/2006-IA-II (T) dated 20.07.2007 and 19.11.2009, and followed by Letter no. IV/ENV/R/Th-39/679/08/273, we herewith submit half-yearly compliance report, for the period pertaining to **APRIL- 2021 to SEPTEMBER- 2021,** for the conditions stipulated in the Environmental clearance issued for this Power Project. Analysis Data has uploaded on JSWEBL website – http://www.jsw.in/energy/about-barmer-plant.

We have taken up the Project activity at proposed site incorporating the conditions stipulated in this environmental clearance.

Thanking you.

For JSW ENERGY (BARMER) Ltd.

Vinod Jindal
DGM (Environment & Chemistry)

Enclosure:

1.	Compliance Report	
2.	Water consumption Data	**-Annexure I**
3.	Effluent Water Data	**-Annexure II**
4.	Coal Analysis Data	**-Annexure III**
5.	CEMS & Stack Monitoring DATA	**-Annexure IV**
6.	Ash Utilization Data	**-Annexure V**
7.	Noise Monitoring	**-Annexure VI**
8.	AAQ Monitoring Data	**-Annexure VII**
9.	Last Compliance Report	**-Annexure VIII**

C.C.
The Director – MOEF, Lucknow
The Member Secretary – Central Pollution Control Board, Delhi
The Member Secretary – RSPCB, Jaipur
The Regional Officer – RSPCB, Balotra.

22/12/21

Part of O.P.Jindal Group
Regd. Office : JSW Energy (BARMER) Limited, JSW Center, BKC Complex, Bandra (E), Mumbai – 400051
Jaipur Office: Office No. 2 & 3, 7th Floor, Man Upasana Plaza, C-44, Sardar Patel Marg, C-Scheme, Jaipur – 302 001 Ph : 0141 2369772 Fax 0141 2369774