



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 424/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Pipe Plant

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_Part - 1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5
01	Date of Sampling	---	---	---	---	---	11/08/2014
02	Time of sampling	Hr.	Not Running During Visit	Not Running During Visit	Not Running During Visit	Not Running During Visit	9.30
03	Stack Attached to	---	Shot Blasing - I	Shot Blasing - II	Shot Blasing - III	Bitumin Drying Oven - I	Common stack Bitumin Drying Oven - II & Boiler
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	Bag Filter	---	---
05	Stack Height	Meter	10.0	10.0	10.0	32.8	32.8
06	Stack Diameter	Meter	0.41	0.41	1.125	1.375	1.375
07	Stack Temperature	°C	---	---	---	---	138
08	Ambient Temperature	°C	---	---	---	---	32
09	Average Velocity of Flue Gases	m/Sec.	---	---	---	---	11.8
10	Isokinetic flow rate for P.M. Sampling	LPM	---	---	---	---	16
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	2.0
12	Permissible limits for PM	mg/Nm ³	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm ³	---	---	---	---	93
14	Permissible limits for SO ₂	mg/Nm ³	40	40	40	100 ppm	100 ppm
15	Measured Concentration of SO ₂	mg/Nm ³	---	---	---	---	9.7
16	Permissible limits for Nox	mg/Nm ³	25	25	25	50 ppm	50 ppm
17	Measured Concentration of Nox	mg/Nm ³	---	---	---	---	13

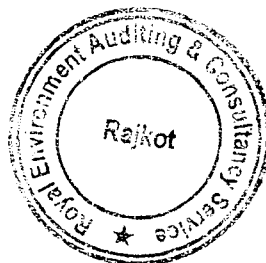
Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

N.D= Not Detectable

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Mihir
Analyst



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Ref. No. : 425/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Pipe Plant (SDP / DISP)

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 6	Stack No. 7	Stack No. 8	Stack No. 9	Stack No. 10	Stack No. 11
01	Date of Sampling	---	13/08/2014	13/08/2014	13/08/2014	13/08/2014	13/08/2014	13/08/2014
02	Time of sampling	Hr.	9.30	10.45	11.40	12.30	14.00	15.15
03	Stack Attached to	---	Common stack Mg Converter-I&II	Mg Converter -III	Zn Coating - I	Zn Coating - II	Zn Coating - III	Zn Coating - IV & V
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter
05	Stack Height	Meter	30	30	30	30	30	30
06	Stack Diameter	Meter	0.488	0.488	0.584	0.584	0.584	0.850
07	Stack Temperature	°C	57	52	43	46	41	53
08	Ambient Temperature	°C	32	33	33	34	35	35
09	Average Velocity of Flue Gases	m/Sec.	15.2	13.7	14.8	12.8	13.1	14.3
10	Isokinetic flow rate for P.M. Sampling	LPM	26	24	26	22	23	25
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	---	---	---	---
h	Permissible limits for PM	mg/Nm3	150	150	20 (Zn)	20 (Zn)	20 (Zn)	20 (Zn)
13	Measured Concentration of PM	mg/Nm3	59	31	16 (Zn)	15 (Zn)	18 (Zn)	14 (Zn)
14	Permissible limits for SO2	mg/Nm3	40	40	NA	NA	NA	NA
15	Measured Concentration of SO2	mg/Nm3	1.7	1.0	---	---	---	---
16	Permissible limits for Nox	mg/Nm3	25	25	NA	NA	NA	NA
17	Measured Concentration of Nox	mg/Nm3	9.1	5.7	---	---	---	---

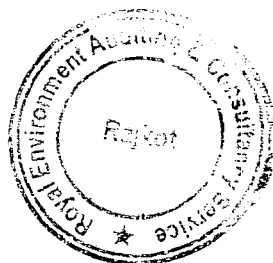
Note : Minimum Detectable Limit of SO2 & Nox is 0.1 and 0.01 ppm respectively.

N.D= Not Detectable

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

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Mishra
Analyst



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Ref. No. : 426/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Pipe Plant (SDP / DISP)

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 12	Stack No. 13	Stack No. 14	Stack No. 15	Stack No. 16	Stack No. 17	Stack No. 18	Stack No. 19
01	Date of Sampling	---	08/08/2014	08/08/2014	08/08/2014	13/08/2014	13/08/2014	13/08/2014	14/08/2015	14/08/2015
02	Time of sampling	Hr.	15.15	16.15	17.30	16.30	17.30	18.15	10.00	11.00
03	Stack Attached to	---	Core Cleaning & Dusting-I	Core Cleaning & Dusting-II	Core Shop-I	Core Shop-II	Core Shop-III	Core Shop-IV	Core Shop-V	Core Shop-VI
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	---	---	---	---	---	---
05	Stack Height	Meter	30	30	30	30	30	30	30	30
06	Stack Diameter	Meter	0.588	0.59	0.584	0.584	0.584	0.584	0.584	0.584
07	Stack Temperature	°C	43	41	34	37	39	41	40	37
08	Ambient Temperature	°C	32	32	33	33	33	34	32	33
09	Average Velocity of Flue Gases	m/Sec.	13.7	12.8	5.9	6.3	6.7	5.8	5.7	5.4
10	Isokinetic flow rate for P.M. Sampling	LPM	24	23	24	26	27	23	20	22
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm3	36	28	24	15	26	39	27	31
14	Permissible limits for SO2	mg/Nm3	40	40	40	40	40	40	40	40
15	Measured Concentration of SO2	mg/Nm3	7.1	4.6	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
16	Permissible limits for Nox	mg/Nm3	25	25	25	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm3	9.8	6.9	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

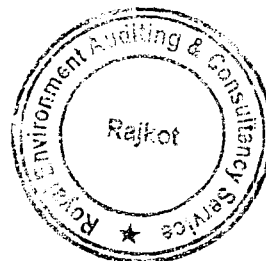
Note : Minimum Detectable Limit of SO2 & Nox is 0.1 and 0.01 ppm respectively.

N.D.= Not Detectable

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

Royal Environment Auditing & Consultancy Service



Mihir
Analyst



Royal

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Ref. No. : 427/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Pipe Plant (SDP / DISP)

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 20	Stack No. 21	Stack No. 22	Stack No. 23	Stack No. 24	Stack No. 25	Stack No. 26	Stack No. 27
01	Date of Sampling	---	20/08/2014	20/08/2014	20/08/2014	11/08/2014	11/08/2014	20/08/2014	20/08/2014	12/08/2014
02	Time of sampling	Hr.	9.00	10.15	11.45	10.30	11.45	12.50	14.00	11.00
03	Stack Attached to	---	Annealing Furnace - I	Annealing Furnace - II	Annealing Furnace - III	Barrel Grinding - I	Barrel Grinding - II	Barrel Grinding-III	Barrel Grinding -IV&V	Sand Reclamation
04	Air Pollution Control Measures	---	---	---	---	Bag Filter	Bag Filter	Bag Filter	Bag Filter	Bag Filter
05	Stack Height	Meter	32	32	32	30	30	30	25	32
06	Stack Diameter	Meter	1.375	1.375	1.375	0.584	0.584	0.488	0.488	0.885
07	Stack Temperature	°C	154	164	157	52	56	52	56	85
08	Ambient Temperature	°C	31	31	32	31	33	31	31	32
09	Average Velocity of Flue Gases	m/Sec.	6.5	7.4	5.6	6.9	6.5	6.3	6.7	14.9
10	Isokinetic flow rate for P.M. Sampling	LPM	19	21	16	27	25	25	26	24
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm3	54	49	43	41	54	51	47	54
14	Permissible limits for SO2	mg/Nm3	100 (PPM)	100 (PPM)	100 (ppm)	40	40	40	40	40
15	Measured Concentration of SO2	mg/Nm3	3.7(PPM)	4.1(PPM)	3.2(PPM)	N.D.	N.D.	N.D.	N.D.	N.D.
16	Permissible limits for Nox	mg/Nm3	50 (PPM)	50 (PPM)	50 (PPM)	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm3	6.3 (PPM)	7.4 (PPM)	7.9 (PPM)	N.D.	N.D.	N.D.	N.D.	N.D.

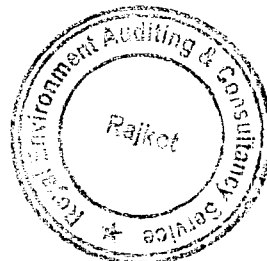
Note : Minimum Detectable Limit of SO2 & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on : 04/06/2015

N.D= Not Detectable

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Mihir
Analyst



Royal

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Ref. No. : 428/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS Small Dia Ductile Iron Pipe Plant (SDP-2)

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5	Stack No. 6	Stack No. 7
01	Date of Sampling	---	21/08/2014	21/08/2014	21/08/2014	21/08/2014	21/08/2014		
02	Time of sampling	Hr.	9.10	10.30	11.45	14.15	15.30	Not in operation	Not Running During Visit
03	Stack Attached to	---	Annealing Furnace - I	Annealing Furnace - II	Magnesium Treatment	Socket Cleaning	Zinc Coating	Tri- Grinding Section	Pre & Post Heating
04	Air Pollution Control Measures	---	---	---	Bag Filter	Bag Filter	Bag Filter	Bag Filter	---
05	Stack Height	Meter	45	45	30	30	30	---	30
06	Stack Diameter	Meter	---	---	---	---	---	---	---
07	Stack Temperature	°C	141	137	0.2	35	39	---	---
08	Ambient Temperature	°C	30	31	31	32	32	---	---
09	Average Velocity of Flue Gases	m/Sec.	7.5	7.8	4.6	4.1	7.7	---	---
10	Isokinetic flow rate for P.M. Sampling	LPM	23	24	21	17	14	---	---
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	---	---	---	---	---
12	Permissible limits for PM	mg/Nm ³	50	50	50	50	50	50	50
13	Measured Concentration of PM.	mg/Nm ³	46	31	34	31	15 (Zn)	---	---
14	Permissible limits for SO ₂	PPM	100	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO ₂	PPM	8.9	10.8	---	---	---	---	---
16	Permissible limits for Nox	PPM	50	50	NA	NA	NA	NA	NA
17	Measured Concentration of Nox	PPM	8.4	6.7	---	---	---	---	---

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

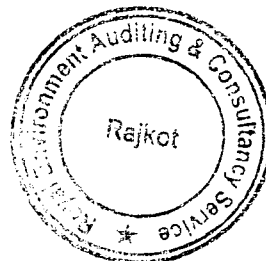
Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

N.D= Not Detectable

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Mukh
Analyst



Royal

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Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 417/08/2014-15

Performance Evaluation of Air Pollution Control Equipments at Pipe Plant

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_1/2/3/7

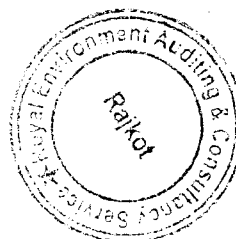
Sr. No.	Particulars	Unit	Stack No. 8	Stack No. 9	Stack No. 10	Stack No. 11
01	Date of Sampling	---	13/08/2014	13/08/2014	21/08/2014	Not Running during Visit
02	Attached to		Mg Converter - I & II	Mg Converter - III	Magnesium Treatment (SDP-2)	Tri Grinding (SDP-3)
03	Stack Height	Meter	30	30	30	30
04	Stack Diameter	Meter	0.49	0.49	1.15	...
05	Stack Temperature	°C	61	50	36	...
06	Ambient Temperature	°C	33	35	33	...
07	Average Velocity of Flue Gases	m/Sec.	15.2	13.3	13.8	...
08	IsoKinetic Flowrate for Sampling	LPM	25	23	23	...
09	Inlet	mg/Nm ³	2875	2265	1856	...
10	Outlet	mg/Nm ³	59	31	36	...
11	Efficiency	%	97.95	98.63	98.06	...

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

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Milind
Analyst



Royal

Environment Auditing & Consultancy Service

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Ref. No. : 418/08/2014-15

Performance Evaluation of Air Pollution Control Equipments at Pipe Plant

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_1/2/3/7

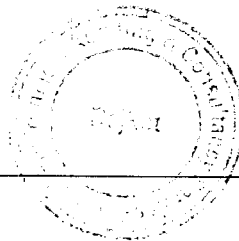
Sr. No.	Particulars	Unit	Stack No. 12	Stack No. 13	Stack No. 14	Stack No. 15	Stack No. 16
01	Date of Sampling	---	13/08/2014	14/08/2014	14/08/2014	14/08/2014	21/08/2014
02	Attached to	---	Zinc Coating - I	Zinc Coating - II	Zinc Coating - III	Zinc Coating - IV & V	Zinc Coating (SDP-2)
03	Stack Height	Meter	30	30	30	30	30
04	Stack Duct Diameter	Meter	0.58	0.58	0.58	0.85	1.16
05	Stack Temperature	°C	42	46	43	47	42
06	Ambient Temperature	°C	32	32	32	34	32
07	Average Velocity of Flue Gases	m/Sec.	15.1	13.1	12.2	14.5	12.5
08	IsoKinetic Flowrate for Sampling	LPM	27	23	22	25	23
09	Inlet	mg/Nm ³	2042	1909	2212	1820	1520
10	Outlet	mg/Nm ³	16	15	18	14	11
11	Efficiency	%	99.22	99.21	99.19	99.23	99.28

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

Royal Environment Auditing & Consultancy Service



Milvi
Analyst



Royal

Environment Auditing & Consultancy Service

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Ref. No. : 436/08/2014-15

Date: 01/09/2014

WORK ZONE NOISE LEVEL MEASUREMENT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Date of sampling : 21st August, 2014

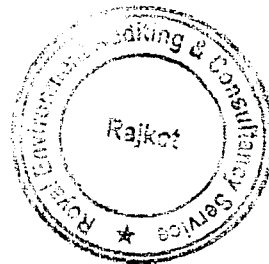
Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room of Annealing Furnace of DISP / SDP	57.9
02	Inside Control Room – Mill Area of Spiral Plant	61.9
03	Nr. Pipe Cutting Area of Spiral Plant	73.1
04	Inside JCO Plant	73.9
05	Inside DISP / SDP Plant	70.5
06	Inside Coating Plant	74.2
07	Nr. CCM SDP-2	69.4
08	Inside Control Room of Annealing Furnace of SDP-2	56.7
09	Nr. Zinc Coating SDP-2	73.4
10	Near Mould Shop	77.4

Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB, C-80 to 130 dB.

Recalibration is due on : 29/09/2014

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Mihir
Analyst

Form No. 37
(Prescribed under Rule 12-B)

Register containing particulars of monitoring of working environment required under Section 7-A (a)(e).

1 Name of the Department/Plant.: **DISP,JCO & Coating Units at Jindal Saw Limited, Samaghogha.**

2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**

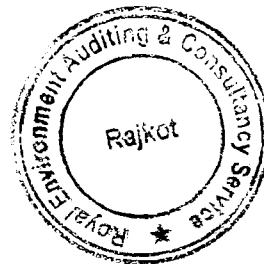
3 Particulars of sampling

Date of Sampling : 20th August, 2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature of person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m3					
1	Spiral Plant (Nr. ID/OD)	Total Dust	Personal Respirable Dust sampler APM 800	02	3-5.5	4.25	10	Gravimetric	6	---	<i>Mihir</i>	Mr. MIHIR PATEL
2	JCO Plant (Nr. JCO Press)	Total Dust		02	4-7	5.50	10	Gravimetric	7	---		
3	Coating Plant-1 (Shot Blasting Area)	Total Dust		02	5-7	6.0	10	Gravimetric	8	---		
4	CCM Area (SDP / DISP)	Total Dust		02	4-6.5	5.3	10	Gravimetric	8	---		
5	Coating Plant-2 (Shot Blasting Area)	Total Dust		02	3-7	5.0	10	Gravimetric	6	---		
6	CCM Area (SDP-2)	Total Dust		02	4-6	5.0	10	Gravimetric	8	---		

Instruments used : Envirotech make personal sampler, Model No. APM 800

Calibration Date Due on : 02/12/2014



For. Royal Environment Auditing & Consultancy Service

Pradeep
Authorized Sign



Royal

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Ref. No. : 402/08/2014-15

Date: 01/09/2014

AMBIENT AIR QUALITY MONITORING REPORT

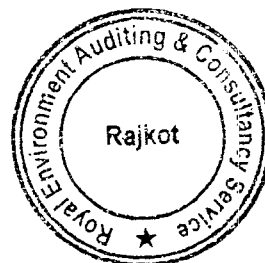
Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	05/08/2014	05/08/2014	05/08/2014
03.	Time of sampling	----	8.15	8.40	9.10
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	WSW	WSW	WSW
06.	Average Wind Speed	Km/Hr.	2 to 8	2 to 8	2 to 8
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	64	71	53
11.	Permissible limits for PM 2.5	µg/m³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	38	47	31
13.	Permissible limits for SO₂	µg/m³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	9.9	12.2	11.8
15.	Permissible limits for NO₂	µg/m³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	16.2	23.4	21.1
17.	Permissible limit for CO **	µg/m³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	284	357	233

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 04/06/2015





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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 403/08/2014-15

Date: 01/09/2014

AMBIENT AIR QUALITY MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

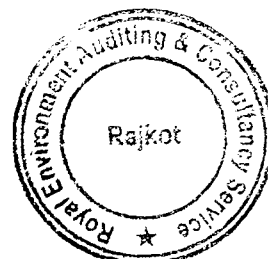
Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	06/08/2014	06/08/2014	06/08/2014
03.	Time of sampling	----	8.20	8.45	9.20
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	WSW	WSW	WSW
06.	Average Wind Speed	Km/Hr.	1 to 6	1 to 6	1 to 6
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100
10.	Measured Concentration of PM 10	µg/m3	67	76	56
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	35	45	28
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	10.1	11.9	9.7
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	17.4	23.8	20.7
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	253	364	246

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 04/06/2015

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Mihir
Analyst



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Ref. No. : 404/08/2014-15

Date: 01/09/2014

AMBIENT AIR QUALITY MONITORING REPORT

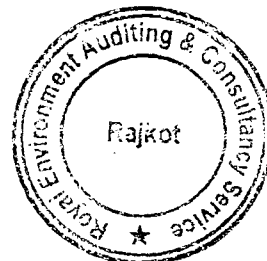
Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	12/08/2014	12/08/2014	12/08/2014
03.	Time of sampling	----	8.10	8.40	9.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	SW	SW	SW
06.	Average Wind Speed	Km/Hr.	1 to 12	1 to 12	1 to 12
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m ³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	51	62	40
11.	Permissible limits for PM 2.5	µg/m ³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	34	37	27
13.	Permissible limits for SO ₂	µg/m ³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	10.4	13.5	9.6
15.	Permissible limits for NO ₂	µg/m ³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	21.5	19.3	16.2
17.	Permissible limit for CO **	µg/m ³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	230	327	198

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)
All Calibration due on : 04/06/2015

Royal Environment Auditing & Consultancy Service



Mihir
Analyst



Royal

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Ref. No. : 405/08/2014-15

Date: 01/09/2014

AMBIENT AIR QUALITY MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

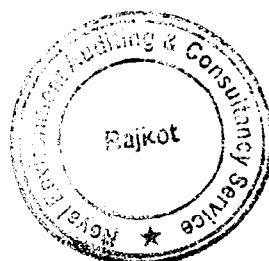
Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	13/08/2014	13/08/2014	13/08/2014
03.	Time of sampling	----	8.20	8.50	9.20
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	SW	SW	SW
06.	Average Wind Speed	Km/Hr.	2 to 14	2 to 14	2 to 14
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100
10.	Measured Concentration of PM 10	µg/m3	59	69	52
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	30	34	29
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	10.9	12.7	11.8
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	21.8	19.9	16.7
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	257	342	231

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 04/06/2015

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mihir
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bai Adalat, Gondal Road, RAJKOT - 360 002.

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Ref. No. : 406/08/2014-15

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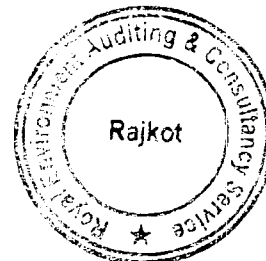
Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	19/08/2014	19/08/2014	19/08/2014
03.	Time of sampling	----	8.00	8.30	9.10
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	SW	SW	SW
06.	Average Wind Speed	Km/Hr.	1 to 6	1 to 6	1 to 6
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	48	54	42
11.	Permissible limits for PM 2.5	µg/m³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	25	41	21
13.	Permissible limits for SO₂	µg/m³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	9.7	11.4	8.6
15.	Permissible limits for NO₂	µg/m³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	19.5	23.3	18.2
17.	Permissible limit for CO **	µg/m³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	297	316	205

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)
All Calibration due on : 04/06/2015

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mihir
Analyst



Royal

Environment Auditing & Consultancy Service

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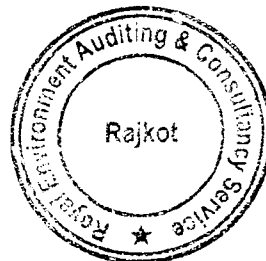
Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	20/08/2014	20/08/2014	20/08/2014
03.	Time of sampling	----	8.10	8.40	9.20
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	W	W	W
06.	Average Wind Speed	Km/Hr.	1 to 9	1 to 9	1 to 9
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100
10.	Measured Concentration of PM 10	µg/m3	52	59	47
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	28	43	24
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	8.7	10.9	9.5
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	20.3	21.1	19.4
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	284	327	195

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)
All Calibration due on : 04/06/2015

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mihir
Analyst



Royal

Environment Auditing & Consultancy Service

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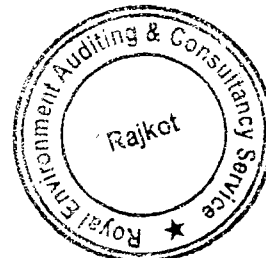
Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	26/08/2014	26/08/2014	26/08/2014
03.	Time of sampling	----	8.00	8.20	9.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	WSW	WSW	WSW
06.	Average Wind Speed	Km/Hr.	3 to 11	3 to 11	3 to 11
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100
10.	Measured Concentration of PM 10	µg/m3	58	69	46
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	29	42	26
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	12.1	11.7	10.3
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	21.4	22.6	15.1
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	341	367	236

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 04/06/2015



Royal Environment Auditing & Consultancy Service

Mishra
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gonda Road, RAJKOT - 360 002.

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Date: 01/09/2014

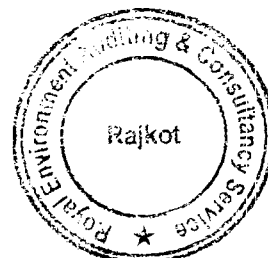
AMBIENT AIR QUALITY MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	27/08/2014	27/08/2014	27/08/2014
03.	Time of sampling	----	8.10	8.30	9.15
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	WSW	WSW	WSW
06.	Average Wind Speed	Km/Hr.	3 to 10	3 to 10	3 to 10
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m ³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	55	63	49
11.	Permissible limits for PM 2.5	µg/m ³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	32	38	30
13.	Permissible limits for SO ₂	µg/m ³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	11.7	12.6	9.9
15.	Permissible limits for NO ₂	µg/m ³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	20.4	21.8	19.3
17.	Permissible limit for CO **	µg/m ³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	329	356	225

Instrument used : (1) Ecotech 3 Nos. of RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampling Kit (AAS 109) (3) 3 Nos. PM 2.5 Sampler (AAS 127)
All Calibration due on : 04/06/2015



Royal Environment Auditing & Consultancy Service

mihir
Analyst



Royal

Environment Auditing & Consultancy Service

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AMBIENT AIR QUALITY MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

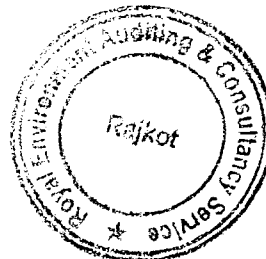
Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr.No.	Particulars	Unit	AAQM - 1 (S)	AAQM - 2 (SSW)	AAQM - 3 (WSW)	AAQM - 4 (NW)
01.	Location of Ambient	---	Old Colony (Nr. Environment Laboratory)	Nr. Rain Water Harvesting	LPG Yard (Nr. Water Reservoir)	Between Sinter - 2 & Spiral - 2
02.	Date of sampling	---	08/08/2014	08/08/2014	08/08/2014	09/08/2014
03.	Time of sampling	----	9.25	9.40	10.00	9.30
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	S	S	S	SSW
06.	Average Wind Speed	Km/Hr.	1 to 15	1 to 15	1 to 15	1 to 8
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	0.2	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100	100
10.	Measured Concentration of PM 10	µg/m3	40	64	55	52
11.	Permissible limits for PM 2.5	µg/m3	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	21	35	37	28
13.	Permissible limits for SO2	µg/m3	80	80	80	80
14.	Measured Concentration of SO2	µg/m3	11.4	9.8	12.7	10.5
15.	Permissible limits for NO2	µg/m3	80	80	80	80
16.	Measured Concentration of NO2	µg/m3	12.6	14.7	25.2	19.3
17.	Permissible limit for CO **	µg/m3	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	129	231	347	224

Instrument used : (1) Ecotech make 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampling Kit (APM 109), & 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 04/06/2015

Royal Environment Auditing & Consultancy Service



Mishra
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalenvironment@live.com ■ admin@royalconsultancy.com

Date: 01/09/2014

Ref. No. : 411/08/2014-15

AMBIENT AIR QUALITY MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

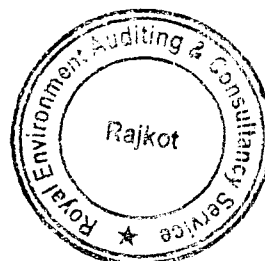
Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	AAQM - 5 (NE)	AAQM - 6 (SE)	AAQM - 7 (SSE)	AAQM - 8 (E)
01.	Location of Ambient	----	Labour Colony	New Colony (Shopping Centre)	Admin Building	Weigh bridge
02.	Date of sampling	----	07/08/2014	07/08/2014	07/08/2014	09/08/2014
03.	Time of sampling	----	9.30	9.45	10.00	9.50
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	WSW	WSW	WSW	SSW
06.	Average Wind Speed	Km/Hr.	1 to 9	1 to 9	1 to 9	1 to 8
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	56	70	62	83
11.	Permissible limits for PM 2.5	µg/m³	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	29	30	34	39
13.	Permissible limits for SOx	µg/m³	80	80	80	80
14.	Measured Concentration of SOx	µg/m ³	12.2	12.9	10.8	15.4
15.	Permissible limits for Nox	µg/m³	80	80	80	80
16.	Measured Concentration of NOx	µg/m ³	20.5	21.5	20.9	27.8
17.	Permissible limit for CO **	µg/m³	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	263	167	219	404

Instrument used : (1) Envirotech make 2 Nos. RDS (APM - 460 BL) (2) 2 Nos. Gaseous Sampling Kit (APM 411)

All Calibration due on : 04/06/2015

Royal Environment Auditing & Consultancy Service



Mishra
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivailk-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

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Ref. No. :412/08/2014-15

Date: 01/09/2014

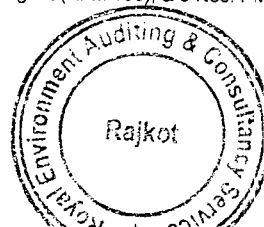
FUGITIVE EMISSION MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	A - 1	A - 2	A - 3
01.	Location of Ambient	----	RMH Junction House	RMH Stock House	Sinter RMH Yard
02.	Date of sampling	----	14/08/2014	14/08/2014	16/08/2014
03.	Time of sampling	----	9.30	9.45	9.30
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	SW	SW	SW
06.	Average Wind Speed	Km/Hr.	5 to 12	5 to 12	6 to 14
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m3	2417	2534	2469
11.	Permissible limits for SO2	µg/m3	150	150	150
12.	Measured Concentration of SO2	µg/m3	23.4	23.9	21.2
13.	Permissible limits for NO2	µg/m3	120	120	120
14.	Measured Concentration of NO2	µg/m3	31.6	32.5	28.3
15.	Permissible limit for CO **	µg/m3	5000	5000	5000
16.	Measured Concentration of CO	µg/m3	374	464	347

Instrument used : (1) Ecotech make 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampling Kit (APM 109), & 3 Nos. PM 2.5 Sampler (AAS 127)
All Calibration due on : 04/06/2015





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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. :413/08/2014-15

Date: 01/09/2014

FUGITIVE EMISSION MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

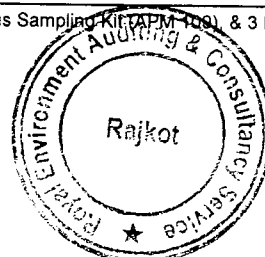
Test Method : As per IS Standards - 5182_Part - 2/6/10/23

Sr. No.	Particulars	Unit	A - 4	A - 5	A - 6
01.	Location of Ambient	----	Sinter 2 Ground Hopper	DISP "CCM" Area	Sinter 1 Main to PMD
02.	Date of sampling	----	16/08/2014	14/08/2014	16/08/2014
03.	Time of sampling	----	9.15	10.00	9.50
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	SW	SW	SW
06.	Average Wind Speed	Km/Hr.	6 to 14	5 to 12	6 to 14
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m3	2123	978	1210
11.	Permissible limits for SO2	µg/m3	150	150	150
12.	Measured Concentration of SO2	µg/m3	20.6	19.7	16.3
13.	Permissible limits for NO2	µg/m3	120	120	120
14.	Measured Concentration of NO2	µg/m3	29.7	25.1	21.8
15.	Permissible limit for CO **	µg/m3	5000	5000	5000
16.	Measured Concentration of CO	µg/m3	271	538	257

Instrument used : (1) Ecotech make 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampling Kit (APM Tool) & 3 Nos. PM 2.5 Sampler (AAS 127)
All Calibration due on : 04/06/2015

D. P. Dadeja

Royal Environment Auditing & Consultancy Service



mishra
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 437/08/2014-15

Date: 01/09/2014

AMBIENT NOISE LEVEL MEASUREMENT

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Date of sampling : 22nd August, 2014

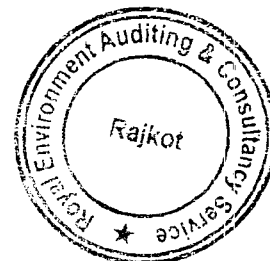
Sr. No.	Location of Sampling	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
	Permissible Limits	75.0	70.0
01.	Admin. Building	57.1	50.1
02.	Old Colony	52.8	49.8
03.	Nr. LPG Yard	65.1	61.1
04.	New Colony (School)	60.1	54.9
05.	Nr. SDP-2	69.8	65.1
06.	Nr. Coating Plant	71.1	67.1
07.	Nr. Gate No. 2	62.9	59.4
08.	Nr. Sinter Plant-1	70.9	66.9
09.	Nr. Sinter Plant-2	70.9	66.9
10.	Nr. Blast Furnace-1	66.1	61.1
11.	Nr. Blast Furnace-2	67.2	59.6
12.	Nr. Main Gate (Security Office)	61.3	54.1

Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB, C-80 to 130 dB.

Recalibration is due on : 29/09/2014

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mihir
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalservice@live.com ■ admin@royalconsultancy.com

Ref. No. : 422/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

BLAST FURNACE-1

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

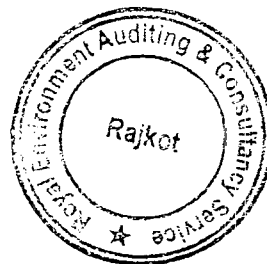
Test Method : As per IS Standards - 11255_Part - 1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5
01	Date of Sampling	---	08/08/2014	08/08/2014	08/08/2014	08/08/2014	Not Done
02	Time of sampling	Hr.	13.00	14.15	11.00	9.00	
03	Stack Attached to	---	Boiler - I	Boiler - II	Dedusting System	Stove Stack	Flare Stack
04	Air Pollution Control Measures	---	---	---	Bag Filter	---	---
05	Stack Height	Meter	45	45	35.0	50.0	30
06	Stack Diameter	Meter	1.380	1.380	1.484	2.250	---
07	Stack Temperature	°C	163	170	64	324	---
08	Ambient Temperature	°C	32	33	33	34	---
09	Average Velocity of Flue Gases	m/Sec.	5.7	5.5	6.6	7.7	---
10	Isokinetic flow rate for P.M. Sampling	LPM	17	16	25	16	---
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0	---
12	Permissible limits for PM	mg/Nm ³	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm ³	15	11	72	7	---
14	Permissible limits for SO ₂	mg/Nm ³	40	40	40	40	40
15	Measured Concentration of SO ₂	mg/Nm ³	7.8	5.9	N.D.	1.21	---
16	Permissible limits for NO _x	mg/Nm ³	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm ³	10.9	8.7	N.D.	7.6	---

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.
Instrument Used : Stack Monitoring Kit - Vayubodhan make - VSS I
Calibration due on 04/06/2015

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Signature



mihir
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 423/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Captive Power Plant (CPP)

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_Part - 1/2/3/7

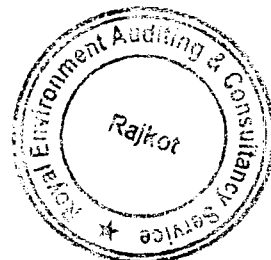
Sr. No.	Particulars	Unit	Stack No. 6	Stack No. 7	Stack No. 8	Stack No. 9
01	Date of Sampling	---	Stand by	Stand by	Stand by	Stand by
02	Time of sampling	Hr.				
03	Stack Attached to	---	6000 KVA D.G.	3240 KVA D.G.	3240 KVA D.G.	1180 KVA D.G.
04	Air Pollution Control Measures	---	---	---	---	---
05	Stack Height	Meter	57.0	35	35	35
06	Stack Diameter	Meter	1.984	1.484	1.484	0.980
07	Stack Temperature	°C	---	---	---	---
08	Ambient Temperature	°C	---	---	---	---
09	Average Velocity of Flue Gases	m/Sec.	---	---	---	---
10	Isokinetic flow rate for P.M. Sampling	LPM	---	---	---	---
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---
12	Permissible limits for PM	mg/Nm ³	150	150	150	150
13	Measured Concentration of PM.	mg/Nm ³	---	---	---	---
14	Permissible limits for SO ₂	ppm	100	100	100.0	100
15	Measured Concentration of SO ₂	ppm	---	---	---	---
16	Permissible limits for Nox	ppm	50	50	50.0	50
17	Measured Concentration of Nox	ppm	---	---	---	---

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

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Mihir
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 418/08/2014-15

Performance Evaluation of Air Pollution Control Equipments at Blast Furnace-1

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_1/2/3/7

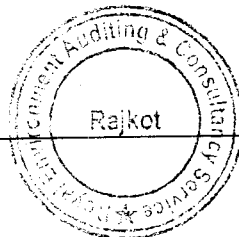
Sr. No.	Particulars	Unit	Stack No. 1
01	Date of Sampling	---	08/08/2014
02	Attached to	---	Dedusting System
03	Stack Height	Meter	35
04	Stack Duct Diameter	Meter	1.48
05	Stack Temperature	°C	61
06	Ambient Temperature	°C	32
07	Average Velocity of Flue Gases	m/Sec.	8.5
08	IsoKinetic Flowrate for Sampling	LPM	14
09	Inlet	mg/Nm ³	2145
10	Outlet	mg/Nm ³	45
11	Efficiency	%	97.90

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

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Milind
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 435/08/2014-15

Date: 01/09/2014

WORK ZONE NOISE LEVEL MEASUREMENT AT BF - 1

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Date of sampling : 19th August, 2014

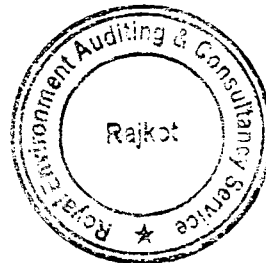
Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Nr. Stock House	72.9
02.	Inside Control Room	61.2
03.	Inside Control room of Cast House	56.3
04.	Inside Laboratory	53.9
05.	Inside Control Room of Blower House	58.9
06.	Inside Control Room of CPP	53.8

Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB, C-80 to 130 dB.

Recalibration is due on : 29/09/2014

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Mihir
Analyst

Form No. 37
(Prescribed under Rule 12-B)

Register containing particulars of monitoring of working environment required under Section 7-A (a)(e).

- 1 Name of the Department/Plant.: **BF Plant-1 at Jindal Saw Limited, Samaghogha.**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST & CO.**
- 3 Particulars of sampling

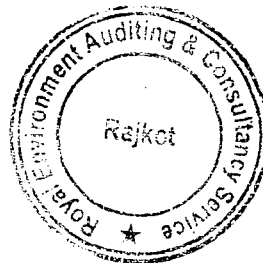
Date of Sampling : 19th August, 2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m3					
1	BF-1 Plant (Cast House)	CO	Personal Respirable Dust sampler APM 800	02	1.0-1.5	1.25	2	Gravimetric	9	---	<i>Mihir</i>	Mr. MIHIR PATEL
		Total Dust			4-6	5.0	10					

Instruments used : Envirotech make personal sampler, Model No. APM 800
Calibration Date Due on : 02/12/2014

For. Royal Environment Auditing & Consultancy Service

Rajadeja
Authorized Sign





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303-304, Shivalik-7, B/s. Bai Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalservice@live.com ■ admin@royalconsultancy.com

Ref. No. : 440/08/2014-15

Date: 01/09/2014

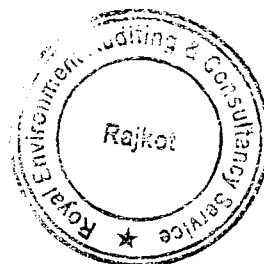
REPORT OF DOMESTIC WASTE WATER ANALYSIS

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Source Of Sample Collection : Domestic Effluent After Treatment
Date of Sampling : 16/08/2014

Sr. No.	Parameters	Unit	GPCB limits	STP Inlet	STP Outlet
01.	pH	pH Unit	----	8.12	7.56
02.	BOD (3 Days at 27°C)	mg/l	<20	154	14
03.	Suspended Solids	mg/l	<30	265	20
04.	Residual Chlorine	mg/l	Min. 0.5	----	0.70

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Mihir
Analyst



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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalservice@live.com ■ admin@royalconsultancy.com

Ref. No. :421/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

BLAST FURNACE - 2

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_Part - 1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5
01	Date of Sampling	---	07/08/2014	07/08/2014	07/08/2014	07/08/2014	
02	Time of sampling	Hr.	10.00	11.15	14.30	15.45	Not Done
03	Stack Attached to	---	Dedusting System	Stove Stack	Iron Ore fine & Dust Collecting System	Coke fine building dust collecting system	Flare Stack
04	Air Pollution Control Measures	---	Bag Filter	---	Bag Filter	Bag Filter	---
05	Stack Height	Meter	40.0	65.0	30.0	30.0	45
06	Stack Diameter	Meter	1.484	2.250	0.650	---	---
07	Stack Temperature	°C	58	330	46	40	---
08	Ambient Temperature	°C	31	32	33	33	---
09	Average Velocity of Flue Gases	m/Sec.	6.7	6.5	12.2	12.1	---
10	Isokinetic flow rate for P.M. Sampling	LPM	26	14	21	22	---
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	---
12	Permissible limits for PM	mg/Nm ³	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm ³	67	8	38	52	---
14	Permissible limits for SO ₂	mg/Nm ³	NA	NA	NA	NA	NA
15	Measured Concentration of SO ₂	mg/Nm ³	---	---	---	---	---
16	Permissible limits for NO _x	mg/Nm ³	NA	NA	NA	NA	---
17	Measured Concentration of NO _x	mg/Nm ³	---	---	---	---	---

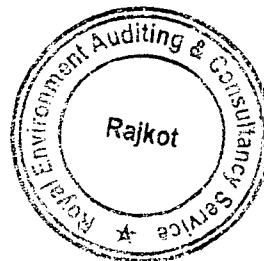
Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

**NA=Not Applicable

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mishra
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gonda Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 418/08/2014-15

Date: 01/09/2014

Performance Evaluation of Air Pollution Control Equipments at BF - 2 Plant

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_Part - 1/3

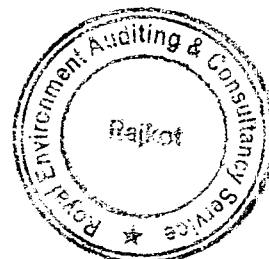
Sr. No.	Particulars	Unit	Stack No. 14	Stack No. 16	Stack No. 17
01	Date of Sampling	---	07/08/2014	07/08/2014	07/08/2014
02	Attached to	---	Dedusting System	Iron Ore fine & Dust Collecting System	Coke fine building dust collecting system
03	Stack Height	Meter	40	30	30
04	Stack Duct Diameter	Meter	0.584	0.584	0.85
05	Stack Temperature	°C	60	44	42
06	Ambient Temperature	°C	34	34	34
07	Average Velocity of Flue Gases	m/Sec.	7.1	12.5	12.8
08	IsoKinetic Flowrate for Sampling	LPM	12	22	23
09	Inlet	mg/Nm ³	2354	2425	2135
10	Outlet	mg/Nm ³	67	38	52
11	Efficiency	%	97.15	98.43	97.56

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

Royal Environment Auditing & Consultancy Service



Milind
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 438/08/2014-15

Date: 01/09/2014

WORK ZONE NOISE LEVEL MEASUREMENT AT BF - 2

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Date of sampling : 23rd August, 2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room	55.9
02.	Nr. Stock House	66.3
03.	C/R Blower House	73.1

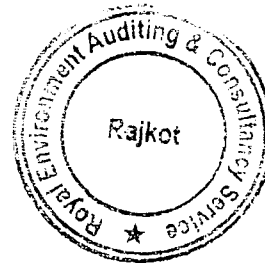
Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB, C-80 to 130 dB.

Recalibration is due on : 29/09/2014

Royal Environment Auditing & Consultancy Service

mikir
Analyst



Form No. 37 (Prescribed under Rule 12-B)

Register containing particulars of monitoring of working environment required under Section 7-A (a)(e).

1 Name of the Department/Plant: **BF Plant-2 at Jindal Saw Limited, Samaghogha.**

2 Raw materials, by products and finished products involved in the process. **TOTAL DUST & CO.**

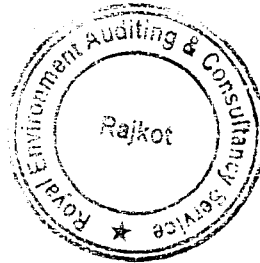
3 Particulars of sampling

Date of Sampling : 21st August, 2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m ³					
1	BF-2 Plant (Cast House)	CO	Personal Respirable Dust sampler APM 800	02	1.0-1.5	1.25	6	Gravimetric	9	—	<i>Mihir</i>	Mr. MIHIR PATEL
		Total Dust			2-5	3.5	10					

Instruments used : Envirotech make personal sampler, Model No. APM 800

Calibration Date Due on : 02/12/2014



For. Royal Environment Auditing & Consultancy Service

D. J. J. J.
Authorized Sign



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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gonda Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 419/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Sinter Plant - I

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_Part - 1/2/3/7

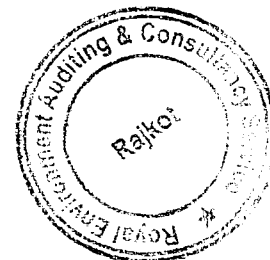
Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5	Stack No. 6
01	Date of Sampling	---	04/08/2014	04/08/2014	04/08/2014	Not Running During Visit	04/08/2014	04/08/2014
02	Time of sampling	---	9.45	11.45	14.00		15.30	16.30
03	Stack Attached to	---	Sinter Furnace	Discharge End	Fuel & Flux Crusher and Screening building	Fuel & Flux Crushing House	Secondary Mixture House	Primary Mixture House
04	Air Pollution Control Measures	---	ESP	ESP	Bag Filter	Bag Filter	---	---
05	Stack Height	Meter	50	32.8	32.8	27.05	36.08	19.75
06	Stack Diameter	Meter	2.0	1.30	1.40	0.70	1.25	1.25
07	Stack Temperature	°C	145	139	0.2	---	51	83
08	Ambient Temperature	°C	30	32	33	---	31	33
09	Average Velocity of Flue Gases	m/Sec.	12.1	14.9	10.1	---	6.1	5.9
10	Isokinetic flow rate for P.M. Sampling	LPM	16	20	21	---	24	21
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	---	---
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm3	64	44	30	---	42	67
14	Permissible limits for SO2	ppm	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO2	ppm	12.9	---	---	---	---	---
16	Permissible limits for NOx	ppm	50	NA	NA	NA	NA	NA
17	Measured Concentration of NOx	ppm	17.4	---	---	---	---	---

Note : Minimum Detectable Limit of SO2 & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on : 04/06/2015

NA= Not Applicable



Royal Environment Auditing & Consultancy Service

Mihir
Analyst



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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 414/08/2014-15

Date: 01/09/2014

Performance Evaluation of Air Pollution Control Equipments at Sinter Plant-1

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_Part - 1/3

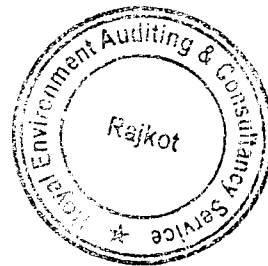
Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4
01	Date of Sampling	---	04/08/2014	04/08/2014	04/08/2014	04/08/2014
02	Attached to	---	Sinter Furnace-1	Discharge end	Fuel & Flux crusher & screening building	Fuel & Flux crushing house
03	Stack Height	Meter	50	32	32	27
04	Stack Diameter	Meter	2.0	1.3	1.4	1.4
05	Stack Temperature	°C	134	123	48	48
06	Ambient Temperature	°C	34	35	36	36
07	Average Velocity of Flue Gases	m/Sec.	19.3	16.2	14.3	15.3
08	IsoKinetic Flowrate for Sampling	LPM	26	23	0	27
09	Inlet	mg/Nm ³	3742	2638	2242	2242
10	Outlet	mg/Nm ³	64	44	30	30
11	Efficiency	%	98.29	98.33	98.66	98.65

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

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Mishra
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bai Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 434/08/2014-15

Date: 01/09/2014

WORK ZONE NOISE LEVEL MEASUREMENT AT SINTER - 1

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Date of sampling : 23rd August, 2014

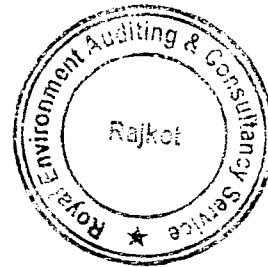
Sr. No.	Location of Sampling	Results Avg. in dB(A)
1	Inside Control Room	54.2
2	Inside Mechanical Room	55.0
3	Inside Electrical Room	67.7
4	Inside Plant Office	57.6

Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB, C-80 to 130 dB.

Recalibration is due on : 29/09/2014

Royal Environment Auditing & Consultancy Service



Mihir
Analyst

Form No. 37 (Prescribed under Rule 12-B)

Register containing particulars of monitoring of working environment required under Section 7-A (a)(e).

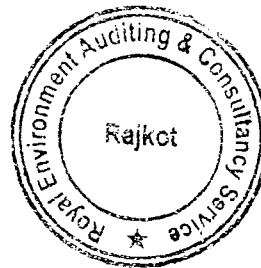
- 1 Name of the Department/Plant.: **Sinter Plant-I at Jindal Saw Limited, Samaghogha.**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

Date of Sampling : 19th August, 2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature of person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m3					
1	Sinter Plant-I At First Floor	Total Dust	Personal Respirable Dust sampler APM 800	02	3-5	4	10	Gravimetric	6	---	<i>Mihir</i>	Mr. MIHIR PATEL

Instruments used : Envirotech make personal sampler. Model No. APM 800

Calibration Date Due on : 02/12/2014



For: Royal Environment Auditing & Consultancy Service

T. J. J. J.
Authorized Sign



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303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 420/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Sinter Plant - II

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

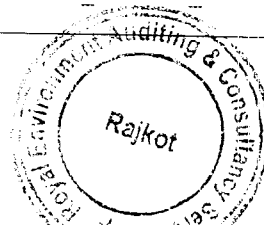
Test Method : As per IS Standards - 11255_Part - 1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5	Stack No. 6	Stack No. 7	Stack No. 8	Stack No. 9
01	Date of Sampling	---	06/08/2014	06/08/2014	06/08/2014	06/08/2014	06/08/2014	06/08/2014	06/08/2014	06/08/2014	06/08/2014
02	Time of sampling	Hr.	9.45	10.20	11.30	13.30	14.45	16.00	Not Running During Visit	17.00	Not Running During Visit
03	Stack Attached to	---	Sinter Furnace	Discharging End of sinter de-dusting system	Fuel crushing de-duster system (Flux)	Primary Mixer De-duster system	Secondary Mixer De-duster system	Fuel Screening deduster System (Flux Screening Stack)	Fuel crushing de-duster system(Fuel)	Transfer station no. 4 & 5 dedusting system	Coal Pulverization
04	Air Pollution Control Measures	---	ESP	ESP	Dust Collector	Dust Collector	Dust Collector	Dust Collector	Dust Collector	Dust Collector	Bag Filter
05	Stack Height	Meter	50	50	30	30	30	30	30	30	32
06	Stack Diameter	Meter	2	1.3	0.7	1.25	1.25	0.7	0.7	---	---
07	Stack Temperature	°C	144	129	42	81	53	43	---	42	---
08	Ambient Temperature	°C	32	32	33	33	33	34	---	34	---
09	Average Velocity of Flue Gases	m/Sec.	14.2	16.7	10.3	6.4	5.5	5.1	---	5.8	---
10	Isokinetic flow rate for P.M. Sampling	LPM	19	23	18	23	21	20	---	23	---
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	---	---	---	---	---
12	Permissible limits for PM	mg/Nm ³	150	150	150	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm ³	67	23	21	64	49	24	---	18	---
14	Permissible limits for SO ₂	ppm	100	NA	NA	NA	NA	NA	NA	NA	100 (ppm)
15	Measured Concentration of SO ₂	ppm	16.9	---	---	---	---	---	---	---	---
16	Permissible limits for NO _x	ppm	50	NA	NA	NA	NA	NA	NA	NA	50 (ppm)
17	Measured Concentration of NO _x	ppm	22.3	---	---	---	---	---	---	---	---

Note : Minimum Detectable Limit of SO₂ & NO_x is 0.1 and 0.01 ppm respectively.
Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I
Calibration due on : 04/06/2015

NA= Not Applicable

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mukherjee
Analyst



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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 415/08/2014-15

Date: 01/09/2014

Performance Evaluation of Air Pollution Control Equipments at Sinter Plant-2

Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11255_Part - 1/3

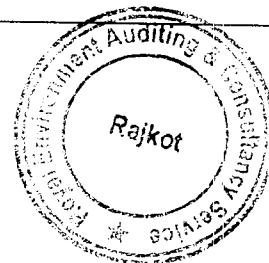
Sr. No.	Particulars	Unit	Stack No. 5	Stack No. 6	Stack No. 7	Stack No. 8
01	Date of Sampling	---	05/08/2014	05/08/2014	05/08/2014	05/08/2014
02	Attached to	---	Sinter Furnace-2	Discharge end	Fuel crushing de- duster system (fuel)	Fuel screening deduster system (Flux screening stack)
03	Stack Height	Meter	50	50	30	30
04	Stack Diameter	Meter	2.0	1.3	0.7	0.7
05	Stack Temperature	°C	140	117	51	48
06	Ambient Temperature	°C	34	34	35	36
07	Average Velocity of Flue Gases	m/Sec.	18.7	17.9	0.2	14.7
08	IsoKinetic Flowrate for Sampling	LPM	25	26	0	26
09	Inlet	mg/Nm ³	3418	2118	1753	1924
10	Outlet	mg/Nm ³	67	23	21	24
11	Efficiency	%	98.04	98.91	98.80	98.75

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration due on 04/06/2015

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Analyst



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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalservice@live.com ■ admin@royalconsultancy.com

Ref. No. : 439/08/2014-15

Date: 01/09/2014

WORK ZONE NOISE LEVEL MEASUREMENT AT SINTER - 2

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 23rd August, 2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room	59.7
02.	Inside Operator Room	64.8
03.	Near Proportioning Bulding	66.0
04.	Near Crusher House	67.7

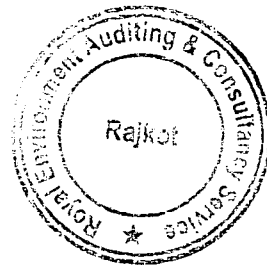
Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB,C-80 to 130 dB.

Recalibration is due on : 29/09/2014

Royal Environment Auditing & Consultancy Service

Mihir
Analyst



Ref. No. : 429/08/2014-15

Date: 01/09/2014

Form No. 37
(Prescribed under Rule 12-B)

Register containing particulars of monitoring of working environment required under Section 7-A (a)(e).

- 1 Name of the Department/Plant : **Sinter Plant-II at Jindal Saw Limited, Samaghogha.**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

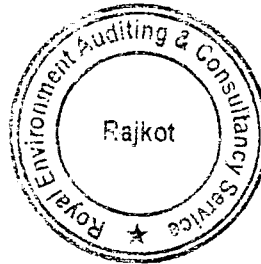
Date of Sampling : 18th August, 2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature of person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m3					
1	Sinter Plant II At First Floor	Total Dust	Personal Respirable Dust sampler APM 800	02	3-6	4.5	10	Gravimetric	8	---	<i>Mihir</i>	Mr. MIHIR PATEL

Instruments used : Envirotech make personal sampler, Model No. APM 800

Calibration Date Due on : 02/12/2014

For. Royal Environment Auditing & Consultancy Service



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303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalservice@live.com ■ admin@royalconsultancy.com

Ref. No. : 443/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Name of company : Jindal Saw Limited,

Village: Pragpar,

Tal. : Mundra, Dist. Kutch

Source of Sample : **WHRPP & Coke Oven Unit**

Test Method : As per IS Standards - 11255_Part - 1/2/3/7

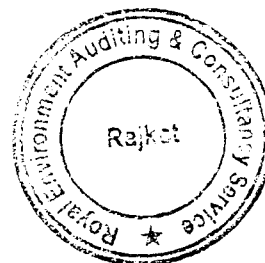
Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4
01	Date of Sampling	----	25/08/2014	25/08/2014	25/08/2014	25/08/2014
02	Time of sampling	Hr.	10.15	11.30	12.45	14.30
03	Stack Attached to	----	Boiler-I	Boiler-II	Boiler-III	Boiler-IV
04	Air Pollution Control Measures	---	---	---	---	---
05	Stack Height	Meter	50.0	50.0	50.0	50.0
06	Stack Temperature	°C	138	144	128	141
07	Ambient Temperature	°C	30	32	32	33
08	Average Velocity of Flue Gases	M/Sec.	10.2	10.5	11.2	10.8
09	Isokinetic flow rate for P.M. Sampling	LPM	14	14	16	15
10	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0
11	Permissible limits for PM	mg/Nm3	150	150	150	150
12	Measured Concentration of PM.	mg/Nm3	40	35	25	28
13	Permissible limits for SO2	ppm	100	100	100	100
14	Measured Concentration of SO2	ppm	12.5	11.3	10.8	13.4
15	Permissible limits for Nox	ppm	50	50	50	50
16	Measured Concentration of Nox	ppm	20.5	18.3	21.4	22.3

Note : Minimum Detectable Limit of SO2 & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 nos. Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration Due On. : 03/06/2015

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Mishra
Analyst



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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 445/08/2014-15

Date: 01/09/2014

STACK EMISSION MONITORING RESULTS

Name of company : Jindal Saw Limited,
Village: Pragpar,
Tal. : Mundra, Dist. Kutch
Source of Sample : **WHRPP & Coke Oven Unit**

Test Method : As per IS Standards - 11255_Part - 1/2/3/7

Sr. No.	Particulars	Unit	Stack No. 5	Stack No.6	Stack No. 7	Stack No.8	Stack No.9	Stack No.10	Stack No.11
01	Date of Sampling	---	Standby	Standby	Standby	Standby	Standby	Standby	Standby
02	Time of sampling	Hr.	---	---	---	---	---	---	---
03	Stack Attached to	---	Coke Battery-1	Coke Battery-2	Coke Battery-3	Coke Battery-4	DG	DG	DG
04	Air Pollution Control Measures	0	---	---	---	---	---	---	---
05	Stack Height	Meter	30.0	30.0	30.0	30.0	9.0	9.0	9.0
06	Stack Temperature	°C	---	---	---	---	---	---	---
07	Ambient Temperature	°C	---	---	---	---	---	---	---
08	Average Velocity of Flue Gases	M/Sec.	---	---	---	---	---	---	---
09	Isokinetic flow rate for P.M. Sampling	LPM	---	---	---	---	---	---	---
10	Gaseous Sampling Flow Rate	LPM	---	---	---	---	---	---	---
11	Permissible limits for PM	mg/Nm3	150	150	150	150	150	150	150
12	Measured Concentration of PM.	mg/Nm3	---	---	---	---	---	---	---
13	Permissible limits for SO2	ppm	100	100	100	100	100	100	100
14	Measured Concentration of SO2	ppm	---	---	---	---	---	---	---
15	Permissible limits for Nox	ppm	50	50	50	50	50	50	50
16	Measured Concentration of Nox	ppm	---	---	---	---	---	---	---

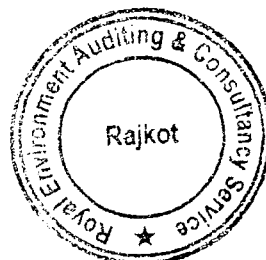
Note : Minimum Detectable Limit of SO2 & Nox is 0.1 and 0.01 ppm respectively.

*N.A.=Not Applicable

Instrument Used : 2 nos.Stack Monitoring Kit - Vayubodhan make - VSS I

Calibration Due On. : 03/06/2015

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Mihir
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 451/08/2014-15

Date: 01/09/2014

WORK ZONE NOISE LEVEL MEASUREMENT

Name of company : Jindal Saw Limited,
Village: Pragpar,
Taluka : Mundra,
District : Kutch.

Date of sampling : 26/08/2014

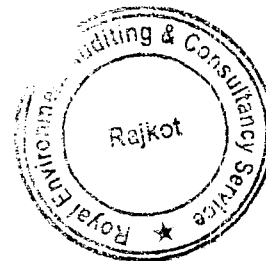
Sr. No.	Location of Sampling	Results Avg. in dB(A)
WHRPP and Coke Oven Plant		
01	Nr. Cooling Tower	70.8
02	Nr Turbine	81.2
03	Inside Control Room	61.3
04	Nr. Compressor	84.4
05	Near Raw Material Stock Yard.	72.2
06	Near Coke Oven Batteries (Old)	65.5
07	Near Coke Stamping area	73.2
08	Office Coke Oven	74.4
09	Near Quenching Tower	69.2
10	Near Coke Oven Batteries (New)	64.2

Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB,C-80 to 130 dB.

Recalibratin is due on: 29/09/2014

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Mukherjee
Analyst

Form No. 37
(Prescribed under Rule 12-B)

Register containing particulars of monitoring of working environment required under Section 7-A (a)(e).

- 1 Name of the Department/Plant.: **WHRPP & COKE OVEN AT Jindal Saw Limited, Pragpar.**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

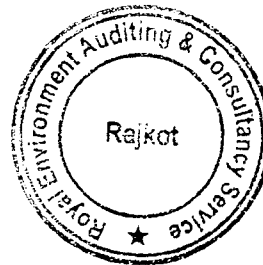
Date of Sampling : 26/08/2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m3					
1	Turbine Floor at WHRPP	Total Dust	Personal Respirable Dust sampler APM 800	02	4-5	4.5	10	Gravimetric	7	---	<i>Mihir</i>	Mr. MIHIR PATEL
2	Coke Oven Plant (Nr. Battery 1 & 2 Stamping)	Total Dust		02	2-4	3.0	10	Gravimetric	7	---		
3	Coke Oven Plant (Nr. Battery 3 & 4 Stamping Area)	Total Dust		03	2-4.5	3.0	10	Gravimetric	7	---		

Instrument Recalibration on : 02/12/2014

For. Royal Environment Auditing & Consultancy Service

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Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 442/08/2014-15

Date: 01/09/2014

WASTE WATER QUALITY ANALYSIS REPORT

Name of company : Jindal Saw Limited,
Village: Pragpar,
Taluka : Mundra,
District : Kutch.

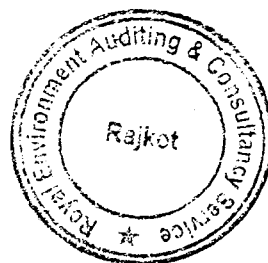
Date of sampling : 27/08/2014

Source of Sample : Treated waste water as generated from coke quenching

Sr. No.	Parameters	Unit	Results
01.	pH	pH Unit	7.54
02	Colour	---	10
03	Total Dissolved Solids	Mg/L	1225
04.	Total Suspended Solids	Mg/L	111
05.	Total Solids	Mg/L	1336
06.	B.O.D. (3 day's at 27 ^o C)	Mg/L	BDL
07.	C.O.D.	Mg/L	37
08.	Chlorides	Mg/L	724
09.	Sulphates	Mg/L	184
10.	Oil & Grease	Mg/L	1.2

BDL= Below detectable limit

Royal Environment Auditing & Consultancy Service



Mihir
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Date: 01/09/2014

Ref. No. : 441/08/2014-15

AMBIENT AIR QUALITY MONITORING REPORT

Name of company : Jindal Saw Limited,

Village: Pragpar,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182_2/6/10/23

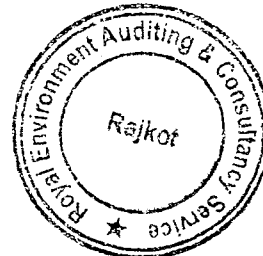
Sr. No.	Particulars	Unit	AAQM - 1	AAQM - 2	AAQM - 3	AAQM - 4	AAQM - 5	AAQM - 6
01.	Location of Ambient	----	Nr. Security Gate	Nr. Bachelor Colony	Nr. New Canteen	Nr. Old Coke Oven	Nr. Staff Colony	Nr. Admin Office
02.	Date of sampling	—	25/08/2014	25/08/2014	25/08/2014	26/08/2014	26/08/2014	26/08/2014
03.	Time of sampling	Hr.	9.10	9.25	9.40	9.20	9.40	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	—	W	W	W	WSW	WSW	WSW
06.	Wind Speed	Km/Hr.	2 to 10	2 to 10	2 to 10	2 to 12	2 to 12	2 to 12
07.	Average flow rate during sampling	m3/minute	1.0	1.0	1.0	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100	100	100	100
10.	Measured Concentration of PM 10	µg/m3	40	32	44	54	35	30
11.	Permissible limits for PM 2.5	µg/m3	60	60	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	20	14	18	17	15	14
13.	Permissible limits for SO ₂	µg/m3	80	80	80	80	80	80
14.	Measured Concentration of SO ₂	µg/m3	9.5	10.2	8.5	9.3	8.2	8.8
15.	Permissible limits for NO ₂	µg/m3	80	80	80	80	80	80
16.	Measured Concentration of NO ₂	µg/m3	17.5	16.3	17.2	16.8	17.9	18.5
17.	Permissible limit for CO **	µg/m3	2000	2000	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	254	179	184	324	205	194

Instrument used : (1) Ecotech make 3 Nos. RDS (APM - 217 BL) (2) 3 Nos. Gaseous Sampling Kit (APM 109)

(3) Ecotech make 3 Nos. PM 2.5 Sampler (AAS 127)

Calibration Due On. : 04/06/2015

Royal Environment Auditing & Consultancy Service



Mishra
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 446/08/2014-15

Date: 01/09/2014

FUGITIVE EMISSION MONITORING REPORT

Name of company : Jindal Saw Limited,
Village: Pragpar,
Tal. : Mundra, Dist. Kutch

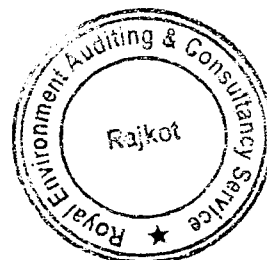
Test Method : As per IS Standards - 5182_2/6/10/23

Sr. No.	Particulars	Unit	A-1	A-2	A-3	A-4
01.	Location of Ambient	----	Coke Yard	Coke/ Coal Yard behind Old Battery	Near Coke Screening Area	Near Coke Transfer Point
02.	Date of sampling	---	26/08/2014	26/08/2014	27/08/2014	27/08/2014
03.	Time of sampling	----	17.20	17.45	9.00	9.30
04.	Duration of Sampling	Hr.	8.00	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	WSW	WSW	WSW	WSW
06.	Average Wind Speed	Km/Hr.	2 to 12	2 to 12	3 to 11	3 to 11
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	3000	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m3	1725	2135	1425	2065
11.	Permissible limits for SO2	µg/m3	150	150	150	150
12.	Measured Concentration of SO2	µg/m3	12.5	13.7	16.8	14.5
13.	Permissible limits for NO2	µg/m3	120	120	120	120
14.	Measured Concentration of NO2	µg/m3	21.3	21.7	25.4	23.5
15.	Permissible limit for CO **	µg/m3	5000	5000	5000	5000
16.	Measured Concentration of CO	µg/m3	325	270	220	210

Instrument used : (1) Ecotech make 3 Nos. RDS (APM - 217 BL) (2) 3 Nos. Gaseous Sampling Kit (APM 109)
(3) Ecotech make 3 Nos. PM 2.5 Sampler (AAS 127)

Calibration Due On. : 05/06/2015

Royal Environment Auditing & Consultancy Service



Mihir
Analyst

Form No. 37
(Prescribed under Rule 12-B)

Register containing particulars of monitoring of working environment required under Section 7-A (a)(e).
 1 Name of the Department/Plant.: **WHRPP & COKE OVEN AT Jindal Saw Limited, Pragpar.**
 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
 3 Particulars of sampling

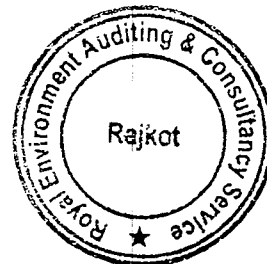
Date of Sampling : 26/08/2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m3					
1	Turbine Floor at WHRPP	Total Dust	Personal Respirable Dust sampler APM 800	02	4-5	4.5	10	Gravimetric	7	—	<i>Mihir</i>	Mr. MIHIR PATEL
2	Coke Oven Plant (Nr. Battery 1 & 2 Stamping)	Total Dust		02	2-4	3.0	10	Gravimetric	7	—		
3	Coke Oven Plant (Nr. Battery 3 & 4 Stamping Area)	Total Dust		03	2-4.5	3.0	10	Gravimetric	7	—		

Instrument Recalibration on : 02/12/2014

For. Royal Environment Auditing & Consultancy Service

Diyadega.
Authorized Sign





Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 448/08/2014-15

Date: 01/09/2014

AMBIENT NOISE LEVEL MEASUREMENT

Name of company : Jindal Saw Limited,
Village: Pragpar,
Tal. : Mundra, Dist. Kutch

Date of sampling : 26/08/2014

Sr. No.	Location of Sampling	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
	Permissible Limits	75.0	70.0
01.	Nr. Main Gate	62.5	55.2
02.	Nr. Bachelor Colony	55.2	52.5
03.	At Admin Building	64.2	61.3
04.	Nr. Store	64.8	57.2
05.	At plant boundary (Behind coke oven batteries)	70.8	64.3
06.	At Staff Colony	58.3	56.2

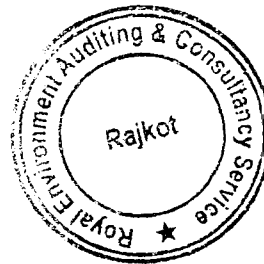
Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB, B-50 to 100 dB, C-80 to 130 dB.

Recalibratin is due on: 29/09/2014

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Mishir
Analyst



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 442/08/2014-15

Date: 01/09/2014

WASTE WATER QUALITY ANALYSIS REPORT

Name of company : Jindal Saw Limited,
Village: Pragpar,
Taluka : Mundra,
District : Kutch.

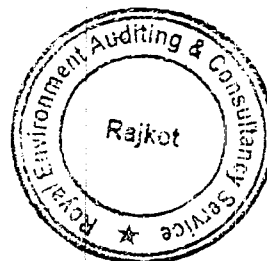
Date of sampling : 27/08/2014

Source of Sample : Treated waste water as generated from coke quenching

Sr. No.	Parameters	Unit	Results
01.	pH	pH Unit	7.54
02	Colour	—	10
03	Total Dissolved Solids	Mg/L	1225
04.	Total Suspended Solids	Mg/L	111
05.	Total Solids	Mg/L	1336
06.	B.O.D. (3 day's at 27 ° C)	Mg/L	BDL
07.	C.O.D.	Mg/L	37
08.	Chlorides	Mg/L	724
09.	Sulphates	Mg/L	184
10.	Oil & Grease	Mg/L	1.2

BDL= Below detectable limit

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Mihir
Analyst