



# Royal

## Environment Auditing & Consultancy Service

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

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

Ref. No. : 571/10/2014-15

Date: 03/11/2014

### 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	----	02/10/2014	02/10/2014	02/10/2014
03.	Time of sampling	----	8.40	8.55	9.30
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	WNW	WNW	WNW
06.	Average Wind Speed	Km/Hr.	2.6	2.6	2.6
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m3	66	71	57
11.	<b>Permissible limits for PM 2.5</b>	<b>µg/m3</b>	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	µg/m3	39	48	33
13.	<b>Permissible limits for SO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SO2	µg/m3	9.8	12.4	11.9
15.	<b>Permissible limits for NO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NO2	µg/m3	16.5	22.1	19.6
17.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m3	296	334	210

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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Ref. No. : 572/10/2014-15

Date: 03/11/2014

### 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	----	03/10/2014	03/10/2014	03/10/2014
03.	Time of sampling	----	8.40	9.00	9.25
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.	3.4	3.4	3.4
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	70	78	59
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	41	49	31
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	9.8	10.9	9.1
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	17.9	23.7	20.8
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	272	351	226

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)

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Ref. No. : 573/10/2014-15

Date: 03/11/2014

### 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	----	06/10/2014	06/10/2014	06/10/2014
03.	Time of sampling	----	8.25	8.45	9.10
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.	3.6	3.6	3.6
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	56	65	47
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	30	34	26
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	11.2	14.5	10.7
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	22.8	20.4	15.1
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	253	361	174

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)  
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Ref. No. : 574/10/2014-15

Date: 03/11/2014

### 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	----	07/10/2014	07/10/2014	07/10/2014
03.	Time of sampling	----	8.35	8.50	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.	3.8	3.8	3.8
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	64	69	52
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	36	41	31
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	9.7	13.2	11.1
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	22.2	20.9	16.2
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	240	373	206

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

Analyst



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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	----	14/10/2014	14/10/2014	14/10/2014
03.	Time of sampling	----	8.10	8.30	8.55
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.	2.1	2.1	2.1
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m3	61	72	57
11.	<b>Permissible limits for PM 2.5</b>	<b>µg/m3</b>	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	µg/m3	37	49	31
13.	<b>Permissible limits for SO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SO2	µg/m3	11.8	12.6	10.9
15.	<b>Permissible limits for NO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NO2	µg/m3	21.7	24.6	19.4
17.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m3	270	311	191

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)  
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Date: 03/11/2014

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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	----	15/10/2014	15/10/2014	15/10/2014
03.	Time of sampling	----	8.20	8.55	9.15
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	N	N	N
06.	Average Wind Speed	Km/Hr.	3.1	3.1	3.1
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.	<b>Permissible limits for PM 10</b>	$\mu\text{g}/\text{m}^3$	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	$\mu\text{g}/\text{m}^3$	64	76	55
11.	<b>Permissible limits for PM 2.5</b>	$\mu\text{g}/\text{m}^3$	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	$\mu\text{g}/\text{m}^3$	39	51	34
13.	<b>Permissible limits for SO<sub>2</sub></b>	$\mu\text{g}/\text{m}^3$	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SO <sub>2</sub>	$\mu\text{g}/\text{m}^3$	10.9	13.2	10.5
15.	<b>Permissible limits for NO<sub>2</sub></b>	$\mu\text{g}/\text{m}^3$	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NO <sub>2</sub>	$\mu\text{g}/\text{m}^3$	21.4	23.5	20.8
17.	<b>Permissible limit for CO **</b>	$\mu\text{g}/\text{m}^3$	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	$\mu\text{g}/\text{m}^3$	249	324	179

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

Ref. No. : 577/10/2014-15

Date: 03/11/2014

### 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	----	20/10/2014	20/10/2014	20/10/2014
03.	Time of sampling	-----	8.35	9.00	9.25
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	-----	N	N	N
06.	Average Wind Speed	Km/Hr.	1.2	1.2	1.2
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m3	66	76	53
11.	<b>Permissible limits for PM 2.5</b>	<b>µg/m3</b>	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	µg/m3	36	48	32
13.	<b>Permissible limits for SO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SO2	µg/m3	12.8	13.4	10.1
15.	<b>Permissible limits for NO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NO2	µg/m3	22.4	23.6	14.8
17.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m3	327	389	219

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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Ref. No. : 578/10/2014-15

Date: 03/11/2014

### 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	----	21/10/2014	21/10/2014	21/10/2014
03.	Time of sampling	----	8.45	9.10	9.35
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	N	N	N
06.	Average Wind Speed	Km/Hr.	2.4	2.4	2.4
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m3	63	72	57
11.	<b>Permissible limits for PM 2.5</b>	<b>µg/m3</b>	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	µg/m3	39	44	35
13.	<b>Permissible limits for SO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SO2	µg/m3	12.4	13.7	10.7
15.	<b>Permissible limits for NO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NO2	µg/m3	21.5	22.8	16.2
17.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m3	348	371	237

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)

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Ref. No. : 579/10/2014-15

Date: 03/11/2014

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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	----	27/10/2014	27/10/2014	27/10/2014
03.	Time of sampling	----	8.20	8.50	9.25
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	ESE	ESE	ESE
06.	Average Wind Speed	Km/Hr.	1.5	1.5	1.5
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m3	51	58	46
11.	<b>Permissible limits for PM 2.5</b>	<b>µg/m3</b>	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	µg/m3	28	37	25
13.	<b>Permissible limits for SO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SO2	µg/m3	11.3	12.1	9.5
15.	<b>Permissible limits for NO2</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NO2	µg/m3	21.2	22.4	13.6
17.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m3	239	315	187

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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Ref. No. : 580/10/2014-15

Date: 03/11/2014

### 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	---	28/10/2014	28/10/2014	28/10/2014
03.	Time of sampling	----	8.30	9.00	9.40
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	ESE	ESE	ESE
06.	Average Wind Speed	Km/Hr.	1.3	1.3	1.3
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	55	60	42
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	31	39	27
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	10.8	12.5	9.1
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	20.3	21.5	14.7
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	251	326	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

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Date: 03/11/2014

Ref. No. : 581/10/2014-15

### 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 - 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	----	12/10/2014	12/10/2014	12/10/2014	13/10/2014
03.	Time of sampling	----	8.45	9.15	9.50	8.35
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	W	W	W	W
06.	Average Wind Speed	Km/Hr.	2.6	2.6	2.6	2.7
07.	Average flow rate during sampling	m <sup>3</sup> /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.	<b>Permissible limits for PM 10</b>	<b>µg/m<sup>3</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	42	67	47	55
11.	<b>Permissible limits for PM 2.5</b>	<b>µg/m<sup>3</sup></b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	26	41	31	28
13.	<b>Permissible limits for SO<sub>2</sub></b>	<b>µg/m<sup>3</sup></b>	<b>80</b>	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	10.3	9.2	13.8	11.5
15.	<b>Permissible limits for NO<sub>2</sub></b>	<b>µg/m<sup>3</sup></b>	<b>80</b>	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	12.1	13.7	21.2	18.3
17.	<b>Permissible limit for CO **</b>	<b>µg/m<sup>3</sup></b>	<b>2000</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m <sup>3</sup>	143	259	317	241

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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Date: 03/11/2014

Ref. No. : 582/10/2014-15

### 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 (ESE)	AAQM - 8 (E)
01.	Location of Ambient	----	Labour Colony	New Colony (Shopping Centre )	VIP Guest House	Weigh bridge
02.	Date of sampling	----	13/10/2014	13/10/2014	12/10/2014	13/10/2014
03.	Time of sampling	----	9.05	9.35	10.20	10.10
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	W	W	W	W
06.	Average Wind Speed	Km/Hr.	2.7	2.7	2.6	2.7
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m3	59	63	61	76
11.	<b>Permissible limits for PM 2.5</b>	<b>µg/m3</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>
12.	Measured Concentration of PM 2.5	µg/m3	36	43	32	46
13.	<b>Permissible limits for SOx</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>	<b>80</b>
14.	Measured Concentration of SOx	µg/m3	11.6	14.4	12.8	16.7
15.	<b>Permissible limits for Nox</b>	<b>µg/m3</b>	<b>80</b>	<b>80</b>	<b>80</b>	<b>80</b>
16.	Measured Concentration of NOx	µg/m3	21.6	23.3	22.4	27.7
17.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m3	241	186	208	437

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



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Ref. No. :583/10/2014-15

Date: 03/11/2014

### 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	----	19/10/2014	19/10/2014	19/10/2014
03.	Time of sampling	----	9.10	9.35	9.45
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	N	N	N
06.	Average Wind Speed	Km/Hr.	1.5	1.5	1.5
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>3000</b>	<b>3000</b>	<b>3000</b>
10.	Measured Concentration of PM 10	µg/m3	2451	2519	2637
11.	<b>Permissible limits for SO2</b>	<b>µg/m3</b>	<b>150</b>	<b>150</b>	<b>150</b>
12.	Measured Concentration of SO2	µg/m3	26.4	25.7	23.5
13.	<b>Permissible limits for NO2</b>	<b>µg/m3</b>	<b>120</b>	<b>120</b>	<b>120</b>
14.	Measured Concentration of NO2	µg/m3	32.9	34.5	30.3
15.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>
16.	Measured Concentration of CO	µg/m3	436	542	339

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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Ref. No. :584/10/2014-15

Date: 03/11/2014

### 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	----	20/10/2014	20/10/2014	20/10/2014
03.	Time of sampling	----	9.20	9.45	10.15
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	N	N	N
06.	Average Wind Speed	Km/Hr.	1.2	1.2	1.2
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.	<b>Permissible limits for PM 10</b>	<b>µg/m3</b>	<b>3000</b>	<b>3000</b>	<b>3000</b>
10.	Measured Concentration of PM 10	µg/m3	2364	1125	1436
11.	<b>Permissible limits for SO2</b>	<b>µg/m3</b>	<b>150</b>	<b>150</b>	<b>150</b>
12.	Measured Concentration of SO2	µg/m3	22.4	23.8	16.7
13.	<b>Permissible limits for NO2</b>	<b>µg/m3</b>	<b>120</b>	<b>120</b>	<b>120</b>
14.	Measured Concentration of NO2	µg/m3	29.5	27.4	21.6
15.	<b>Permissible limit for CO **</b>	<b>µg/m3</b>	<b>5000</b>	<b>5000</b>	<b>5000</b>
16.	Measured Concentration of CO	µg/m3	269	602	247

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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Ref. No. : 588/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments Pipe Plant (GPCB ID:18036)

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	Stack No. 5
01	Date of Sampling	---	28/10/2014	11/10/2014	11/10/2014	11/10/2014	11/10/2014
02	Attached to		Common stack Mg Converter - I & II	Mg Converter - III	Core Cleaning & Dusting - I	Core Cleaning & Dusting - II	Sand Reclamation
03	Stack Height	Meter	30	30	30	30	32
04	Stack Diameter	Meter	0.488	0.488	0.588	0.588	0.885
05	Stack Temperature	°C	60	54	46	49	87
06	Ambient Temperature	°C	33	32	33	33	34
07	Average Velocity of Flue Gases	m/Sec.	15.4	13.8	13.6	13.2	14.9
08	IsoKinetic Flowrate for Sampling	LPM	26	24	24	23	23
09	Inlet	mg/Nm <sup>3</sup>	2751	2263	2025	2144	2785
10	Outlet	mg/Nm <sup>3</sup>	54	37	39	33	46
11	Efficiency	%	98.04	98.37	98.07	98.46	98.35

Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respective y.

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

Calibration due on 04/06/2015

Royal Environment Auditing & Consultancy Service

M. K. J. Analyst



# Royal

## Environment Auditing & Consultancy Service

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Ref No. 589/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments

#### Pipe Plant (GPCB ID:18036)

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. 6	Stack No. 7	Stack No. 8	Stack No. 9	Stack No. 10	Stack No. 11	Stack No. 12
01	Date of Sampling	---	10/10/2014	10/10/2014	10/10/2014	10/10/2014	Not in operation during visit	Not in operation during visit	Not in operation during visit
02	Attached to	---	Zinc Coating - I	Zinc Coating - II	Zinc Coating - III	Zinc Coating - IV & V	Barrel Grinding-I	Barrel Grinding-II	Barrel Grinding-III
03	Stack Height	Meter	30	30	30	30	30	30	30
04	Stack Duct Diameter	Meter	0.584	0.584	0.584	0.85	0.584	0.584	0.488
05	Stack Temperature	°C	50	52	48	49	...	...	...
06	Ambient Temperature	°C	31	32	34	34	...	...	...
07	Average Velocity of Flue Gases	m/Sec.	14.9	13.5	14.2	14.1	...	...	...
08	IsoKinetic Flowrate for Sampling	LPM	26	23	25	24	...	...	...
09	Inlet	mg/Nm <sup>3</sup>	2349	1737	2176	1726	...	...	...
10	Outlet	mg/Nm <sup>3</sup>	18	16	19	13	...	...	...
11	Efficiency	%	99.23	99.08	99.13	99.25	...	...	...

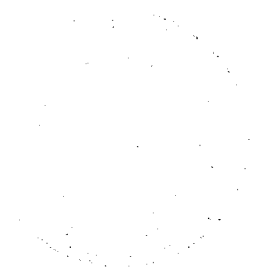
Note - Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.

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

Calibration due on 04/06/2015

Royal Environment Auditing & Consultancy Service

Analyst





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Ref. No. : 590/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments

#### Pipe Plant (SDP-2) (GPCB ID:18036)

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. 13	Stack No. 14	Stack No. 15
01	Date of Sampling	---	28/10/2014	08/10/2014	Not in operation during visit
02	Attached to	---	Mg Treatment	Zinc Coating	Tri-Grinding
03	Stack Height	Meter	30	30	30
04	Stack Duct Diameter	Meter	0.584	0.584	0.85
05	Stack Temperature	°C	44	47	...
06	Ambient Temperature	°C	31	33	...
07	Average Velocity of Flue Gases	m/Sec.	14.9	13.5	...
08	IsoKinetic Flowrate for Sampling	LPM	26	24	...
09	Inlet	mg/Nm <sup>3</sup>	2318	1943	...
10	Outlet	mg/Nm <sup>3</sup>	19	11	...
11	Efficiency	%	99.18	99.43	...

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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

*Signature*

*Signature*



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Ref. No. : 597/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS

#### Pipe Plant (GPCB ID:18036)

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	---	---	---	---	---	20/10/2014
02	Time of sampling	Hr.	Not Running During Visit	Not Running During Visit	Not Running During Visit	Not Running During Visit	9.40
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	---	---	---	---	136
08	Ambient Temperature	°C	---	---	---	---	32
09	Average Velocity of Flue Gases	m/Sec.	---	---	---	---	12.3
10	Isokinetic flow rate for P.M. Sampling	LPM	---	---	---	---	17
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm <sup>3</sup>	---	---	---	---	71
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	100 ppm	100 ppm
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	---	---	---	---	5.9
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	25	25	25	50 ppm	50 ppm
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	---	---	---	---	10

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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

M. G. J. J.  
Analyst



# Royal

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Ref. No. : 598/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS

#### Pipe Plant (GPCB ID:18036)

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

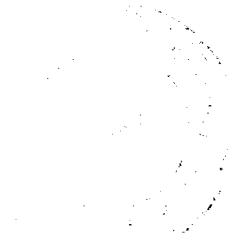
Sr. No.	Particulars	Unit	Stack No. 6	Stack No. 7	Stack No. 8	Stack No. 9	Stack No. 10	Stack No. 11
01	Date of Sampling	---	28/10/2014	11/10/2014	10/10/2014	10/10/2014	10/10/2014	10/10/2014
02	Time of sampling	Hr.	11.10	10.30	9.35	10.20	14.30	15.35
03	Stack Attached to	---	Common stack Mg Converter-I&II	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	53	48	44	47	42	40
08	Ambient Temperature	°C	33	32	31	32	34	34
09	Average Velocity of Flue Gases	m/Sec.	15.2	12.4	14.8	15.7	14.9	13.2
10	Isokinetic flow rate for P.M. Sampling	LPM	27	22	26	27	26	24
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	---	---	---	---
h	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	20 (Zn)	20 (Zn)	20 (Zn)	20 (Zn)
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	54	37	18 (Zn)	18 (Zn)	19 (Zn)	13 (Zn)
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	NA	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	2.2	1.6	---	---	---	---
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	25	25	NA	NA	NA	NA
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	8.9	5.1	---	---	---	---

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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



M 4809  
Analyst



# Royal

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Ref. No. : 599/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS

#### Pipe Plant (GPCB ID:18036)

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	---	11/10/2014	11/10/2014	Not in operation during visit	Not in operation during visit	22/10/2014	22/10/2014	Not in operation during visit	22/10/2014
02	Time of sampling	Hr.	11.25	12.20	Not in operation during visit	Not in operation during visit	9.45	10.30	Not in operation during visit	11.30
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	41	43	...	...	38	40	...	37
08	Ambient Temperature	°C	33	33	...	...	31	32	...	33
09	Average Velocity of Flue Gases	m/Sec.	12.2	13.5	...	...	6.1	5.9	...	5.7
10	Isokinetic flow rate for P.M. Sampling	LPM	22	24	...	...	25	24	...	23
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	...	...	2.0	2.0	...	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	39	33	...	...	27	31	...	24
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	40	40	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	7.8	8.3	...	...	N.D.	N.D.	...	N.D.
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	25	25	25	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	10.9	11.7	...	...	N.D.	N.D.	...	N.D.

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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

Manoj  
Analyst



# Royal

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Ref. No. : 600/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS Pipe Plant (GPCB ID:18036)

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	---	29/10/2014	29/10/2014	29/10/2014	Not in operation during visit	Not in operation during visit	Not in operation during visit	Not in operation during visit	11/10/2014
02	Time of sampling	Hr.	9.05	10.10	11.15	Not in operation during visit	Not in operation during visit	Not in operation during visit	Not in operation during visit	15.25
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	159	167	161	...	...	...	...	68
08	Ambient Temperature	°C	30	31	31	...	...	...	...	34
09	Average Velocity of Flue Gases	m/Sec.	6.5	7.2	6.3	...	...	...	...	14.8
10	Isokinetic flow rate for P.M. Sampling	LPM	19	21	18	...	...	...	...	25
11	Gaseous Sampling Flow Rate	LPM	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	52	41	49	...	...	...	...	46
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	3.9(PPM)	4.1(PPM)	3.0(PPM)	...	...	...	...	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	6.2(PPM)	7.8(PPM)	7.1(PPM)	...	...	...	...	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

Royal Environment Auditing & Consultancy Service

Handwritten signature of the analyst.

Analyst



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Ref. No. : 601/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS Pipe Plant (SDP-2) (GPCB ID:18036)

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. 28	Stack No. 29	Stack No. 30	Stack No. 31	Stack No. 32	Stack No. 33	Stack No. 34
01	Date of Sampling	---	30/10/2014	30/10/2014	28/10/2014	Not in operation during visit	08/10/2014	Not in operation during visit	Not in operation during visit
02	Time of sampling	Hr.	9.00	10.05	13.40		15.35		
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	30
06	Stack Diameter	Meter	0.85	0.85	0.85	0.50	0.50	0.50	0.85
07	Stack Temperature	°C	148	134	37	---	39	---	---
08	Ambient Temperature	°C	29	29	31	---	33	---	---
09	Average Velocity of Flue Gases	m/Sec.	7.1	7.2	4.7	---	8.1	---	---
10	Isokinetic flow rate for P.M. Sampling	LPM	21	22	19	---	15	---	---
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	---	---	---	---	---
12	Permissible limits for PM	mg/Nm3	50	50	50	50	50	50	50
13	Measured Concentration of PM	mg/Nm3	41	30	19	---	11(Zn)	---	---
14	Permissible limits for SO2	PPM	100	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO2	PPM	8.1	9.9	---	---	---	---	---
16	Permissible limits for Nox	PPM	50	50	NA	NA	NA	NA	NA
17	Measured Concentration of Nox	PPM	9.3	7.6	---	---	---	---	---

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 04/05/2015

N.D= Not Detectable

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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.(GPCB ID: 18036)**

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

3 Particulars of sampling

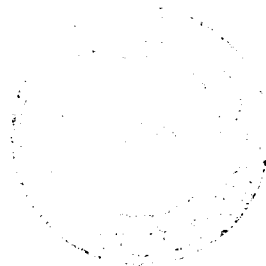
Date of Sampling : 15th & 16th October, 2014

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	4-5	4.50	10	Gravimetric	6	----	<i>Manoj</i>	Mr. MANOJ SONRAT
2	JCO Plant (Nr. JCO Press)	Total Dust		02	3.5-5.5	4.50	10	Gravimetric	7	----		
3	Coating Plant-1 (Shot Blasting Area)	Total Dust		02	4.5-7	5.8	10	Gravimetric	7	----		
4	CCM Area (SDP / DISP)	Total Dust		02	5-6	5.5	10	Gravimetric	8	----		
5	Coating Plant-2 (Shot Blasting Area)	Total Dust		02	3-7	5.0	10	Gravimetric	7	----		
6	CCM Area (SDP-2)	Total Dust		02	4-6.5	5.3	10	Gravimetric	6	----		

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

Calibration Date Due on : 02/12/2014

For. Royal Environment Auditing & Consultancy Service



*Manoj*  
Authorized Sign



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Ref. No. : 609/10/2014-15

Date: 03/11/2014

### WORK ZONE NOISE LEVEL MEASUREMENT PIPE PLANT (GPCB ID:18036)

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

Date of sampling : 18th October, 2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room of Annealing Furnace of DISP / SDP	57.1
02	Inside Control Room – Mill Area of Spiral Plant	59.4
03	Nr. Pipe Cutting Area of Spiral Plant	73.7
04	Inside JCO Plant	74.1
05	Inside DISP / SDP Plant	72.5
06	Inside Coating Plant	72.8
07	Nr. CCM SDP-2	71.6
08	Inside Control Room of Annealing Furnace of SDP-2	56.9
09	Nr. Zinc Coating SDP-2	71.5
10	Near Mould Shop	75.2

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.

Recalibration is due on : 25/09/2015

Royal Environment Auditing & Consultancy Service

Mang  
Analyst





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Ref. No. : 610/10/2014-15

Date: 03/11/2014

### AMBIENT NOISE LEVEL MEASUREMENT

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

Date of sampling : 17th October, 2014

Sr. No.	Location of Sampling	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
	<b>Permissible Limits</b>	<b>75.0</b>	<b>70.0</b>
01.	Admin. Building	57.3	52.7
02.	Old Colony	54.1	50.3
03.	Nr. LPG Yard	65.2	61.5
04.	New Colony (School)	58.2	54.4
05.	Nr. SDP-2	67.5	65.6
06.	Nr. Coating Plant	71.7	64.3
07.	Nr. Gate No. 2	63.6	61.8
08.	Nr. Sinter Plant-1	72.5	66.3
09.	Nr. Sinter Plant-2	70.9	65.8
10.	Nr. Blast Furnace-1	68.3	63.9
11.	Nr. Blast Furnace-2	69.5	61.7
12.	Nr. Main Gate (Security Office)	63.9	56.5

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 : 25/09/2015



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Ref. No. : 586/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments

#### Blast Furnace Plant-1(GPCB ID:18037)

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
01	Date of Sampling	---	08/10/2014
02	Attached to	---	De-dustingSystem
03	Stack Height	Meter	40
04	Stack Duct Diameter	Meter	0.584
05	Stack Temperature	°C	65
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 <sup>3</sup>	2310
10	Outlet	mg/Nm <sup>3</sup>	61
11	Efficiency	%	97.36

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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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Ref. No. : 595/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS

#### BLAST FURNACE-1 (GPCB ID:18037)

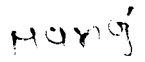
Name of company : Jindal Saw Limited,  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

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	---	08/10/2014	08/10/2014	08/10/2014	08/10/2014	Not Done
02	Time of sampling	Hr.	9.10	10.05	11.15	15.40	Not Done
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	165	174	58	321	---
08	Ambient Temperature	°C	30	31	32	34	---
09	Average Velocity of Flue Gases	m/Sec.	5.5	5.9	6.6	7.6	---
10	Isokinetic flow rate for P.M. Sampling	LPM	16	17	25	16	---
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0	---
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm3	10	16	61	11	---
14	Permissible limits for SO2	mg/Nm3	40	40	40	40	40
15	Measured Concentration of SO2	mg/Nm3	6.8	5.1	N.D.	1.65	---
16	Permissible limits for NOx	mg/Nm3	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm3	9.9	9.1	N.D.	6.3	---

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

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Ref. No. : 596/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS

#### Captive Power Plant (GPCB ID:18037)

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	---	15/10/2014	Stand by	Stand by	15/10/2014
02	Time of sampling	Hr.	10.20			11.30
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	271.00	---	---	242.00
08	Ambient Temperature	°C	33.00	---	---	34.00
09	Average Velocity of Flue Gases	m/Sec.	9.10	---	---	8.80
10	Isokinetic flow rate for P.M. Sampling	LPM	21	---	---	22
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150
13	Measured Concentration of PM.	mg/Nm <sup>3</sup>	63.0	---	---	74.0
14	Permissible limits for SO <sub>2</sub>	ppm	100	100	100.0	100
15	Measured Concentration of SO <sub>2</sub>	ppm	32.1	---	---	26.4
16	Permissible limits for Nox	ppm	50	50	50.0	50
17	Measured Concentration of Nox	ppm	21.2	---	---	22.9

Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.

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

Calibration due on 04/06/2015

Royal Environment Auditing & Consultancy Service

M. G. G. G.  
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. (GPCB ID: 18037)**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST & CO.**
- 3 Particulars of sampling

Date of Sampling : 13th October, 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 Plant (Cast House)	CO	Personal Respirable Dust sampler APM 800	02	1.5-2	1.75	2	Gravimetric	7	---	<i>Manoj</i>	Mr. MANOJ SONRAT
		Total Dust			4-7	5.5	10					

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

For, Royal Environment Auditing & Consultancy Service

*Manoj*  
 Authorized Sign





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Ref. No. : 608/10/2014-15

Date: 03/11/2014

### WORK ZONE NOISE LEVEL MEASUREMENT BLAST FURNACE- 1 (GPCB ID:18037)

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

Date of sampling : 17th October, 2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Nr. Stock House	74.5
02.	Inside Control Room	61.1
03.	Inside Control room of Cast House	56.2
04.	Inside Laboratory	52.5
05.	Inside Control Room of Blower House	58.3
06.	Inside Control Room of CPP	53.1

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 : 25/09/2015

Royal Environment Auditing & Consultancy Service

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Analyst



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Ref. No. : 612/10/2014-15

Date: 03/11/2014

### WORK ZONE NOISE LEVEL MEASUREMENT

### SINTER PLANT - 2 (29017)

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 18th October, 2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room	59.1
02.	Inside Operator Room	62.4
03.	Near Proportioning Bulding	64.8
04.	Near Crusher House	67.6

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 : 25/09/2015

Royal Environment Auditing & Consultancy Service

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Ref. No. : 613/10/2014-15

Date: 03/11/2014

### REPORT OF DOMESTIC WASTE WATER ANALYSIS

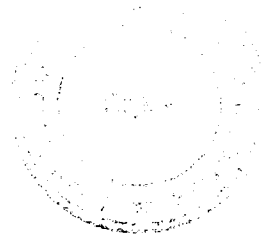
Name of company : Jindal Saw Limited,  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

Source Of Sample Collection : Sewage Treatment Plant (Inlet & Outlet)

Date of Sampling : 30/10/2014

Sr. No.	Parameters	Unit	GPCB limits	STP Inlet	STP Outlet
01.	pH	pH Unit	----	8.25	7.40
02.	BOD (3 Days at 27°C)	mg/l	<20	162	15
03.	Suspended Solids	mg/l	<30	284	20
04.	Residual Chlorine	mg/l	Min. 0.5	----	0.70

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Ref. No. : 591/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments

#### Blast Furnace Plant-2 (GPCB ID:29026)

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
01	Date of Sampling	---	07/10/2014	Not in operation during visit	07/10/2014
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	68	....	45
06	Ambient Temperature	°C	33	....	34
07	Average Velocity of Flue Gases	m/Sec.	8.3	....	13.1
08	IsoKinetic Flowrate for Sampling	LPM	14	....	23
09	Inlet	mg/Nm <sup>3</sup>	2586	....	2143
10	Outlet	mg/Nm <sup>3</sup>	60	....	48
11	Efficiency	%	97.68	....	97.76

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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

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*[Handwritten signature]*  
Analyst



# Royal

## Environment Auditing & Consultancy Service

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Ref. No. :594/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS

#### BLAST FURNACE - 2 (GPCB ID:29026)

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	---	07/10/2014	07/10/2014	Not in operation during visit	07/10/2014	Not Done
02	Time of sampling	Hr.	10.40	9.25		14.35	
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	60	334	---	39	---
08	Ambient Temperature	°C	33	31	---	34	---
09	Average Velocity of Flue Gases	m/Sec.	8.1	7.3	---	12.8	---
10	Isokinetic flow rate for P.M. Sampling	LPM	14	15	---	23	---
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	---
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm3	60	7	---	48	---
14	Permissible limits for SO2	mg/Nm3	NA	NA	NA	NA	NA
15	Measured Concentration of SO2	mg/Nm3	---	---	---	---	---
16	Permissible limits for NOx	mg/Nm3	NA	NA	NA	NA	NA
17	Measured Concentration of Nox	mg/Nm3	---	---	---	---	---

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

\*\*NA=Not Applicable

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

Calibration due on 04/06/2015

### 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. (GPCB ID: 29026)**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST & CO.**
- 3 Particulars of sampling

Date of Sampling : 15th October, 2014

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Refrance 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 Plant (Cast House)	CO	Personal Respirable Dust sampler APM 800	02	2-3	2.5	6	Gravimetric	7	---	<i>Manoj</i>	Mr. MANOJ SONRAT
		Total Dust			4-5	4.5	10					

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

Calibration Date Due on 02/12/2014

For. Royal Environment Auditing & Consultancy Service



*Manoj*  
Authorized Sign



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Ref. No. : 611/10/2014-15

Date: 03/11/2014

### WORK ZONE NOISE LEVEL MEASUREMENT

#### BLAST FURNACE - 2 (GPCB ID:29026)

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 18th October, 2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room	55.6
02.	Nr. Stock House	67.1
03.	C/R Blower House	74.7

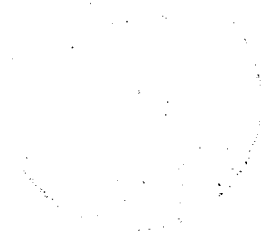
Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

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

Recalibration is due on : 25/09/2015

Royal Environment Auditing & Consultancy Service

Analyst





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Ref. No. : 585/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments Sinter Plant-1 (GPCB ID 35456)

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	---	09/10/2014	09/10/2014	09/10/2014	Not in operation during visit
02	Attached to	---	Sinter Furnace	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	141	124	49	...
06	Ambient Temperature	°C	31	32	34	...
07	Average Velocity of Flue Gases	m/Sec.	19.2	17.5	15.8	...
08	IsoKinetic Flowrate for Sampling	LPM	26	25	27	...
09	Inlet	mg/Nm <sup>3</sup>	3754	2597	2167	...
10	Outlet	mg/Nm <sup>3</sup>	62	43	27	...
11	Efficiency	%	98.35	98.34	98.75	...

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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

Manoj  
Analyst



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Ref. No. :592/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS

#### Sinter Plant - 1(GPCB ID:35456)

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	---	09/10/2014	09/10/2014	09/10/2014	Not in operation during visit	09/10/2014	Not in operation during visit
02	Time of sampling	---	9.10	10.15	11.20	Not in operation during visit	14.15	Not in operation during visit
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	154	137	43	...	45	...
08	Ambient Temperature	°C	31	32	34	...	34	...
09	Average Velocity of Flue Gases	m/Sec.	17.3	16.1	14.4	....	5.6	....
10	Isokinetic flow rate for P.M. Sampling	LPM	23	22	25	....	22	....
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm <sup>3</sup>	62	43	27	...	49	...
14	Permissible limits for SO <sub>2</sub>	ppm	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	14.3	---	---	---	---	---
16	Permissible limits for NO <sub>x</sub>	ppm	50	NA	NA	NA	NA	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	18.6	---	---	---	---	---

Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.

NA= Not Applicable

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

Calibration due on : 04/06/2015

## 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-1 at Jindal Saw Limited, Samaghogha. (GPCB ID: 35456)**

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

3 Particulars of sampling

Date of Sampling : 13th October, 2014

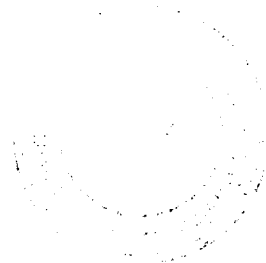
Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature of person taking samples	Name (in block letters)
		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

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

Calibration Date Due on : 02/12/2014

For: Royal Environment Auditing & Consultancy Service

*Manoj*  
Authorized Sign





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Ref. No. : 607/10/2014-15

Date: 03/11/2014

### WORK ZONE NOISE LEVEL MEASUREMENT

#### SINTER PLANT- 1 (GPCB ID:35456)

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

Date of sampling : 17th October, 2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
1	Inside Control Room	53.8
2	Inside Mechanical Room	55.6
3	Inside Electrical Room	68.3
4	Inside Plant Office	57.7

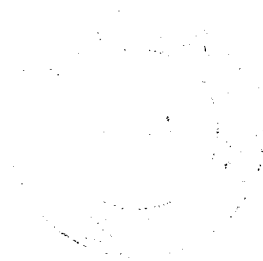
Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

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

Recalibration is due on : 25/09/2015

Royal Environment Auditing & Consultancy Service

Analyst





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Ref. No. : 5877/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments

#### Sinter Plant-2 (GPCB ID:29017)

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	Stack No. 5	Stack No. 6
01	Date of Sampling	---	17/10/2014	17/10/2014	Not in operation during visit	17/10/2014	17/10/2014	Not in operation during visit
02	Attached to	---	Sinter Furnace	Discharging end of Sinter de-dusting System	Fuel crushing de-duster system (Fuel)	Fuel crushing de-duster system (Flux)	Fuel screening deduster system ( Flux screening)	Pulverised Coal Injection
03	Stack Height	Meter	50	50	30	30	30	32
04	Stack Diameter	Meter	2.0	1.3	0.7	0.7	0.7	1.0
05	Stack Temperature	°C	134	121	...	53	56	...
06	Ambient Temperature	°C	31	31	...	33	33	...
07	Average Velocity of Flue Gases	m/Sec.	19.6	17.7	...	14.2	14.8	...
08	IsoKinetic Flowrate for Sampling	LPM	27	25	...	24	25	...
09	Inlet	mg/Nm <sup>3</sup>	5413	2164	...	1786	1938	...
10	Outlet	mg/Nm <sup>3</sup>	58	34	...	29	43	...
11	Efficiency	%	98.30	98.43	...	98.33	97.78	...

Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS 1

Calibration due on 04/05/2015

Royal Environment Auditing & Consultancy Service

MICROJ  
Analyst





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Ref. No. : 593/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS Sinter Plant -2 (GPCB ID:29017)

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	Stack No. 10
01	Date of Sampling	---	17/10/2014	17/10/2014	17/10/2014	Not in operation during visit	17/10/2014	17/10/2014	Not in operation during visit	Not in operation during visit	Not in operation during visit	Not in operation during visit
02	Time of sampling	Hr.	9.30	10.20	11.25	Not in operation during visit	14.25	15.30	Not in operation during visit	Not in operation during visit	Not in operation during visit	Not in operation during visit
03	Stack Attached to	---	Sinter Furnace	Discharging End of sinter dedusting system	Fuel crushing de-duster system (Flux)	Primary Mixer De-duster system	Secondary Mixer De-duster system	Fuel Screening deduster System (Flux Screening)	Fuel crushing de-duster system(Fuel)	No. 1 Transfer Station De-duster System	Transfer station no. 4 & 5 dedusting system	Pulverized Coal Injection
04	Air Pollution Control Measures	---	ESP	ESP	Dust Collector	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	0.7	0.7	1.00
07	Stack Temperature	°C	149	132	47	---	51	51	---	---	---	---
08	Ambient Temperature	°C	31	32	33	---	33	33	---	---	---	---
09	Average Velocity of Flue Gases	m/Sec.	18.2	17.9	15.7	---	5.3	15.2	---	---	---	---
10	Isokinetic flow rate for P.M. Sampling	LPM	24	25	27	---	21	26	---	---	---	---
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	---	---	---	---	---	---
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm3	58	34	29	---	40	43	---	---	---	---
14	Permissible limits for SO2	ppm	100	NA	NA	NA	NA	NA	NA	NA	NA	100 (ppm)
15	Measured Concentration of SO2	ppm	16.6	---	---	---	---	---	---	---	---	---
16	Permissible limits for NOx	ppm	50	NA	NA	NA	NA	NA	NA	NA	NA	50 (ppm)
17	Measured Concentration of NOx	ppm	21.2	---	---	---	---	---	---	---	---	---

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

*[Handwritten Signature]*

*[Handwritten Signature]*  
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-2 at Jindal Saw Limited, Samaghogha. (GPCB ID:29017)**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

Date of Sampling : 13th October, 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 At First Floor	Total Dust	Personal Respirable Dust sampler APM 800	02	2-7	4.5	10	Gravimetric	6	---	<i>Manoj</i>	Mr. MANOJ SONRAT

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

Calibration Date Due on : 02/12/2014

For. Royal Environment Auditing & Consultancy Service

*Manoj*  
Authorized Sign



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Ref. No. : 621/10/2014-15

Date: 03/11/2014

### 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	----	21/10/2014	29/10/2014	21/10/2014	21/10/2014	29/10/2014	29/10/2014
03.	Time of sampling	Hr.	9.15	9.05	9.35	10.00	9.30	9.55
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	NE	NW	NE	NE	NW	NW
06.	Wind Speed	Km/Hr.	2.5	3.1	2.5	2.5	3.1	3.1
07.	Average flow rate during sampling	m3/min	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	46	27	51	60	30	34
11.	Permissible limits for PM 2.5	µg/m3	60	60	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	24	18	23	26	19	17
13.	Permissible limits for SO <sub>2</sub>	µg/m3	80	80	80	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m3	8.8	10.7	9.2	9.7	8.9	8.1
15.	Permissible limits for NO <sub>2</sub>	µg/m3	80	80	80	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m3	16.7	17.1	16.9	17.5	17.3	18.9
17.	Permissible limit for CO **	µg/m3	2000	2000	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	233	156	162	301	227	149

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



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Ref. No. : 623/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS WHRPP & COKE OVEN PLANT (GPCB ID:18035)

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	-----	21/10/2014	21/10/2014	21/10/2014	21/10/2014
02	Time of sampling	Hr.	9.30	10.35	14.20	15.45
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	144	136	127	135
07	Ambient Temperature	°C	31	32	34	34
08	Average Velocity of Flue Gases	M/Sec.	10.8	9.1	10.2	9.8
09	Isokinetic flow rate for P.M. Sampling	LPM	14	12	14	13
10	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0
11	<b>Permissible limits for PM</b>	<b>mg/Nm<sup>3</sup></b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>
12	Measured Concentration of PM.	mg/Nm <sup>3</sup>	31	37	23	29
13	<b>Permissible limits for SO<sub>2</sub></b>	<b>ppm</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
14	Measured Concentration of SO <sub>2</sub>	ppm	12.7	11.4	12.2	13.1
15	<b>Permissible limits for Nox</b>	<b>ppm</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>
16	Measured Concentration of Nox	ppm	21.6	19.3	23.4	22.8

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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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Ref. No. : 624/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS WHRPP & COKE OVEN PLANT (GPCB ID:18035)

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

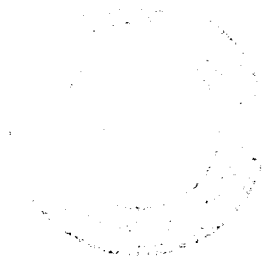
Sr. No.	Particulars	Unit	Stack No. 5	Stack No.6	Stack No. 7	Stack No.8	Stack No.9	Stack No.10	Stack No.11
01	Date of Sampling	----	Standby	Standby	Standby	Standby	Standby	Standby	Standby
02	Time of sampling	Hr.							
03	Stack Attached to	----	Coke Battery-1	Coke Battery-2	Coke Battery-3	Coke Battery-4	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/Nm <sup>3</sup>	150	150	150	150	150	150	150
12	Measured Concentration of PM.	mg/Nm <sup>3</sup>	----	----	----	----	----	----	----
13	Permissible limits for SO <sub>2</sub>	ppm	100	100	100	100	100	100	100
14	Measured Concentration of SO <sub>2</sub>	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 SO<sub>2</sub> & 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



Mudra  
Analyst



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Ref. No. : 625/10/2014-15

Date: 03/11/2014

### FUGITIVE EMISSION MONITORING REPORT

#### WHRPP & COKE OVEN (GPCB ID: 18035)

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	----	21/10/2014	21/10/2014	29/10/2014	29/10/2014
03.	Time of sampling	----	10.30	10.45	10.40	11.00
04.	Duration of Sampling	Hr.	8.00	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	NE	NE	NW	NW
06.	Average Wind Speed	Km/Hr.	2.5	2.5	3.1	3.1
07.	Average flow rate during sampling	m <sup>3</sup> /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/m <sup>3</sup>	3000	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1713	2134	1664	2014
11.	Permissible limits for SO <sub>2</sub>	µg/m <sup>3</sup>	150	150	150	150
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	14.4	15.3	16.4	14.7
13.	Permissible limits for NO <sub>2</sub>	µg/m <sup>3</sup>	120	120	120	120
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	21.6	23.5	22.8	23.4
15.	Permissible limit for CO **	µg/m <sup>3</sup>	5000	5000	5000	5000
16.	Measured Concentration of CO	µg/m <sup>3</sup>	381	296	257	268

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

**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. (GPCB ID:18035)**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

Date of Sampling : 21/10/2014

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 <sup>3</sup>					
1	Turbine Floor at WHRPP	Total Dust	Personal Respirable Dust sampler APM 800	02	5-6.5	5.8	10	Gravimetric	7	----	<i>Manoj</i>	Mr. MANOJ SONRAT
2	Coke Oven Plant (Nr. Battery 1 & 2 Stamping)	Total Dust		02	4-5	4.5	10	Gravimetric	7	----		
3	Coke Oven Plant (Nr. Battery 3 & 4 Stamping Area)	Total Dust		03	4.5-5	4.8	10	Gravimetric	8	----		

Instrument Recalibration on : 02/12/2014

For. Royal Environment Auditing &amp; Consultancy Service

*Manoj*  
Authorized Sign



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Ref. No. : 627/10/2014-15

Date: 03/11/2014

### AMBIENT NOISE LEVEL MEASUREMENT

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

Date of sampling : 21/10/2014

Sr. No.	Location of Sampling	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
	<b>Permissible Limits</b>	<b>75.0</b>	<b>70.0</b>
01.	Nr. Main Gate	61.1	53.4
02.	Nr. Bachelor Colony	53.7	51.6
03.	At Admin Building	61.9	60.2
04.	Nr. Store	63.4	56.5
05.	At plant boundary (Behind coke oven batteries)	68.1	62.4
06.	At Staff Colony	55.3	53.7

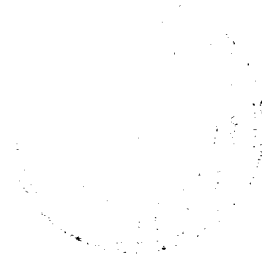
Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

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

Recalibratin is due on: 25/09/2015

Royal Environment Auditing & Consultancy Service

MURPHY  
Analyst





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Ref. No. : 628/10/2014-15

Date: 03/11/2014

### WORK ZONE NOISE LEVEL MEASUREMENT

#### WHRPP & COKE OVEN (GPCB ID:18035)

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

Date of sampling : 21/10/2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
<b>WHRPP and Coke Oven Plant</b>		
01	Nr. Cooling Tower	73.5
02	Nr Turbine	82.7
03	Inside Control Room	61.3
04	Nr. Compressor	84.5
05	Near Raw Material Stock Yard.	72.9
06	Near Coke Oven Batteries (Old)	64.8
07	Near Coke Stamping area	73.6
08	Office Coke Oven	72.1
09	Near Quenching Tower	67.3
10	Near Coke Oven Batteries (New)	64.1

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.

Recalibratin is due on: 25/09/2015

Royal Environment Auditing & Consultancy Service

M. S. J. J.  
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.: **SLAG GRINDING PLANT AT Jindal Saw Limited, Pragpar. (GPCB ID:31304)**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

Date of Sampling : 29/10/2014

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	Nr. Packing / Loading Area	Total Dust		02	4-5	4.5	10	Gravimetric	7	----	<i>Manoj</i>	Mr. MANOJ SONRAT
2	Nr. Ball Mill of Slag grinding unit	Total Dust		02	5-6	5.5	10	Gravimetric	8	----		

Instrument Recalibration on : 02/12/2014

For: Royal Environment Auditing & Consultancy Service

*Manoj*  
Authorized Sign





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Ref. No. : 622/10/2014-15

Date: 03/11/2014

### WASTE WATER QUALITY ANALYSIS REPORT

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

Date of sampling : 29/10/2014

Source of Sample : Treated wastewater as generated from coke quenching

Sr. No.	Parameters	Unit	Results
01.	pH	pH Unit	7.49
02.	Colour	---	11
03.	Total Dissolved Solids	Mg/L	1279
04.	Total Suspended Solids	Mg/L	86
05.	Total Solids	Mg/L	1365
06.	B.O.D. (3 day's at 27 <sup>0</sup> C)	Mg/L	BDL
07.	C.O.D.	Mg/L	17
08.	Chlorides	Mg/L	703
09.	Sulphates	Mg/L	163
10.	Oil & Grease	Mg/L	1.2

BDL= Below detectable limit

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Ref. No. : 630/10/2014-15

Date: 03/11/2014

### Performance Evaluation of Air Pollution Control Equipments

#### SLAG GRINDING PLANT (GPCB ID:31304)

Name of company : Jindal Saw Limited,

Village: Pragpar,

Tal. : Mundra, Dist. Kutch

Source of Sample : **Slag Grinding Unit**

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	-----	29/10/2014	29/10/2014	29/10/2014	29/10/2014
02	Attached to	Hrs.	Ball Mill Stack	Silo Stack	Raw Material Hopper and Mill Inlet	Separator Stack
03	Stack Height	-----	30	30	30	30
04	Stack Duct Diameter	-----	0.34	0.34	0.35	0.34
05	Stack Temperature	°C	47	39	43	53
06	Ambient Temperature	°C	32	35	35	35
07	Average Velocity of Flue Gases	M/Sec.	10.8	11.4	11.7	10.4
08	IsoKinetic Flowrate for Sampling	LPM	19	20	21	18
09	Inlet	mg/Nm <sup>3</sup>	1623	1746	1376	1651
10	Outlet	mg/Nm <sup>3</sup>	49	37	59	48
11	Efficiency	%	96.98	97.88	95.71	97.09

Note : Minimum Detectable Limit of SO<sub>2</sub> & 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

Royal Environment Auditing & Consultancy Service



M. S. J. Analyst



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Ref. No. : 631/10/2014-15

Date: 03/11/2014

### STACK EMISSION MONITORING RESULTS SLAG GRINDING PLANT (GPCB ID:31304)

Name of company : Jindal Saw Limited,

Village: Pragpar,

Tal. : Mundra, Dist. Kutch

Source of Sample : **Slag Grinding Unit**

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	----	29/10/2014	29/10/2014	29/10/2014	29/10/2014
02	Time of sampling	Hrs.	9.30	10.40	11.45	13.15
03	Stack Attached to	----	Ball Mill Stack	Silo Stack	Raw Material Hopper and Mill Inlet	Separator Stack Inlet
04	Air Pollution Control Measures	----	Bag Filter	Bag Filter	Bag Filter	Bag Filter
05	Stack Height	Meter	30	30	30	30
06	Stack Temperature	°C	40	35	37	46
07	Ambient Temperature	°C	30	30	31	31
08	Average Velocity of Flue Gases	M/Sec.	11.4	11.5	11.9	12.5
09	Isokinetic flow rate for P.M. Sampling	LPM	20	21	21	22
10	Gaseous Sampling Flow Rate	LPM	N. A.	N. A.	N. A.	N. A.
11	Permissible limits for PM	mg/Nm3	150	150	150	150
12	Measured Concentration of PM.	mg/Nm3	49	37	59	48
13	Permissible limits for SO2	ppm	N. A.	N. A.	N. A.	N. A.
14	Measured Concentration of SO2	ppm	---	---	---	---
15	Permissible limits for Nox	ppm	N. A.	N. A.	N. A.	N. A.
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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Ref. No. : 632/10/2014-15

Date: 03/11/2014

### FUGITIVE EMISSION MONITORING REPORT

### SLAG GRINDING PLANT (GPCB ID:31304)

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
01.	Location of Ambient	----	<b>SGU Near Ground Hopper</b>
02.	Date of sampling	----	29/10/2014
03.	Time of sampling	----	11.30
04.	Duration of Sampling	Hr.	8.00
05.	Dominant Wind Direction (From)	----	NW
06.	Average Wind Speed	Km/Hr.	3.1
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.0
08.	Average flow rate for Gas sampling	LPM	0.2
09.	<b>Permissible limits for PM 10</b>	<b>µg/m<sup>3</sup></b>	<b>3000</b>
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1621
11.	<b>Permissible limits for SO<sub>2</sub></b>	<b>µg/m<sup>3</sup></b>	<b>150</b>
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	13.6
13.	<b>Permissible limits for NO<sub>2</sub></b>	<b>µg/m<sup>3</sup></b>	<b>120</b>
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	20.5
15.	<b>Permissible limit for CO **</b>	<b>µg/m<sup>3</sup></b>	<b>5000</b>
16.	Measured Concentration of CO	µg/m <sup>3</sup>	238

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

Calibration Due On. : 05/06/2015



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Ref. No. : 633/10/2014-15

Date: 03/11/2014

### WORK ZONE NOISE LEVEL MEASUREMENT SLAG GRINDING PLANT (GPCB ID:31304)

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

Date of sampling : 29/10/2014

Sr. No.	Location of Sampling	Results Avg. in dB(A)
<b>Slag Grinding Unit</b>		
01.	Nr. Slag Grinding Mill.	82.6
02	Near Silo	72.1
03	Office SGU	61.2
04	Inside Control Room	53.7
05	Inside Packing Area	71.9
06	Inside Quality Control Laboratory	55.6

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.

Recalibratin is due on: 25/09/2015

Royal Environment Auditing & Consultancy Service

M. J. J.  
Analyst

