



Royal

Environment Auditing & Consultancy Service

303-304, Shivalik-7, B s. Bal Adalat, Gondal Road, RAJKOT - 360 002.
Ph.: +91 281 2360695 ■ E-mail : royalsenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 19/05/2013-14

Date: 31/05/2013

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	----	01/05/2013	01/05/2013	01/05/2013
03.	Time of sampling	0	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 13	4 to 13	4 to 13
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	38	42	36
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	24	30	23
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	11.8	12.8	11.5
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	21.3	22.5	20.2
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	228	278	230

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 20/05/2013-14

Date: 31/05/2013

AMBIENT AIR QUALITY MONITORING REPORT

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

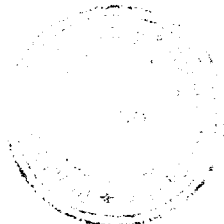
Test Method : As per IS Standards - 5182_2/4/6

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	----	02/05/2013	02/05/2013	02/05/2013
03.	Time of sampling	----	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 ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	41	44	39
11.	Permissible limits for PM 2.5	µg/m³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	26	29	24
13.	Permissible limits for SO₂	µg/m³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	12.1	12.5	11.6
15.	Permissible limits for NO₂	µg/m³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	21.7	22.8	20.9
17.	Permissible limit for CO **	µg/m³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	234	283	248

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref No. : 21/05/2013-14

Date: 31/05/2013

AMBIENT AIR QUALITY MONITORING REPORT

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

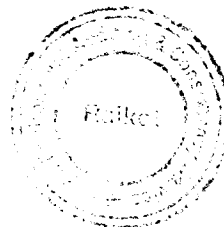
Test Method : As per IS Standards - 5182_2/4/6

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	----	08/05/2013	08/05/2013	08/05/2013
03.	Time of sampling	----	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	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	40	45	38
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	29	33	26
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	12.6	13.1	11.9
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	21.0	21.8	20.7
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	243	263	238

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 22/05/2013-14

Date: 31/05/2013

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	----	09/05/2013	09/05/2013	09/05/2013
03.	Time of sampling	----	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 13	5 to 13	5 to 13
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	42	48	41
11.	Permissible limits for PM 2.5	µg/m³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	31	36	25
13.	Permissible limits for SO₂	µg/m³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	12.9	13.5	12.2
15.	Permissible limits for NO₂	µg/m³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	21.9	22.7	21.1
17.	Permissible limit for CO **	µg/m³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	235	258	228

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 23/05/2013-14

Date: 31/05/2013

AMBIENT AIR QUALITY MONITORING REPORT

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

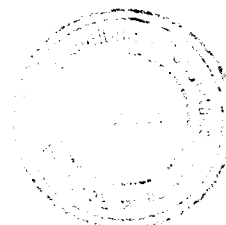
Test Method : As per IS Standards - 5182_2/4/6

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	----	15/05/2013	15/05/2013	15/05/2013
03.	Time of sampling	----	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 10	3 to 10	3 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.	Permissible limits for PM 10	µg/m3	100	100	100
10.	Measured Concentration of PM 10	µg/m3	45	48	41
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	30	34	28
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	11.8	12.5	10.9
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	21.1	21.8	20.5
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	255	270	245

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 24/05/2013-14

Date: 31/05/2013

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	----	16/05/2013	16/05/2013	16/05/2013
03.	Time of sampling	----	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.	2 to 11	2 to 11	2 to 11
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	45	53	41
11.	Permissible limits for PM 2.5	µg/m³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	31	35	29
13.	Permissible limits for SO₂	µg/m³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	12.5	13.2	11.2
15.	Permissible limits for NO₂	µg/m³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	22.5	22.8	20.6
17.	Permissible limit for CO **	µg/m³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	240	256	231

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 25/05/2013-14

Date: 31/05/2013

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	----	22/05/2013	22/05/2013	22/05/2013
03.	Time of sampling	----	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.	6 to 14	6 to 14	6 to 14
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	41	45	39
11.	Permissible limits for PM 2.5	µg/m³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	27	30	26
13.	Permissible limits for SO₂	µg/m³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	11.9	12.6	11.1
15.	Permissible limits for NO₂	µg/m³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	20.5	21.8	19.9
17.	Permissible limit for CO **	µg/m³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	257	275	249

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 26/05/2013-14

Date: 31/05/2013

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	----	23/05/2013	23/05/2013	23/05/2013
03.	Time of sampling	----	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 15	5 to 15	5 to 15
07.	Average flow rate during sampling	m ³ /Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m ³	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	39	42	36
11.	Permissible limits for PM 2.5	µg/m ³	60	60	60
12.	Measured Concentration of PM 2.5	µg/m ³	25	29	23
13.	Permissible limits for SO ₂	µg/m ³	80	80	80
14.	Measured Concentration of SO ₂	µg/m ³	11.6	12.1	11.3
15.	Permissible limits for NO ₂	µg/m ³	80	80	80
16.	Measured Concentration of NO ₂	µg/m ³	20.9	22.2	20.1
17.	Permissible limit for CO **	µg/m ³	2000	2000	2000
18.	Measured Concentration of CO	µg/m ³	251	268	245

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref No : 27/05/2013-14

Date: 31/05/2013

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	----	29/05/2013	29/05/2013	29/05/2013
03.	Time of sampling	----	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 13	3 to 13	3 to 13
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	41	46	37
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	26	29	23
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	12.3	12.9	11.2
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	20.6	21.7	19.7
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	239	263	223

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 28/05/2013-14

Date: 31/05/2013

AMBIENT AIR QUALITY MONITORING REPORT

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

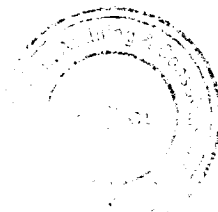
Test Method : As per IS Standards - 5182_2/4/6

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	----	30/05/2013	30/05/2013	30/05/2013
03.	Time of sampling	----	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.	2 to 12	2 to 12	2 to 12
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	45	54	41
11.	Permissible limits for PM 2.5	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	31	36	26
13.	Permissible limits for SO2	µg/m3	80	80	80
14.	Measured Concentration of SO2	µg/m3	12.5	13.1	12.0
15.	Permissible limits for NO2	µg/m3	80	80	80
16.	Measured Concentration of NO2	µg/m3	21.3	22.1	20.4
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	231	249	227

Instrument used : (1) Envirotech make 1 No. of RDS (APM - 460 BL) (2) 1 No. of Gaseous Sampling Kit (APM 411) (3) Ecotech make Attachment of 1 No. of PM 2.5 Sampler (AAS 127) (4) Ecotech make 2 Nos. of RDS (AAS 217 BL) (5) Gaseous sampling attachment (AAS 109) (6) Ecotech make 2 Nos. of PM 2.5 sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014 (4) 06/05/2014 (5) 05/05/2014 (6) 06/05/2014

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Ref. No. : 29/05/2013-14

Date: 31/05/2013

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 - 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	----	03/05/2013	04/05/2013	05/05/2013	06/05/2013
03.	Time of sampling	----	10.30	10.30	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 13	5 to 15	3 to 14	2 to 13
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100	100
10.	Measured Concentration of PM 10	µg/m3	47	42	49	45
11.	Permissible limits for PM 2.5	µg/m3	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	28	25	26	32
13.	Permissible limits for SO2	µg/m3	80	80	80	80
14.	Measured Concentration of SO2	µg/m3	12.2	12.9	11.7	13.4
15.	Permissible limits for NO2	µg/m3	80	80	80	80
16.	Measured Concentration of NO2	µg/m3	19.2	20.3	20.5	19.7
17.	Permissible limit for CO **	µg/m3	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	220	216	229	237

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

(3) Ecotech make Attachment of 2 Nos. PM 2.5 Sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014

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Ref. No. : 30/05/2013-14

Date: 31/05/2013

AMBIENT AIR QUALITY MONITORING REPORT

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

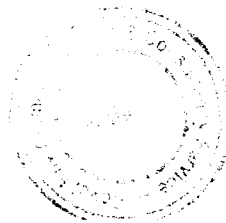
Test Method : As per IS Standards - 5182_2/4/6

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	----	03/05/2013	04/05/2013	05/05/2013	06/05/2013
03.	Time of sampling	----	11.00	11.05	9.35	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 13	5 to 15	3 to 14	2 to 13
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	100	100	100	100
12.	Measured Concentration of PM 10	µg/m3	54	49	52	48
11.	Permissible limits for PM 2.5	µg/m3	60	60	60	60
10.	Measured Concentration of PM 2.5	µg/m3	30	28	29	35
13.	Permissible limits for SOx	µg/m3	80	80	80	80
14.	Measured Concentration of SOx	µg/m3	12.9	13.4	12.6	13.7
15.	Permissible limits for Nox	µg/m3	80	80	80	80
16.	Measured Concentration of NOx	µg/m3	19.8	20.6	21.1	20.3
17.	Permissible limit for CO **	µg/m3	2000	2000	2000	2000
18.	Measured Concentration of	µg/m3	232	225	241	248

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

(3) Ecotech make Attachment of 2 Nos. PM 2.5 Sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014



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Ref. No. : 31/05/2013-14

Date: 31/05/2013

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

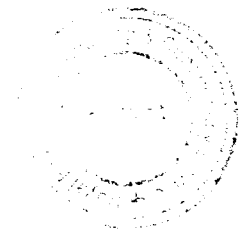
Sr. No.	Particulars	Unit	A - 1	A - 2	A - 3
01.	Location of Ambient	----	RMH Junction House	RMH Stock House	Sinter RMH Yard
02.	Date of sampling	----	07/05/2013	07/05/2013	08/05/2013
03.	Time of sampling	----	9.00	9.30	9.00
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	4 to 10	4 to 10	3 to 11
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m3	2145	2430	1892
11.	Permissible limits for SO2	µg/m3	150	150	150
12.	Measured Concentration of SO2	µg/m3	12.9	14.1	11.9
13.	Permissible limits for NO2	µg/m3	120	120	120
14.	Measured Concentration of NO2	µg/m3	22.5	21.9	21.3
15.	Permissible limit for CO **	µg/m3	5000	5000	5000
16.	Measured Concentration of CO	µg/m3	270	247	230

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

(3) Ecotech make Atteachment of 2 Nos. PM 2.5 Sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014

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Ref. No. : 32/05/2013-14

Date: 31/05/2013

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

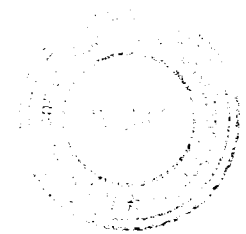
Sr. No.	Particulars	Unit	A - 4	A - 5	A - 6
01.	Location of Ambient	----	Sinter 2 Ground Hopper	DISP	Sinter 1 Main to PMD
02.	Date of sampling	----	08/05/2013	09/05/2013	09/05/2013
03.	Time of sampling	-----	9.35	9.00	9.35
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	-----	NW	NW	NW
06.	Average Wind Speed	Km/Hr.	3 to 11	5 to 13	5 to 13
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10	µg/m3	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m3	1058	1045	2210
11.	Permissible limits for SO2	µg/m3	150	150	150
12.	Measured Concentration of SO2	µg/m3	12.5	13.7	11.7
13.	Permissible limits for NO2	µg/m3	120	120	120
14.	Measured Concentration of NO2	µg/m3	21.8	22.9	20.4
15.	Permissible limit for CO **	µg/m3	5000	5000	5000
16.	Measured Concentration of CO	µg/m3	223	215	231

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

(3) Ecotech make Attachment of 2 Nos. PM 2.5 Sampler (AAS 127)

Calibration due on: (1) 05/05/2014 (2) 05/05/2014 (3) 04/05/2014

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Ref. No. : 33/05/2013-14

Date: 31/05/2013

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

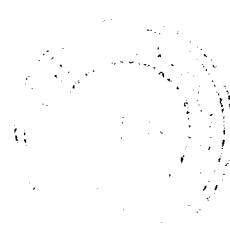
Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5	Stack No. 6
01	Date of Sampling	---	06/05/2013	06/05/2013	06/05/2013	06/05/2013	06/05/2014	06/05/2013
02	Attached to		Zinc Coating -I	Common stack Mg Converter- I &II	Core Cleaning & Dusting-I	Barrel Grinding - I	Barrel 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	51	55	45	43	39	85
06	Ambient Temperature	°C	39	32	31	31	35	34
07	Average Velocity of Flue Gases	M/Sec	5.1	6.9	10.5	11.1	12.5	13.2
08	Inlet	mg	1597	1149	1798	1857	1825	1376
09	Outlet	mg	16	32	45	45	48	46
10	Efficiency	%	99.00	97.21	97.50	97.58	97.37	96.66

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

Both Stack kit have calibration Due on : 05/05/2014

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Ref No. 34/05/2013-14

Date 31/05/2013

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

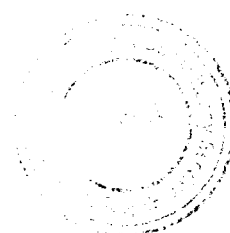
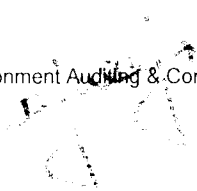
Sr. No.	Particulars	Unit	Stack No. 7	Stack No. 8	Stack No. 9	Stack No. 10	Stack No. 11	Stack No. 12	Stack No. 13
01	Date of Sampling	---	04/05/2013	04/05/2013	04/05/2013	04/05/2013	02/05/2013	02/05/2013	02/05/2013
02	Attached to	---	Zinc Coating - II	Zinc Coating-III	Zinc Coating -IV & V	Mg Converter - III	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	53	59	52	61	45	43	49
06	Ambient Temperature	°C	34	35	33	37	34	38	30
07	Average Velocity of Flue Gases	M/Sec.	10.1	10.5	11.8	6.4	8.9	15.8	13.6
08	Inlet	mg	1595	1654	1523	1365	1323	1456	1675
09	Outlet	mg	15	16	14	34	41	43	48
10	Efficiency	%	99.06	99.03	99.08	97.51	96.90	97.05	97.13

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

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

Both Stack kit have calibration Due on : 05/05/2014

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Ref. No. 35/05/2013-14

Date: 31/05/2013

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

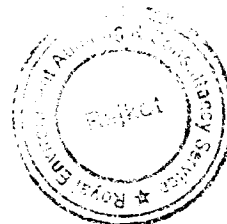
Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5	Stack No. 6
01	Date of Sampling	---	03/05/2013	03/05/2013	03/05/2013	03/05/2013	03/05/2013	03/05/2013
02	Time of sampling	---	11.30	12.15	13.00	15.00	15.50	17.00
03	Stack Attached to	---	Sinter Furnace	Discharge End	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	126	122	38	61	55	74
08	Ambient Temperature	°C	32	34	35	37	37	35
09	Average Velocity of Flue Gases	M/Sec.	12.6	6.7	6.50	5.5	5.2	5.1
10	Isokinetic flow rate for P.M. Sampling	LPM	18	21	26	21	20	19
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	---	---
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm3	45	49	58	44	40	41
14	Permissible limits for SO2	ppm	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO2	ppm	11.5	---	---	---	---	---
16	Permissible limits for NOx	ppm	50	NA	NA	NA	NA	NA
17	Measured Concentration of NOx	ppm	7.3	---	---	---	---	---

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

Both Stack kit have calibration Due on : 05/05/2014

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Ref. No. : 35/05/2013-14

Date: 31/05/2013

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

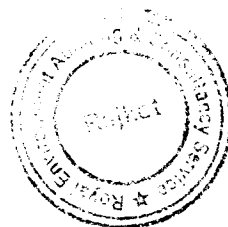
Sr. No.	Particulars	Unit	Stack No. 1	Stack No. 2	Stack No. 3	Stack No. 4	Stack No. 5	Stack No. 6
01	Date of Sampling	---	03/05/2013	03/05/2013	03/05/2013	03/05/2013	03/05/2013	03/05/2013
02	Time of sampling	---	11.30	12.15	13.00	15.00	15.50	17.00
03	Stack Attached to	---	Sinter Furnace	Discharge End	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	126	122	38	61	55	74
08	Ambient Temperature	°C	32	34	35	37	37	35
09	Average Velocity of Flue Gases	M/Sec.	12.6	6.7	6.50	5.5	5.2	5.1
10	Isokinetic flow rate for P.M. Sampling	LPM	18	21	26	21	20	19
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	---	---
12	Permissible limits for PM	mg/Nm³	150	150	150	150	150	150
13	Measured Concentration of PM.	mg/Nm ³	45	49	58	44	40	41
14	Permissible limits for SO₂	ppm	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO ₂	ppm	11.5	---	---	---	---	---
16	Permissible limits for NO_x	ppm	50	NA	NA	NA	NA	NA
17	Measured Concentration of NO _x	ppm	7.3	---	---	---	---	---

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

Both Stack kit have calibration Due on : 05/05/2014

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Ref. No. 36/05/2013-14

Date: 31/05/2013

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	---	05/05/2013	05/05/2013	05/05/2013	05/05/2013	05/05/2013	05/05/2013
02	Time of sampling	Hr.	10.00	10.50	Not Running During Visit	11.30	16.20	17.00
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	0.7
07	Stack Temperature	°C	130	155	---	54	45	40
08	Ambient Temperature	°C	31	33	---	34	37	35
09	Average Velocity of Flue Gases	M/Sec.	6.4	7.2	---	6.1	6.2	4.8
10	Isokinetic flow rate for P.M. Sampling	LPM	20	21	---	24	25	20
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	---	---
12	Permissible limits for PM	mg/Nm ³	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm ³	34	37	---	40	44	48
14	Permissible limits for SO ₂	ppm	100	NA	NA	NA	NA	NA
15	Measured Concentration of SO ₂	ppm	12.8	---	---	---	---	---
16	Permissible limits for NO _x	ppm	50	NA	NA	NA	NA	NA
17	Measured Concentration of NO _x	ppm	15.9	---	---	---	---	---

Note : Minimum Detectable Limit of SO₂ & 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 have calibration Due on : 05/05/2014

Royal Environment Auditing & Consultancy Service



M. J. J.
Analyst



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Ref No. 37/05/2013-14

Date: 31/05/2013

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	---	05/05/2013	07/05/2013	07/05/2013	07/05/2013	07/05/2013
02	Time of sampling	Hr.	17.00	10.10	11.00	11.50	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	158	165	55	311	---
08	Ambient Temperature	°C	36	31	33	34	---
09	Average Velocity of Flue Gases	M/Sec.	7.1	7.3	6.3	9.2	---
10	Isokinetic flow rate for P.M. Sampling	LPM	21	21	24	20	--
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	6	8	48	7	---
14	Permissible limits for SO2	mg/Nm3	40	40	40	40	100 (ppm)
15	Measured Concentration of SO2	mg/Nm3	5.8	6.5	N.D.	N.D.	---
16	Permissible limits for NOx	mg/Nm3	25	25	25	25	50 (ppm)
17	Measured Concentration of Nox	mg/Nm3	7.1	7.4	7.2	5.9	---

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

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

Both Stack kit have calibration Due on : 05/05/2014

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Ref. No.: 38/05/2013-14

Date: 31/05/2013

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

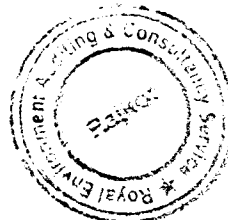
Sr. No.	Particulars	Unit	Stack No. 6	Stack No. 7	Stack No. 8	Stack No. 9
01	Date of Sampling	---	Not Running	07/05/2013	Not Running	Not Running
02	Time of sampling	Hr.	During Visit	12.30	During Visit	During Visit
03	Stack Attached to	---	6000 KVA D.G.	3240 KVA D.G.	3240 KVA D.G.	1180 KVA D.G.
04	Air 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	---	129	---	---
08	Ambient Temperature	°C	---	36	---	---
09	Average Velocity of Flue Gases	M/Sec.	---	6.5	---	---
10	Isokinetic flow rate for P.M. Sampling	LPM	---	20	---	---
11	Gaseous Sampling Flow Rate	LPM	---	2.00	---	---
12	Permissible limits for PM	mg/Nm ³	150	150	150	150
13	Measured Concentration of PM.	mg/Nm ³	---	34	---	---
14	Permissible limits for SO ₂	ppm	100	100	100	100
15	Measured Concentration of SO ₂	ppm	---	16.5	---	---
16	Permissible limits for Nox	ppm	50	50	50	50
17	Measured Concentration of Nox	ppm	---	12.8	---	---

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

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

Both Stack kit have calibration Due on : 05/05/2014

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Ref No 39/05/2013-14

Date 31/05/2013

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	Stack No. 6	Stack No. 7
01	Date of Sampling	---	06/05/2013	06/05/2013	06/05/2013	06/05/2013	06/05/2013	06/05/2013	06/05/2013
02	Time of sampling	Hr	9.00	Not Running During Visit	Not Running During Visit	Not Running During Visit	10.00	12.00	12.45
03	Stack Attached to	---	Shot Blasing (Coating Plant)	Shot Blasing (Coating Plant)	Shot Blasing (Coating Plant)	Bitumin Drying Oven - I	Common stack Bitumin Drying Oven - II & Boiler	Barrel Grinding - I	Barrel Grinding - II
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	Bag Filter	-	-	Bag Filter	Bag Filter
05	Stack Height	Meter	10.0	10.0	10.0	32.8	32.8	30	30
06	Stack Diameter	Meter	0.41	0.41	1.125	1.375	1.375	0.584	0.584
07	Stack Temperature	°C	32	---	---	---	135	39	38
08	Ambient Temperature	°C	29	---	---	---	31	35	35
09	Average Velocity of Flue Gases	M/Sec.	6.4	---	---	---	4.3	16.7	15.4
10	Isokinetic flow rate for P.M. Sampling	LPM	27	---	---	---	14	12	11
11	Gaseous Sampling Flow Rate	LPM	2.00	---	---	---	2.00	2.0	2.0
12	Permissible limits for PM	mg/Nm3	150	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm3	55	---	---	---	45	45	48
14	Permissible limits for SO2	mg/Nm3	40	40	40	100 ppm	100 ppm	40	40
15	Measured Concentration of SO2	mg/Nm3	5.0	---	---	---	17.1	3.1	3.0
16	Permissible limits for Nox	mg/Nm3	25	25	25	50 ppm	50 ppm	25	25
17	Measured Concentration of Nox	mg/Nm3	3.0	---	---	---	12.1	4.5	3.5

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

Both Stack kit have calibration Due on 05/05/2014

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Ref No 40/05/2013-14

Date 31/05/2013

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. 8	Stack No. 9	Stack No. 10	Stack No. 11	Stack No. 12	Stack No. 13
01	Date of Sampling	---	04/05/2013	04/05/2013	04/05/2013	04/05/2013	04/05/2013	04/05/2013
02	Time of sampling	Hr.	11.35	12.20	15.50	17.20	15.00	16.30
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 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	0.584	0.850
07	Stack Temperature	°C	60	57	50	46	47	45
08	Ambient Temperature	°C	32	36	39	36	36	39
09	Average Velocity of Flue Gases	M/Sec.	7.5	6.2	6.7	7.1	9.2	11.5
10	Isokinetic flow rate for P.M. Sampling	LPM	13	11	12	12	16	21
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	---	---	---	---
h	Permissible limits for PM	mg/Nm3	150	150	20 (Zn)	20 (Zn)	20 (Zn)	20 (Zn)
13	Measured Concentration of PM	mg/Nm3	32	34	16(Zn)	15 (Zn)	16(Zn)	14 (Zn)
14	Permissible limits for SO2	mg/Nm3	40	40	NA	NA	NA	NA
15	Measured Concentration of SO2	mg/Nm3	N.D.	N.D.	---	---	---	---
16	Permissible limits for Nox	mg/Nm3	25	25	NA	NA	NA	NA
17	Measured Concentration of Nox	mg/Nm3	4.7	3.5	---	---	---	---

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 have calibration Due on : 05/05/2014

Royal Environment Auditing & Consultancy Service



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Ref No. 41/05/2013-14

Date 31/05/2013

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. 14	Stack No. 15	Stack No. 16	Stack No. 17	Stack No. 18	Stack No. 19
01	Date of Sampling	---	02/05/2013	02/05/2013	02/05/2013	02/05/2013	02/05/2013	02/05/2013
02	Time of sampling	Hr	10.35	11.20	12.00	Not Running During Visit	16.00	15.00
03	Stack Attached to	---	Core Cleaning & Dusting-I	Core Cleaning & Dusting-II	Core Shop-I	Core Shop-II	Core Shop-III	Core Shop-IV
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	39	46	---	42	43
08	Ambient Temperature	°C	31	32	34	---	37	39
09	Average Velocity of Flue Gases	M/Sec	12.50	13.8	11.2	---	13.8	12.1
10	Isokinetic flow rate for P.M. Sampling	LPM	9	10	20	---	10	9
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	150
13	Measured Concentration of PM	mg/Nm3	45	41	30	---	33	31
14	Permissible limits for SO2	mg/Nm3	40	40	40	40	40	40
15	Measured Concentration of SO2	mg/Nm3	2.3	2.5	N.D.	---	3.9	3.1
16	Permissible limits for Nox	mg/Nm3	25	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm3	6.10	5.9	3.1	---	4.7	3.5

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 have calibration Due on : 05/05/2014

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Ref No 42/05/2013-14

Date: 31/05/2013

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. 20	Stack No. 21	Stack No. 22	Stack No. 23	Stack No. 24	Stack No. 25
01	Date of Sampling	---	07/05/2013	07/05/2013	07/05/2013	07/05/2013	05/05/2013	05/05/2013
02	Time of sampling	Hr.	15.00	16.35	15.45	17.20	15.00	15.45
03	Stack Attached to	---	Annealing Furnace - I	Annealing Furnace - I	Annealing 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	32	30	25	32
06	Stack Diameter	Meter	1.375	1.375	1.375	0.488	0.488	0.885
07	Stack Temperature	°C	137	146	164	43	44	77
08	Ambient Temperature	°C	40	39	39	38	39	38
09	Average Velocity of Flue Gases	M/Sec.	7.1	7.3	6.1	12.6	14.5	12.1
10	Isokinetic flow rate for P.M. Sampling	LPM	22	22	18	23	10	20
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 ³	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm ³	27	29	36	43	48	46
14	Permissible limits for SO ₂	mg/Nm ³	100 (PPM)	100 (PPM)	100 (ppm)	40	40	40
15	Measured Concentration of SO ₂	mg/Nm ³	3.2(PPM)	3.9(PPM)	3.7(PPM)	1.9	2.6	N.D
16	Permissible limits for Nox	mg/Nm ³	50 (PPM)	50 (PPM)	50 (PPM)	25	25	25
17	Measured Concentration of Nox	mg/Nm ³	4.9 (PPM)	5.1 (PPM)	5.8 (PPM)	4.7	5.2	N.D

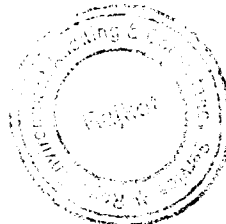
Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively

N.D= Not Detectable

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

Both Stack kit have calibration Due on : 05/05/2014

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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.: **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 4th & 5th of May. 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	3-5	4.0	10	Gravimetric	8	----	<i>Manoj</i>	Mr. Manoj Sonrat
2	JCO Plant Nr JCO Press	Total Dust		02	3-4	3.5	10	Gravimetric	6	----		
3	Sinter Plant At First Floor	Total Dust		02	2-4	3	10	Gravimetric	5	----		
4	BF Plant (Cast House)	CO		02	0.4-0.5	0.45	2	Gravimetric	9	----		
		Total Dust			3-4	3.5	10					
5	Coating Plant (Blasting Area)	Total Dust		02	4-6	5.0	10	Gravimetric	4	----		
6	DISP Plant Main Entrance	Total Dust	02	4-5	4.5	10	Gravimetric	10	----			

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

Calibration Date Due on 11/12/2013



For. Royal Environment Auditing & Consultancy Service

Authorized Sign



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Ref. No. : 44/05/2013-14

Date: 31/05/2013

WORK ZONE NOISE LEVEL MEASUREMENT

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

Date of Sampling : 4th & 5th of May, 2013

Sr. No.	Location of Sampling	Results Avg. in dB(A)
01.	Inside Control Room of Sinter Plant	67.8
02.	Nr. Stock House of BF	69.2
03.	Inside Control Room of BF	66.8
04.	Inside Control Room of Blower House	69.9
05.	Inside Control of Cast House	67.2
06.	Inside Control Room of CPP	68.7
07.	Inside Control Room of Annealing Furnace of DISP	65.5
08.	Inside Laboratory of BF	64.2
09.	Inside Laboratory of DISP	67.1
10.	Inside ID & OD Control Room of JCO Plant	66.6
11.	Inside Control Room – Mill area of Spiral Plant	70.5
12.	Inside Spiral – 1	73.5
13.	Nr. Pipe cutting Area of Spiral Plant	71.3
14.	Inside JCO Plant	68.5
15.	Nr. JCO Press	70.5
16.	Inside DISP Plant	73.2
17.	Inside Coating Plant	67.4

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. : 45/05/2013-14

Date: 31/05/2013

AMBIENT NOISE LEVEL MEASUREMENT

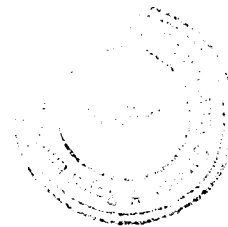
Name of company : Jindal Saw Limited,
Village: Samaghogha,
Tal. : Mundra, Dist. Kutch

Date of Sampling : 4th & 5th of May, 2013

Sr. No.	Location of Sampling	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
	Permissible Limits	75.0	70.0
01.	Nr. Admin. Building	68.7	66.1
02.	Nr. Old Colony	66.9	64.2
03.	Nr. LPG Yard	67.7	65.9
04.	Nr. Sinter Plant	72.1	68.4
05.	Nr. R. O. Plant	68.8	65.2
06.	Nr. Gate No. 2	65.7	64.4
07.	Nr. New Colony	69.2	65.6

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

Royal Environment Auditing & Consultancy Service



M. Chauhan
Analyst



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Ref. No. : 46/05/2013-14

Date: 31/05/2013

WATER SAMPLE ANALYSIS REPORT

Name of company : Jindal Saw Limited,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

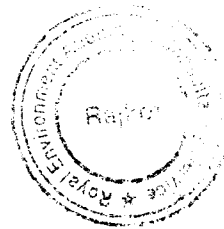
Date of Sample Collection : 12/05/2013

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	7.69
04.	T.D.S.	mg/l	500	2000	1298
05.	Total Hardness	mg/l	200	600	432
06.	Turbidity	NTU	1	5	1.2
07.	Chloride	mg/l	250	1000	511
08.	Alkalinity	mg/l	200	600	210
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	165
13.	Mg as Mg	mg/l	30	100	137
14.	Copper	mg/l	0.05	1.5	NIL
15.	Iron	mg/l	0.3	No Relaxation	0.20
16.	Manganese	mg/l	0.1	0.3	0.16
17.	Sulphate	mg/l	200	400	0.51
18.	Nitrate	mg/l	45	No Relaxation	10

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

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Ref. No. : 47/05/2013-14

Date: 31/05/2013

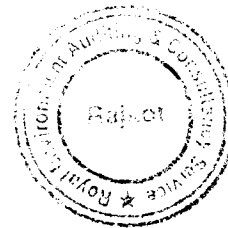
REPORT OF DOMESTIC WASTE WATER ANALYSIS

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

Source Of Sample Collection : Domestic Effluent After Treatment
Date of Sample Collection : 12/05/2013

Sr. No.	Parameters	Unit	GPCB limits	STP Inlet	STP Outlet
01.	pH	pH Unit	-----	7.75	7.20
02.	BOD (3 Days at 27°C)	mg/l	<20	193	8
03.	Suspended Solids	mg/l	<30	93	18
04.	Residual Chlorine	mg/l	Min. 0.5	----	0.64

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