



# Royal

## Environment Auditing & Consultancy Service

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

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

Ref. No. : 140/02/2012-13

Date: 02/03/2013

### AMBIENT AIR QUALITY MONITORING REPORT

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

Test Method : As per IS Standards - 5182\_2/4/6

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	----	06/02/2013	06/02/2013	06/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	5 to 11	5 to 11	5 to 11
07.	Average flow rate during sampling	m <sup>3</sup> /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/m<sup>3</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	45	48	43
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>
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	29	34	27
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>
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	12.1	12.9	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>
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	21.8	23.0	19.9
17.	<b>Permissible limit for CO **</b>	<b>µg/m<sup>3</sup></b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m <sup>3</sup>	220	245	232

Instrument Used: 1) Combo Sampler AAS 271 & Gaseous Sampling Attachment AAS 109

2) 2 Nos. Ecotach make Respirable Dust Sampler Model No. AAS 217 BL, PM 2.5 & PM 10 Sampler AAS 127, Gaseous Sampling Attachment

Calibration is due on: 1) 22/04/2013 2) 03/07/2013

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Ref. No. : 141/02/2012-13

Date: 02/03/2013

### AMBIENT AIR QUALITY MONITORING REPORT

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

Test Method : As per IS Standards - 5182\_2/4/6

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	----	07/02/2013	07/02/2013	07/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	5 to 10	5 to 10	5 to 10
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	48	50	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	32	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	12.3	12.9	11.1
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	22.0	22.8	20.3
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	210	254	240

Instrument Used: 1) Combo Sampler AAS 271 & Gaseous Sampling Attachment AAS 109

2) 2 Nos. Ecotach make Respirable Dust Sampler Model No. AAS 217 BL, PM 2.5 & PM 10 Sampler AAS 127, Gaseous Sampling Attachment

Calibration is due on: 1) 22/04/2013 2) 03/07/2013

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Ref. No. : 142/02/2012-13

Date: 02/03/2013

### AMBIENT AIR QUALITY MONITORING REPORT

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

Test Method : As per IS Standards - 5182\_2/4/6

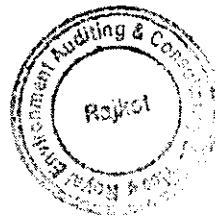
Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	13/02/2013	13/02/2013	13/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	4 to 10	4 to 10	4 to 10
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	46	52	43
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	29	34	27
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	12.2	13.0	11.2
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	20.9	22.1	20.1
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	218	256	239

Instrument Used: 1) Combo Sampler AAS 271 & Gaseous Sampling Attachment AAS 109

2) 2 Nos. Ecotach make Respirable Dust Sampler Model No. AAS 217 BL, PM 2.5 & PM 10 Sampler AAS 127, Gaseous Sampling Attachment

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

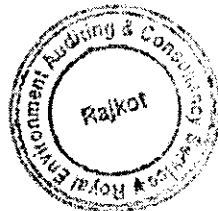
Test Method : As per IS Standards - 5182\_2/4/6

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	---	14/02/2013	14/02/2013	14/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	3 to 11	3 to 11	3 to 11
07.	Average flow rate during sampling	m <sup>3</sup> /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/m<sup>3</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	47	50	44
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>
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	31	36	29
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>
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	12	13.5	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>
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	20.6	21.7	20.5
17.	<b>Permissible limit for CO **</b>	<b>µg/m<sup>3</sup></b>	<b>2000</b>	<b>2000</b>	<b>2000</b>
18.	Measured Concentration of CO	µg/m <sup>3</sup>	211	263	235

Instrument Used: 1) Combo Sampler AAS 271 & Gaseous Sampling Attachment AAS 109

2) 2 Nos. Ecotach make Respirable Dust Sampler Model No. AAS 217 BL, PM 2.5 & PM 10 Sampler AAS 127, Gaseous Sampling Attachment  
Calibration is due on: 1) 22/04/2013 2) 03/07/2013

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

Test Method : As per IS Standards - 5182\_2/4/6

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	----	20/02/2013	20/02/2013	20/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	5 to 12	5 to 12	5 to 12
07.	Average flow rate during sampling	m <sup>3</sup> /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 <sup>3</sup>	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	49	55	43
11.	Permissible limits for PM 2.5	µg/m <sup>3</sup>	60	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	29	34	25
13.	Permissible limits for SO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	12.5	13.3	12.1
15.	Permissible limits for NO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	20.9	21.3	20.2
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	223	265	238

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

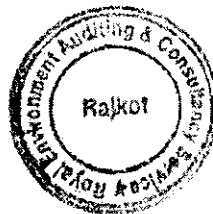
Test Method : As per IS Standards - 5182\_2/4/6

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	---	21/02/2013	21/02/2013	21/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	5 to 11	5 to 11	5 to 11
07.	Average flow rate during sampling	m <sup>3</sup> /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 <sup>3</sup>	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	47	54	44
11.	Permissible limits for PM 2.5	µg/m <sup>3</sup>	60	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	30	33	27
13.	Permissible limits for SO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	12.8	13.1	12.4
15.	Permissible limits for NO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	21.2	22.4	20
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	227	258	245.0

Instrument Used: 1) Combo Sampler AAS 271 & Gaseous Sampling Attachment AAS 109

2) 2 Nos. Ecotach make Respirable Dust Sampler Model No. AAS 217 BL, PM 2.5 & PM 10 Sampler AAS 127, Gaseous Sampling Attachment  
Calibration is due on: 1) 22/04/2013 2) 03/07/2013

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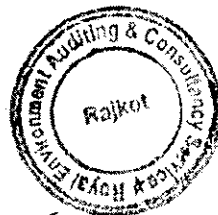
Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	27/02/2013	27/02/2013	27/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	3 to 9	3 to 9	3 to 9
07.	Average flow rate during sampling	m <sup>3</sup> /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 <sup>3</sup>	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	47	56	44
11.	Permissible limits for PM 2.5	µg/m <sup>3</sup>	60	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	30	34	27
13.	Permissible limits for SO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	12.9	13.5	12.3
15.	Permissible limits for NO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	22.1	23.5	20.5
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	230	266	245.0

Instrument Used: 1) Combo Sampler AAS 271 & Gaseous Sampling Attachment AAS 109

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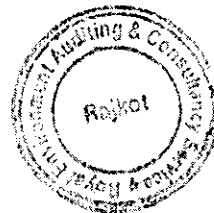
Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	28/02/2013	28/02/2013	28/02/2013
03.	Time of sampling	Hr.	9.00	9.30	10.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	3 to 11	3 to 11	3 to 11
07.	Average flow rate during sampling	m <sup>3</sup> /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 <sup>3</sup>	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	49	53	45
11.	Permissible limits for PM 2.5	µg/m <sup>3</sup>	60	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	31	36	28
13.	Permissible limits for SO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	13	13.8	12.6
15.	Permissible limits for NO <sub>2</sub>	µg/m <sup>3</sup>	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	21.9	23.3	20.8
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	228	273	249.0

Instrument Used: 1) Combo Sampler AAS 271 & Gaseous Sampling Attachment AAS 109

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Ref. No. : 148/02/2012-13

Date: 02/03/2013

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Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182\_2/4/6

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	----	13/02/2013	14/02/2013	15/02/2013	16/02/2013
03.	Time of sampling	----	10.30	10.35	9.00	9.00
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	4 to 10	3 to 11	4 to 12	5 to 11
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.	<b>Permissible limits for PM 10</b>	µg/m <sup>3</sup>	100	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	49	50	52	47
11.	<b>Permissible limits for PM 2.5</b>	µg/m <sup>3</sup>	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	29	27	32	35
13.	<b>Permissible limits for SO<sub>2</sub></b>	µg/m <sup>3</sup>	80	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	11.7	12.6	12.1	11.4
15.	<b>Permissible limits for NO<sub>2</sub></b>	µg/m <sup>3</sup>	80	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	19.5	20.0	21.5	20.8
17.	<b>Permissible limit for CO **</b>	µg/m <sup>3</sup>	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	218	208	254	243

Instrument used : 2 Nos of Envirotech make (RDS), and 2.5 Attachment Model No. APM - 460 BL, Gaseous Sampling Kit APM 411,

All are Calibration due on: 23/04/2013

Royal Environment Auditing & Consultancy Service



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Ref. No. : 149/02/2012-13

Date. 02/03/2013

### AMBIENT AIR QUALITY MONITORING REPORT

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

Test Method : As per IS Standards - 5182\_2/4/6

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	----	13/02/2013	14/02/2013	15/02/2013	16/02/2013
03.	Time of sampling	----	11.00	11.05	9.30	9.35
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	4 to 10	3 to 11	4 to 12	5 to 11
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.	<b>Permissible limits for PM 10</b>	µg/m <sup>3</sup>	100	100	100	100
12.	Measured Concentration of PM 10	µg/m <sup>3</sup>	51	57	54	52
11.	<b>Permissible limits for PM 2.5</b>	µg/m <sup>3</sup>	60	60	60	60
10.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	31	30	36	37
13.	<b>Permissible limits for SOx</b>	µg/m <sup>3</sup>	80	80	80	80
14.	Measured Concentration of SOx	µg/m <sup>3</sup>	13.5	13.0	12.8	12.0
15.	<b>Permissible limits for Nox</b>	µg/m <sup>3</sup>	80	80	80	80
16.	Measured Concentration of NOx	µg/m <sup>3</sup>	20.1	21.3	22.4	21.7
17.	<b>Permissible limit for CO **</b>	µg/m <sup>3</sup>	2000	2000	2000	2000
18.	Measured Concentration of	µg/m <sup>3</sup>	229	225	265	253

Instrument used : 2 Nos of Envirotech make (RDS), and 2.5 Attachment Model No. APM - 460 BL, Gaseous Sampling Kit APM 411,

All are Calibration due on: 23/04/2013

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Ref. No. : 154/02/2012-13

Date: 02/03/2013

### 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, 1/2/3/7

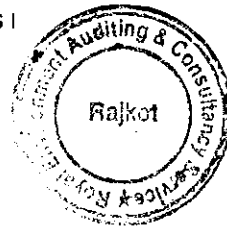
Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5	Stack No. 6
01	Date of Sampling	---	12/02/2013	12/02/2013	12/02/2013	12/02/2013	12/02/2013	12/02/2013
02	Time of sampling	---	9.00	9.45	Not Running During Visit	10.30	11.20	12.00
03	Stack Attached to	---	Sinter Furnace	Discharge End	Fuel & Flux Crusher and Screening	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	121	123	---	50	57	85
08	Ambient Temperature	°C	29	29	---	30	31	32
09	Average Velocity of Flue Gases	M/Sec.	9.8	6.9	---	5.8	6.1	6.6
10	Isokinetic flow rate for P.M. Sampling	LPM	14	22	---	23	23	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
13	Measured Concentration of PM.	mg/Nm <sup>3</sup>	41	42	---	45	42	45
14	Permissible limits for SO <sub>2</sub>	ppm	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	11.9	---	---	---	---	---
16	Permissible limits for NO <sub>x</sub>	ppm	50	NA	NA	NA	NA	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	6.5	---	---	---	---	---

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 155/02/2012-13

Date: 02/03/2013

### 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\_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	---	12/02/2013	12/02/2013	12/02/2013	12/02/2013	12/02/2013	13/02/2013
02	Time of sampling	Hr.	14.30	15.15	17.30	16.00	16.45	11.35
03	Stack Attached to	---	Sinter Furnace	Tail End Stack	Flux	Primary Mixer De-duster system	Secondary Mixer De-duster system	Fuel Screening deduster System (Screening Flux Stack)
04	Air Pollution Control Measures	---	ESP	ESP	Bag Filter	---	---	Dust Collector
05	Stack Height	Meter	50	50	30	30	30	30
06	Stack Diameter	Meter	2	1.3	0.7	1.25	1.25	---
07	Stack Temperature	°C	135	151	56	54	52	49
08	Ambient Temperature	°C	33	34	32	34	34	30
09	Average Velocity of Flue Gases	M/Sec.	8.6	8.2	6.3	7.1	6.4	5.7
10	Isokinetic flow rate for P.M. Sampling	LPM	27	24	24	27	25	22
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2	2.0	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>	40	42	45	39	41	34
14	Permissible limits for SO <sub>2</sub>	ppm	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	12.7	---	---	---	---	---
16	Permissible limits for NO <sub>x</sub>	ppm	50	NA	NA	NA	NA	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	18.9	---	---	---	---	---

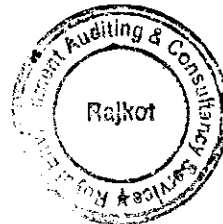
Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.

NA= Not Applicable

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 156/02/2012-13

Date: 02/03/2013

### STACK EMISSION MONITORING RESULTS

#### BLAST FURNCE & PCI

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

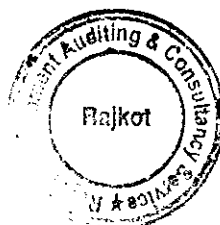
Sr. No	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5
01	Date of Sampling	---	13/02/2013	13/02/2013	13/02/2013	13/02/2013	13/02/2013
02	Time of sampling	Hr.	14.15	15.00	16.35	15.45	Not Running During Visit
03	Stack Attached to	---	Boiler - I	Boiler - II	Dedusting System	Stove Stack	Coal Pulverization
04	Air Pollution Control Measures	---	---	---	Bag Filter	---	Bag Filter
05	Stack Height	Meter	45	45	35.0	50.0	32.00
06	Stack Diameter	Meter	1.380	1.380	1.484	2.250	---
07	Stack Temperature	°C	161	172	65	329	---
08	Ambient Temperature	°C	35	35	34	34	---
09	Average Velocity of Flue Gases	M/Sec.	7.4	7.3	7.1	8.0	---
10	Isokinetic flow rate for P.M. Sampling	LPM	22	21	27	17	---
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	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>	5	4	38	2	---
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	40	100 (ppm)
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	5.5	6.3	N.D.	N.D.	---
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	25	25	25	25	50 (ppm)
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	8.1	7.6	6.4	5.9	---

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 157/02/2012-13

Date: 02/03/2013

### STACK EMISSION MONITORING RESULTS Captive Power Plant

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

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

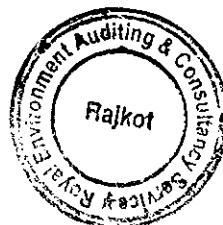
Sr. No.	Particulars	Unit	Stack No. 6	Stack No. 7	Stack No. 8	Stack No. 9
01	Date of Sampling	---	Not Running During Visit	Standby	13/02/2013	Standby
02	Time of sampling	Hr.			17.20	
03	Stack Attached to	---	6000 KVA D.G.	3240 KVA D.G.	3240 KVA D.G.	1180 KVA D.G.
04	Air Pollution Control Measures	---	---	---	---	---
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	---	---	114	---
08	Ambient Temperature	°C	---	---	32	---
09	Average Velocity of Flue Gases	M/Sec.	---	---	8.3	---
10	Isokinetic flow rate for P.M. Sampling	LPM			27	---
11	Gaseous Sampling Flow Rate	LPM	---	---	2.00	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150
13	Measured Concentration of PM.	mg/Nm <sup>3</sup>	---	---	42	---
14	Permissible limits for SO <sub>2</sub>	ppm	100	100	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	---	---	19.0	---
16	Permissible limits for Nox	ppm	50	50	50	50
17	Measured Concentration of Nox	ppm	---	---	12.6	---

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

Recalibration is Due on : 06/05/2013

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Ref. No. : 158/02/2012-13

Date: 02/03/2013

### STACK EMISSION MONITORING RESULTS

#### Pipe Complex

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
01	Date of Sampling	---	14/02/2013	14/02/2013	14/02/2013	14/02/2013	14/02/2013
02	Time of sampling	Hr.	Not Running During Visit	Not Running During Visit	Not Running During Visit	11.35	12.20
03	Stack Attached to	---	Shot Blasing (Coating Plant)	Bitumin Drying Oven - I	Bitumin Drying Oven - II	Barrel Grinding - I	Barrel Grinding - II
04	Air Pollution Control Measures	---	Cyclone Separator & Bac	---	-----	Bag Filter	Bag Filter
05	Stack Height	Meter	---	32.8	32.8	30	30
06	Stack Diameter	Meter	41	1.375	1.375	0.584	0.584
07	Stack Temperature	°C	---	---	---	40	38
08	Ambient Temperature	°C	---	---	---	31	32
09	Average Velocity of Flue Gases	M/Sec.	---	---	---	12.1	13.2
10	Isokinetic flow rate for P.M. Sampling	LPM	---	---	---	9	9
11	Gaseous Sampling Flow Rate	LPM	---	---	---	2.0	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>	---	---	---	52	50
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	100 ppm	100 ppm	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	---	---	---	2.4	2.2
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	25	50 ppm	50 ppm	25	25
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	---	---	---	5.4	5.0

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 159/02/2012-13

Date: 02/03/2013

### STACK EMISSION MONITORING RESULTS Pipe Copmplex

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	---	14/02/2013	14/02/2013	14/02/2013	14/02/2013	14/02/2013	15/02/2013
02	Time of sampling	Hr.	14.30	15.20	17.30	16.45	16.00	11.00
03	Stack Attached to	---	Mg Converter-I	Mg Converter-II	Zn Coating - I	Zn Coating - II	Zn Coating - III	Zn Coating - IV & V
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	Cyclone Seprater & Bag Filter	Cyclone Seprater & Bag Filter	Cyclone Seprater & Bag Filter	Cyclone Seprater & Bag Filter
05	Stack Height	Meter	30	30	30	30	30	30
06	Stack Diameter	Meter	0.488	0.488	0.584	0.584	---	---
07	Stack Temperature	°C	55	53	49	54	48	52
08	Ambient Temperature	°C	33	33	31	31	32	30
09	Average Velocity of Flue Gases	M/Sec.	6.4	5.3	5.0	8.2	9.8	11.8
10	Isokinetic flow rate for P.M. Sampling	LPM	11	9	9	14	17	21
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0	2.0	2.0
12	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>	40	35	14(Zn)	15 (Zn)	14 (Zn)	16 (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>	N.D.	N.D.	---	---	---	---
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>	5.1	2.6	---	---	---	---

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 160/02/2012-13

Date: 02/03/2013

### STACK EMISSION MONITORING RESULTS Pipe Complex

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
01	Date of Sampling	---	15/02/2013	15/02/2013	15/02/2013	15/02/2013	15/02/2013	15/02/2013
02	Time of sampling	Hr.	Not Running During Visit	Not Running During Visit	11.45	16.40	15.00	15.45
03	Stack Attached to	---	Core Cleaning & Dusting-I	Core Cleaning & Dusting-II	Core Shop-I	Core Shop-II	Core Shop-III	Core Shop-IV
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	---	---	---	---
05	Stack Height	Meter	30	30	30	30	30	30
06	Stack Diameter	Meter	0.588	0.59	0.584	0.584	0.584	0.584
07	Stack Temperature	°C	---	---	40	57	45	49
08	Ambient Temperature	°C	---	---	31	34	34	34
09	Average Velocity of Flue Gases	M/Sec.	---	---	11.9	15.0	14.3	12.8
10	Isokinetic flow rate for P.M. Sampling	LPM	---	---	22	10	10	9
11	Gaseous Sampling Flow Rate	LPM	---	---	2.0	2.0	2.0	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>	---	---	29	31	34	32
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	---	---	N.D.	4.1	3.5	3.1
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	25	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	---	---	2.5	4.0	3.5	2.9

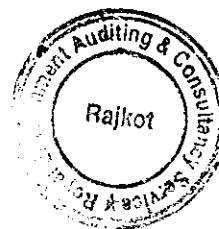
Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.

N.D.= Not Detectable

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 161/02/2012-13

Date: 02/03/2013

### STACK EMISSION MONITORING RESULTS Pipe Complex

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. 18	Stack No. 19	Stack No. 20	Stack No. 21	Stack No. 22
01	Date of Sampling	---	16/02/2013	16/02/2013	16/02/2013	16/02/2013	16/02/2013
02	Time of sampling	Hr.	11.30	12.15	15.00	15.45	16.30
03	Stack Attached to	---	Anneling Furnace - I	Anneling Furnace - II	Barrel Grinding-III	Barrel Grinding -IV&V	Sand Reclamation
04	Air Pollution Control Measures	---	---	---	Bag Filter	Bag Filter	Bag Filter
05	Stack Height	Meter	32	32	30	25	32
06	Stack Diameter	Meter	1.375	1.375	---	0.488	---
07	Stack Temperature	°C	154	165	45	43	41
08	Ambient Temperature	°C	32	32	35	35	34
09	Average Velocity of Flue Gases	M/Sec.	7.0	6.5	10.9	12.8	12.4
10	Isokinetic flow rate for P.M. Sampling	LPM	21	19	20	9	23
11	Gaseous Sampling Flow Rate	LPM	2.0	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	28	30	44	47	52
14	Permissible limits for SO2	mg/Nm3	100 (PPM)	100 (ppm)	40	40	40
15	Measured Concentration of SO2	mg/Nm3	3.6(PPM)	3.2(PPM)	1.5	1.9	N.D.
16	Permissible limits for Nox	mg/Nm3	50 (PPM)	50 (PPM)	25	25	25
17	Measured Concentration of Nox	mg/Nm3	4.8 (PPM)	5.0 (PPM)	4.3	4.9	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

Both Stack kit Recalibration is Due on : 21/04/2013

Royal Environment Auditing & Consultancy Service



Manoj  
Analyst



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Ref. No. : 152/02/2012-13

Date: 02/03/2013

### Bag Filter Efficiency Report APCM Inlet

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
01	Date of Sampling	---	14/02/2013	14/02/2013	Not Running During Visit	14/02/2013	14/02/2013	16/02/2013
02	Attached to		Zinc Coating - I	Mg Converter - I	Core Cleaning & Dusting-I	Barrel Grinding - I	Barrel Grinding - II	Sand Reclamation
03	Stack Height	Meter	30	30	30	30	30	32
04	Stack Diameter	Meter	0.488	0.584	0.588	0.584	0.584	---
05	Stack Temperature	°C	46	48	---	38	39	42
06	Ambient Temperature	°C	31	32	---	31	31	33
07	Average Velocity of Flue Gases	M/Sec.	4.5	6.6	---	10.6	12.9	12.4
08	Inlet	mg	1512	995	---	1632	1578	1062
09	Outlet	mg	14	40	---	52	50	52
10	Efficiency	%	99.07	95.98	---	96.81	96.83	95.10

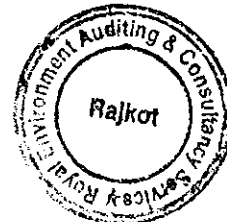
Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 153/02/2012-13

Date: 02/03/2013

### Bag Filter Efficiency Report APCM Inlet

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. 7	Stack No. 8	Stack No. 9	Stack No. 10	Stack No. 11	Stack No. 12	Stack No. 13
01	Date of Sampling	---	14/02/2013	14/02/2013	14/02/2013	14/02/2013	Not Running During Visit	16/02/2013	16/02/2013
02	Attached to	---	Zinc Coating - II	Zinc Coating-III	Zinc Coating -IV & V	Mg Converter - II	Core Cleaning & Dusting-II	Barrel Grinding-III	Barrel Grinding-IV & V
03	Stack Height	Meter	30	30	30	30	30	30	25
04	Stack Diameter	Meter	---	---	---	0.488	0.588	0.584	0.488
05	Stack Temperature	°C	45	52	51	51	---	39	40
06	Ambient Temperature	°C	32	32	31	30	---	33	33
07	Average Velocity of Flue Gases	M/Sec.	9.3	11.2	12.1	5.3	---	11.8	11.5
08	Inlet	mg	1685	1637	1543	1129	---	1562	1532
09	Outlet	mg	15	14	16	35	---	44	47
10	Efficiency	%	99.11	99.14	98.96	96.90	---	97.18	96.93

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

Both Stack kit Recalibration is Due on : 21/04/2013

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Ref. No. : 150/02/2012-13

Date: 02/03/2013

### FUGITIVE EMISSION MONITORING REPORT

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

Test Method : As per IS Standards - 5182\_2/4/6

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	---	15/02/2013	15/02/2013	16/02/2013
03.	Time of sampling	----	10.00	10.35	10.00
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	4 to 12	4 to 12	5 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.	<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	2165	2445	1845
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	12.3	13.5	11.4
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	24.0	23.5	22.9
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	273	254	231

Instrument used : 2 Nos of Envirotech make (RDS), and 2.5 Attachment Model No. APM - 460 BL, Gaseous Sampling Kit APM 411,

All are Calibration due on: 23/04/2013

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Ref. No. :151/02/2012-13

Date: 02/03/2013

### FUGITIVE EMISSION MONITORING REPORT

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

Test Method : As per IS Standards - 5182\_2/4/6

Sr. No.	Particulars	Unit	A - 4	A - 5	A - 6
01.	Location of Ambient	----	Sinter 2 Ground Hopper	DISP	Sinter 1 Main to PMD
02.	Date of sampling	----	16/02/2013	17/02/2013	17/02/2013
03.	Time of sampling	----	10.35	9.00	9.30
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	5 to 11	4 to 9	4 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.	<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	1032	1065	2264
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	11.8	13.7	13.2
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	22.5	22.3	23.4
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	220	210	229

Instrument used : 2 Nos of Envirotech make (RDS), and 2.5 Attachment Model No. APM - 460 BL, Gaseous Sampling Kit APM 411,

All are Calibration due on: 23/04/2013

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**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, BF, 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 : 16th &amp; 17th February, 2013

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	Spiral Plant Nr. ID/OD	Total Dust	Personal Respirable Dust sampler APM 800	02	4-5	4.5	10	Gravimetric	8	----	<i>Manoj</i>	Mr. Manoj Sonrat
2	JCO Plant Nr. JCO Press	Total Dust		02	2-4	3.0	10	Gravimetric	6	----		
3	Sinter Plant At First Floor	Total Dust		02	4-5	4.5	10	Gravimetric	5	----		
4	BF Plant (Cast House)	CO		02	0.3-0.5	0.4	2	Gravimetric	9	----		
		Total Dust			3-5	4	10					
5	Coating Plant (Blasting Area)	Total Dust		02	3-4	3.5	10	Gravimetric	4	----		
6	DISP Plant Main Entrance	Total Dust	02	3-5	4.0	10	Gravimetric	10	----			

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

Calibration Date Due on : 11/12/2013



For. Royal Environment Auditing &amp; Consultancy Service

*Manoj*  
Authorized Sign



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Ref. No. : 164/02/2012-13

Date: 02/03/2013

### AMBIENT NOISE LEVEL MEASUREMENT

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

Date of Sampling : 16th & 17th February, 2013

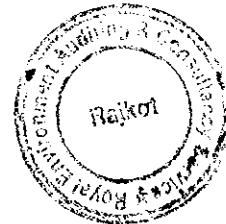
Sr. No.	Location of Sampling	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
	<b>Permissible Limits</b>	<b>75.0</b>	<b>70.0</b>
01.	Nr. Admin. Building	68.2	67.0
02.	Nr. Old Colony	67.9	65.8
03.	Nr. LPG Yard	67.5	66.1
04.	Nr. Sinter Plant	70.2	68.2
05.	Nr. R. O. Plant	67.9	65.3
06.	Nr. Gate No. 2	67.5	66.4
07.	Nr. New Colony	69.7	68.1

Instruments used : Sound level meter, Model : SL - 4001 (Lutron Make)

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

Recalibration is due on : 05/10/2013

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Ref. No. : 163/02/2012-13

Date: 02/03/2013

### WORK ZONE NOISE LEVEL MEASUREMENT

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

Date of Sampling : 16th & 17th February, 2013

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room of Sinter Plant	66.9
02.	Nr. Stock House of BF	67.8
03.	Inside Control Room of BF	67.2
04.	Inside Control Room of Blower House	71.1
05.	Inside Control of Cast House	66.9
06.	Inside Control Room of CPP	68.1
07.	Inside Control Room of Annealing Furnace of DISP	67.8
08.	Inside Laboratory of BF	66.6
09.	Inside Laboratory of DISP	66.9
10.	Inside ID & OD Control Room of JCO Plant	68.2
11.	Inside Control Room – Mill area of Spiral Plant	70.3
12.	Inside Spiral – 1	71.4
13.	Nr. Pipe cutting Area of Spiral Plant	72.7
14.	Inside JCO Plant	69.9
15.	Nr. JCO Press	72.6
16.	Inside DISP Plant	70.5
17.	Inside Coating Plant	68.2

Instruments used : Sound level meter, Model : SL - 4001 (Lutron Make)

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

Recalibration is due on : 05/10/2013

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Ref. No. : 165/02/2012-13

Date: 02/03/2013

### WATER SAMPLE ANALYSIS REPORT

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

Date of Sample Collection : 17/02/2013

Source of Sample : Borewell Water Sample From Nr, Mess

Sr. No.	Parameters	Unit	Acceptable Limit(*)	Permissible Limits(*)	Results
01.	Colour	Pt.Co.Scale	5	15	Colourless
02	Odour	--	Agreable	Agreable	Odourless
03	pH	pH Unit	6.5 to 8.5	No Relaxation	7.60
04.	T.D.S.	mg/l	500	2000	1358
05.	Total Hardness	mg/l	200	600	442
06.	Turbidity	NTU	1	5	1.3
07.	Chloride	mg/l	250	1000	521
08.	Alkalinity	mg/l	200	600	300
09.	Phenolic Compound	mg/l	0.001	0.002	NIL
10.	Residual Chlorine	mg/l	0.2	1.0	NIL
11.	Fluoride	mg/l	1.0	1.5	0.32
12.	Ca as Ca	mg/l	75	200	195
13.	Mg as Mg	mg/l	30	100	168
14.	Copper	mg/l	0.05	1.5	NIL
15.	Iron	mg/l	0.3	No Relaxation	0.28
16.	Manganese	mg/l	0.1	0.3	0.29
17.	Sulphate	mg/l	200	400	0.25
18.	Nitrate	mg/l	45	No Relaxation	12

(\*) Acceptable Limit & Permissible Limits as per IS 10500 : 2012, Drinking Water Specification

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Ref. No. : 166/02/2012-13

Date: 02/03/2013

### REPORT OF DOMESTIC WASTEWATER ANALYSIS

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

Source Of Sample Collection : Domestic Effluent After Treatment  
Date of Sample Collection : 17/02/2013

Sr. No.	Parameters	Unit	GPCB limits	STP Inlet	STP Outlet
01.	pH	pH Unit	----	7.89	7.42
02.	BOD (3 Days at 27°C)	mg/l	<20	179	16
03.	Suspended Solids	mg/l	<30	82	15
04.	Residual Chlorine	mg/l	Min. 0.5	----	0.59

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