



# Royal

## Environment Auditing & Consultancy Service

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

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

Ref. No. : 502/09/2015-16

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED

Village: Semaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	----	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	----	03/09/2015.	03/09/2015	03/09/2015
03.	Time of sampling	----	8.30	8.55	9.15
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	W	W	W
06.	Average Wind Speed	Km/Hr.	3.3	3.3	3.3
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>	53	40	35
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>	23	18	15
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>	2.3	2.7	1.8
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>	14.7	12.5	11.6
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL

Instrument used : (1) 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampler (AAS 106) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 25/05/2015

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values.

BDL= Below Detectable Limit



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Analyst



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## Environment Auditing & Consultancy Service

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

Ref. No. : 503/09/2015-15

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

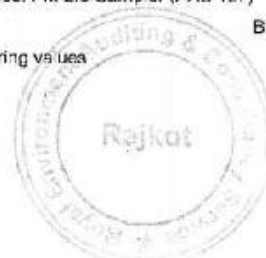
Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	04/09/2015	04/09/2015	04/09/2015
03.	Time of sampling	---	8.40	9.05	9.25
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	W	W	W
06.	Average Wind Speed	Km/Hr.	2.3	2.3	2.3
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>	56	43	30
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>	27	20	17
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>	2.9	3.1	1.6
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>	13.8	11.6	10.2
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL

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

All Calibration due on : 25/05/2016

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values



Royal Environment Auditing & Consultancy Service

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Ref. No. : 504/09/2015-18

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED  
Village: Samaghogha  
Tal. : Muncra, Dist. Kutch

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

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1, (NNW)	Nr. Workshop Spray - II (W)
02.	Date of sampling	---	06/09/2015	08/09/2015	08/09/2015
03.	Time of sampling	---	8.10	8.35	8.55
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	W	W	W
06.	Average Wind Speed	Km/Hr.	4.6	4.6	4.6
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 <sup>A</sup>	µg/m <sup>3</sup>	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	58	50	41
11.	Permissible limits for PM 2.5 <sup>A</sup>	µg/m <sup>3</sup>	60	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	26	23	18
13.	Permissible limits for SO <sub>2</sub> <sup>A</sup>	µg/m <sup>3</sup>	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	2.8	3.7	2.2
15.	Permissible limits for NO <sub>2</sub> <sup>A</sup>	µg/m <sup>3</sup>	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	18.7	16.2	15.4
17.	Permissible limit for CO <sup>**</sup>	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL

Instrument used: (1) 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampler (AAS 100) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on: 25/05/2016

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 18th November 2009. & \*\* Results are 8 hourly monitoring values.

Royal Environment Auditing & Consultancy Service

*Signature*



*Signature*  
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Ref. No : 505/09/2015-16

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED  
 Village: Samagnogha,  
 Ta. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	09/09/2015	09/09/2015	09/09/2015
03.	Time of sampling	---	8.20	8.45	9.05
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	W	W	W
06.	Average Wind Speed	Km/ Hr.	4.6	4.6	4.6
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 <sup>*</sup>	µg/m <sup>3</sup>	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	54	47	38
11.	Permissible limits for PM 2.5 <sup>*</sup>	µg/m <sup>3</sup>	50	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	24	19	13
13.	Permissible limits for SO <sub>2</sub> <sup>*</sup>	µg/m <sup>3</sup>	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	3.3	4.5	2.6
15.	Permissible limits for NO <sub>2</sub> <sup>*</sup>	µg/m <sup>3</sup>	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	17.5	15.3	14.4
17.	Permissible limit for CO <sup>**</sup>	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL

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

All Calibration due on : 25/05/2016

BDL - Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values.

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Ref. No. : 506/09/2015-16

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	16/09/2015	16/09/2015	16/09/2015
03.	Time of sampling	---	8.00	8.20	8.45
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	W	W	W
06.	Average Wind Speed	Km/Hr.	4.2	4.2	4.2
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>	41	52	29
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>	18	25	11
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>	4.2	3.3	2.1
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>	17.4	16.2	12.9
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL

Instrument used : (1) 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. of Gaseous Sampler (AAS 100) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 25/05/2016

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values.



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Ref. No. : 507/00/2015-16

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED

Village: Samaghogha,

Tal. : Muncra, Dist. Kutch

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

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	17/09/2015	17/09/2015	17/09/2015
03.	Time of sampling	---	8.10	8.30	8.55
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	W	W	W
06.	Average Wind Speed	Km/Hr.	5.4	5.4	5.4
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>	46	59	33
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>	20	26	13
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>	3.9	2.4	1.7
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>	16.7	15.1	12.6
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL

Instrument used : (1) 3 Nos. RDS (APM - 217 BL) (2) 3 Nos. of Gaseous Sampler (AAS 100) (3) 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 25/05/2016

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2008. & \*\* Results are 8 hourly monitoring values.

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Ref. No. : 508/09/2015-18

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	21/09/2015	21/09/2015	21/09/2015
03.	Time of sampling	----	8.15	8.30	8.50
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.	4.3	4.3	4.3
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2
09.	Permissible limits for PM 10*	µg/m3	100	100	100
10.	Measured Concentration of PM 10	µg/m3	42	54	35
11.	Permissible limits for PM 2.5*	µg/m3	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	21	25	18
13.	Permissible limits for SO <sub>2</sub> *	µg/m3	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m3	3.5	4.8	2.6
15.	Permissible limits for NO <sub>2</sub> *	µg/m3	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m3	20.6	19.2	17.4
17.	Permissible limit for CO **	µg/m3	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	BDL	BDL	BDL

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

All Calibration due on: 25/05/2015

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values.

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Ref. No. : 509/09/2015-16

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182\_Part - 2/5/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	22/09/2015	22/09/2015	22/09/2015
03.	Time of sampling	---	8.25	8.40	9.00
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.	4.3	4.3	4.3
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>	48	57	31
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>	17	28	14
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>	2.8	3.9	2.3
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>	19.8	18.3	16.1
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL

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

All Calibration due on : 25/05/2016

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 6 hourly monitoring values.

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Ref. No. : 510/09/2015-16

Date: 04/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED  
Village, Samaghogha  
Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	28/09/2015	28/09/2015	28/09/2015
03.	Time of sampling	---	8.25	8.45	9.05
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	W	W	W
06.	Average Wind Speed	Km/Hr.	4.7	4.7	4.7
07.	Average flow rate during sampling	m <sup>3</sup> /hr.	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPV	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>	36	47	28
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>	15	21	11
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>	3.4	2.7	1.5
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>	16.5	14.7	12.8
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	B.D.L.	B.D.L.	B.D.L.

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

All Calibration due on: 25/05/2016

B. D. L= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values.

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Analyst



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## Environment Auditing & Consultancy Service

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Ref. No. : 511/09/2015-15

Date: 01/10/2015

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT

Name of company: JINDAL SAW LIMITED  
 Village: Samaghogha,  
 Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5132\_Part - 2/6/10/23

Sr. No.	Particulars	Unit	NAAQMS - 1	NAAQMS - 2	NAAQMS - 3
01.	Location of Ambient	---	Main Gate (S)	Sinter Plant - 1 (NNW)	Nr. Workshop Spiral - II (W)
02.	Date of sampling	---	29/09/2015	29/09/2015	29/09/2015
03.	Time of sampling	---	8.35	8.55	9.15
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	W	W	W
06.	Average Wind Speed	Km/Hr	4.7	4.7	4.7
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>	39	44	25
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>	18	24	13
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>	3.8	2.2	1.7
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>	15.3	13.5	11.2
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	B.D.L.	B.D.L.	B.D.L.

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

All Calibration due on : 25/05/2016

B.D.L= Below Detectable Limit

\*Permissible limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values.

Royal Environment Auditing & Consultancy Service

*[Handwritten Signature]*



*[Handwritten Signature]*  
Analyst



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Ref. No. : 512/09/2015-16

Date: 04/10/2015

### AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED  
Village: Samaghogha.  
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5132 Part - 2/6/10/23

Sr.No.	Particulars	Unit	AAQM - 1 (S)	AAQM - 2 (SSW)	AAQM - 3 (WSW)	AAQM - 4 (NW)
01.	Location of Ambient	---	Old Colony (Nr. Environment Laboratory)	Nr. Rain Water Harvesting	LPG Yard (Nr. Water Reservoir)	Between Sinter - 2 & Spiral - 2
02.	Date of sampling	---	08/09/2015	08/09/2015	08/09/2015	09/09/2015
03.	Time of sampling	----	9.15	9.35	10.00	9.25
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	----	W	W	W	WSW
06.	Average Wind Speed	Km/Hr.	7.9	7.9	7.9	4.8
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.0	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM.	0.2	0.2	0.2	0.2
09.	Permissible limits for PM 10*	µg/m <sup>3</sup>	100	100	100	100
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	28	49	51	47
11.	Permissible limits for PM 2.5*	µg/m <sup>3</sup>	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	13	21	24	16
13.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	1.1	2.3	3.1	1.8
15.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	9.7	13.1	12.6	10.7
17.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL	BDL

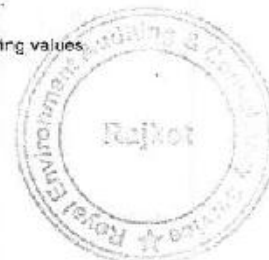
Instrument used : (1) Ecotech make 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampling Kit (APM 109), & 3 Nos. PM 2.5 Sampler (AAS 127)

All Calibration due on : 25/05/2016

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAQ Standard 16th November 2009. & \*\* Results are 8 hourly monitoring values.

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Ref. No. : 513/09/2015-16

Date: 04/10/2015

### AMBIENT AIR QUALITY MONITORING REPORT

Name of company : JINDAL SAW LIMITED  
 Village: Samaghogha,  
 Tal. : Mundra, Dist. Kutch

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

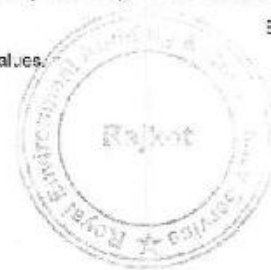
Sr. No.	Particulars	Unit	AAQM - 5 (NE)	AAQM - 6 (SE)	AAQM - 7 (ESE)	AAQM - 8 (E)
01.	Location of Ambient	---	Labour Colony	New Colony (Shopping Centre)	VIP Guest House	Weigh bridge
02.	Date of sampling	---	10/09/2015	09/09/2015	10/09/2015	10/09/2015
03.	Time of sampling	---	9.45	9.50	10.05	10.25
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	WSW	WSW	WSW	WSW
06.	Average Wind Speed	Km/Hr.	2.7	4.8	2.7	2.7
07.	Average flow rate during sampling	m3/Hr.	1.0	1.0	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2	0.2	0.2
09.	<b>Permissible limits for PM 10*</b>	µg/m3	100	100	100	100
10.	Measured Concentration of PM 10	µg/m3	42	54	38	60
11.	<b>Permissible limits for PM 2.5*</b>	µg/m3	60	60	60	60
12.	Measured Concentration of PM 2.5	µg/m3	19	27	15	29
13.	<b>Permissible limits for SO<sub>2</sub>*</b>	µg/m3	80	80	80	80
14.	Measured Concentration of SO <sub>2</sub>	µg/m3	3.4	3.9	2.8	4.2
15.	<b>Permissible limits for NO<sub>2</sub>*</b>	µg/m3	80	80	80	80
16.	Measured Concentration of NO <sub>2</sub>	µg/m3	11.2	10.1	11.9	13.8
17.	<b>Permissible limit for CO **</b>	µg/m3	2000	2000	2000	2000
18.	Measured Concentration of CO	µg/m3	BDL	BDL	BDL	BDL

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

All Calibration due on : 25/05/2016

BDL= Below Detectable Limit

\*Permissible Limits are as per NAAC Standard, 16th November 2009, & \*\* Results are 8 hourly monitoring values.



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Ref. No. :514/09/2015-16

Date: 04/10/2015

### FUGITIVE EMISSION MONITORING REPORT

Name of company : JINDAL SAW LIMITED  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 5182\_Part - 2/6/10/23/22

Sr. No.	Particulars	Unit	A - 1	A - 2	A - 3
01.	Location of Ambient	----	RMH Junction House	RMH Stock House	Sinter RMH Yard
02.	Date of sampling	---	14/09/2015	14/09/2015	15/09/2015
03.	Time of sampling	----	8.05	8.30	8.15
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	----	WNW	WNW	W
06.	Average Wind Speed	Km/Hr.	7.7	7.7	5.8
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 <sup>*</sup>	µg/m <sup>3</sup>	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1597	2109	1915
11.	Permissible limits for SO <sub>2</sub> <sup>*</sup>	µg/m <sup>3</sup>	150	150	150
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	11.5	10.7	12.6
13.	Permissible limits for NO <sub>2</sub> <sup>*</sup>	µg/m <sup>3</sup>	120	120	120
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	28.2	27.4	25.6
15.	Permissible limit for CO <sup>**</sup>	µg/m <sup>3</sup>	2000	2000	2000
16.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL
17.	Permissible limit for Pb <sup>*</sup>	µg/m <sup>3</sup>	2	2	2
18.	Measured Concentration of Pb	µg/m <sup>3</sup>	ND	ND	ND

Instrument used : (1) 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampler (APM 105)  
All Calibration due on : 25/05/2016

BDL - Below Detectable Limit  
ND - Not Detectable

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Ref. No. :515/09/2015-13

Date: 04/10/2015

### FUGITIVE EMISSION MONITORING REPORT

Name of company : JINDAL SAW LIMITED

Village: Samaghogha,

Tal.: Mundra, Dist. Kutch

Test Method : As per IS Standards - 5102\_Part - 2/6/10/23/22

Sr. No.	Particulars	Unit	A - 4	A - 5	A - 6
01.	Location of Ambient	---	Sinter 2 Ground Hopper	DISP "CCM" Area	BF CAST HOUSE
02.	Date of sampling	---	15/09/2015	16/09/2015	16/09/2015
03.	Time of sampling	---	8.45	8.10	8.35
04.	Duration of Sampling	Hr.	8.00	8.00	8.00
05.	Dominant Wind Direction (From)	---	W	W	W
06.	Average Wind Speed	Km/Hr.	5.6	4.2	4.2
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>	3000	3000	3000
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1234	623	2254
11.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	150	150	150
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	9.2	13.2	9.9
13.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	120	120	120
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	23.1	30.6	28.3
15.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000
16.	Measured Concentration of CO	µg/m <sup>3</sup>	BDL	BDL	BDL
17.	Permissible limit for Pb*	µg/m <sup>3</sup>	2	2	2
18.	Measured Concentration of Pb	µg/m <sup>3</sup>	ND	ND	ND

Instrument used : (1) 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampler (APM 109)

All Calibration due on : 25/05/2016

BDL= Below Detectable Limit  
ND= Not Detectable

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Ref. No. : 516/09/2015-16

Date: 04/10/2015

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

Name of company : JINDAL SAW LIMITED,

Village: Samagnogha,

Tal. Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 2	S - 3	S - 6
01	Date of Sampling	---	08/09/2015	Not in operation during visit	08/09/2015	09/09/2015
02	Attached to	---	Fuel & Flux crusher & screening building	Fuel & Flux crushing house	Sinter Furnace	Discharge end
03	Stack Height	Meter	32	27	50	32
04	Stack Diameter	Meter	1.4	1.4	2.0	1.3
05	Stack Temperature	°C	57	...	137	119
06	Ambient Temperature	°C	35	...	31	31
07	Average Velocity of Flue Gases	m/sec.	16.8	...	35.8	32.6
08	IsoKinetic Flowrate for Sampling	LPM	28	...	13	12
09	Inlet	mg/Nm <sup>3</sup>	2624	...	2678	2274
10	Outlet	mg/Nm <sup>3</sup>	26	...	51	19
11	Efficiency	%	98.97	...	98.10	99.16

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 - Veyubochar make - VSS I

Calibration due on 25/09/2016

Royal Environment Auditing & Consultancy Service

*S. J. Jadhav*



*M. K. Jadhav*  
Analyst



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Ref. No. : 517/09/2015-16

Date: 04/10/2015

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1
01	Date of Sampling	--	19/09/2015
02	Attached to	---	De-dustingSystem
03	Stack Height	Meter	35
04	Stack Duct Diameter	Meter	1.4
05	Stack Temperature	°C	52
06	Ambient Temperature	°C	35
07	Average Velocity of Flue Gases	m/sec.	13.5
08	IsoKinetic Flowrate for Sampling	LPM	23
09	Inlet	mg/Nm <sup>3</sup>	2637
10	Outlet	mg/Nm <sup>3</sup>	18
11	Efficiency	%	99.32

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

Calibration due on 25/09/2016

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Ref. No. : 518/06/2015-15

Date: 04/10/2015

### Performance Evaluation of Air Pollution Control Equipments

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

Name of company : JINJAL SAW LIMITED,  
Village: Sawanglogha,  
Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11256\_Part - 1/3

Sr. No.	Particulars	Unit	S-1	S-2	S-3	S-7	S-9	S-10
01	Date of Sampling	---	Nil in operation during visit	Not in operation during visit	Not in operation during visit	24/09/2015	24/09/2015	Not in operation during visit
02	Attached to	---	Fuel crushing de-duster system (Fuel)	Fuel crushing de-duster system (Flux)	Fuel screening de-duster system (Flux screening)	Sinter Furnace	Discharging end of Sinter de-dusting System	Pulverised Cool Injection
03	Stack Height	Meter	30	30	30	50	70	37
04	Stack Diameter	Meter	0.7	0.7	0.7	2.0	1.5	1.0
05	Stack Temperature	°C	---	---	---	141	97	---
06	Ambient Temperature	°C	---	---	---	30	32	---
07	Average Velocity of Flue Gases	m/sec.	---	---	---	33.8	35.9	---
08	Isokinetic Flowrate for Sampling	LPM	---	---	---	12	15	---
09	Inlet	mg/Nm <sup>3</sup>	---	---	---	3679	2152	---
10	Outlet	mg/Nm <sup>3</sup>	---	---	---	59	23	---
11	Efficiency	%	---	---	---	98.40	99.02	---

Note : Minimum Detectable Limit of SO<sub>2</sub>, H<sub>2</sub>S, NO<sub>x</sub> & CO are 0.1 and 0.01 ppm respectively.  
Instrument Used : 2 Nos of Stack Monitoring Kit - Vayu-bodhan make - VSS I  
Calibration due on 25/06/2016

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Mehraj  
Analyst



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Ref. No.: 518/09/2015-16

Date: 04/10/2015

### Performance Evaluation of Air Pollution Control Equipments

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha

Tal.: Munera, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 7	S - 8	S - 12	S - 18	S - 22
01	Date of Sampling	—	10/09/2015	10/09/2015	11/09/2015	15/09/2015	18/09/2015
02	Attached to		Sand Reclamation	Common stack Mg Converter - I & II	Core Cleaning & Dusting - I	Core Cleaning & Dusting - II	Mg Converter - III
03	Stack Height	Meter	32	30	30	30	30
04	Stack Diameter	Meter	0.9	0.5	0.6	0.6	0.6
05	Stack Temperature	°C	108	59	54	57	80
06	Ambient Temperature	°C	35	31	34	35	34
07	Average Velocity of Flue Gases	m/sec	29.8	16.4	15.8	17.1	16.2
08	IsoKinetic Flowrate for Sampling	LPM	11	26	27	29	26
09	Inlet	mg/Nm <sup>3</sup>	3516	4021	3027	2897	2533
10	Outlet	mg/Nm <sup>3</sup>	33	38	40	31	43
11	Efficiency	%	99.06	99.05	98.68	98.93	98.37

Note: Minimum Detectable Limit of SO<sub>2</sub> & NO<sub>x</sub> is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan mark - VSSI

Calibration due on 25/09/2015

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*[Handwritten Signature]*



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Ref. No.: 520/05/2016-16

Date: 04/10/2015

### Performance Evaluation of Air Pollution Control Equipments

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

Name of company : JINDAL SAW LIMITED  
 Village: Samaghoha,  
 Tal.: Mundla, Dist. Kutch

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

Sr. No. Particulars	Unit	S - 8	S - 10	S - 16	S - 18	S - 20	S - 21	S - 23
01 Date of Sampling	---	13/09/2015	Not in operation during visit	12/09/2015	Not in operation during visit	12/09/2015	Not in operation during visit	13/09/2015
02 Attached to		Zinc Coating - I	Barrel Grinding-I	Zinc Coating - II	Barrel Grinding-II	Zinc Coating - III	Barrel Grinding-III	Zinc Coating - IV & V
03 Stack Height	Meter	30	30	30	30	30	30	30
04 Stack Dia. Diameter	Meter	0.6	0.6	0.6	0.6	0.6	0.6	0.6
05 Stack Temperature	°C	58	...	52	...	53	...	51
06 Ambient Temperature	°C	33	...	32	...	33	...	33
07 Average Velocity of Flue Gases	m/sec.	17.1	...	16.5	...	15.2	...	14.5
08 Isokinetic Flowrate for Sampling	LPM	29	...	28	...	26	...	25
09 Inlet	mg/Nm <sup>3</sup>	1764	...	2015	...	1610	...	1258
10 Outlet	mg/Nm <sup>3</sup>	17	...	15	...	19	...	10
11 Efficiency	%	99.04	...	99.25	...	98.32	...	99.20

Note: Minimum Detectable Limit of SO<sub>2</sub> & NO<sub>x</sub> is 0.1 and 0.01 ppm respectively.  
 Instrument Used: 2 Nos of Stack Monitoring Kit - Vajubodhan make - vss |  
 Calibration due on 25/05/2016

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Ref. No. : 521/09/2015-16

Date: 04/10/2015

### Performance Evaluation of Air Pollution Control Equipments

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 5	S - 6	S - 8
01	Date of Sampling	--	21/09/2015	21/09/2015	21/09/2015	20-09-2015
02	Attached to	--	Mg Treatment	Zinc Coating	Tri-Grinding	Zinc Coating machine
03	Stack Height	Meter	30	30	30	30
04	Stack Duct Diameter	Meter	1.00	1.00	1.00	0.8
05	Stack Temperature	°C	51	49	45	53
06	Ambient Temperature	°C	30	33	33	32
07	Average Velocity of Flue Gases	m/sec.	14.2	15.3	13.1	14.8
08	IsoKinetic Flowrate for Sampling	LPM	24	26	23	25
09	Inlet	mg/Nm <sup>3</sup>	2674	2967	2361	1521
10	Outlet	mg/Nm <sup>3</sup>	39	31	24	5
11	Efficiency	%	93.54	98.96	98.98	99.47

Note : Minimum Detectable Limit of SO<sub>2</sub> & NO<sub>x</sub> is 0.1 and 0.01 ppm respectively.

Instrument Used : 2 Nos of Stack Monitoring KIL - Vayubudhan make - VSS I

Calibration due on 25/09/2016

Royal Environment Auditing & Consultancy Service



Manoj  
Analyst



# Royal

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Ref. No. : 522/09/2015-18

Date: 04/10/2015

### Performance Evaluation of Air Pollution Control Equipments

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 4	S - 5
01	Date of Sampling	---	18/09/2015	18/09/2015	18/09/2015
02	Attached to	---	Dedusting System	Coke fine building dust collecting system	Iron Ore fine & Dust Collecting System
03	Stack Height	Meter	40	30	30
04	Stack Duct Diameter	Meter	1.5	0.85	0.65
05	Stack Temperature	°C	64	69	45
06	Ambient Temperature	°C	31	33	34
07	Average Velocity of Flue Gases	m/sec.	34.6	17.4	14.3
08	IsoKinetic Flowrate for Sampling	LPM	15	28	25
09	Inlet	mg/Nm <sup>3</sup>	3896	2113	1822
10	Outlet	mg/Nm <sup>3</sup>	40	5	4
11	Efficiency	%	98.97	99.76	99.78

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

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

Calibration due on: 25/09/2015

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Ref. No.: 523/05/2015-16

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAW LIMITED,  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 2	S - 3	S - 4	S - 5	S - 6
01	Date of Sampling	---	08/09/2015	Not in operation during visit	08/09/2015	NA	NA	08/09/2015
02	Time of sampling	---	15.10		9.00			10.40
03	Stack Attached to	---	Fuel & Flux Crusher and Screening building	Fuel & Flux Crushing House	Sinter Furnace	Primary Mixture House	Secondary Mixture House	Discharge End
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	ESP	---	---	ESP
05	Stack Height	Meter	32.0	27.00	50	19.75	38.08	32
06	Stack Diameter	Meter	1.40	1.40	2.0	1.25	1.25	1.30
07	Stack Temperature	°C	44	---	151	---	---	129
08	Ambient Temperature	°C	35	---	31	---	---	33
09	Average Velocity of Flue Gases	m/sec.	12.5	---	0.2	---	---	15.2
10	Isokinetic flow rate for P.M. Sampling	LPM	22	---	19	---	---	19
11	Gaseous Sampling Flow Rate	LPM	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>	26	---	51	---	---	19
14	Permissible limits for SO <sub>2</sub>	ppm	NA	NA	100	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	---	---	ND	---	---	---
16	Permissible limits for NO <sub>x</sub>	ppm	NA	NA	50	NA	NA	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	---	---	8.5	---	---	---

Note: Minimum Detectable Limit of SO<sub>2</sub> & NO<sub>x</sub> is 0.1 and 0.01 ppm respectively.

NA= Not Applicable

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

Calibration due on : 25/03/2015

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Ref. No. : 524/09/2015-16

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

Sinter Plant -2 (GPCB ID:29017)

Name of company: JINDAL SAW LIMITED

Village: Samagnogha,

Tal: Mundra, Dist: Kutch

Test Method : As per IS Standards - 11265, Part - 1/2/3/7

Sr. No.	Particulate	Unit	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10
01	Date of Sampling	---	Not in operation during visit	Not in operation during visit	Not in operation during visit	Not in operation during visit	NA	NA	24/09/2015	Not in operation during visit	24/09/2015	Not in operation during visit
02	Time of sampling	Hr.	---	---	---	---	---	---	3.45	---	11.00	---
03	Stack Attached to	---	Fuel crushing de-duster system (Flux)	Fuel crushing de-duster system (Flux)	Fuel Screening de-duster System (Flux Screening)	No. 1 Transfer Station De-duster System	Primary Mixer De-duster system	Secondary Mixer De-duster system	Sinter Furnace	Transfer station no. 4 & 5 dedusting system	Discharging End of sinter de-dusting system	Pulverized Coal Injection
04	Air Pollution Control Measures	---	Dust Collector	Dust Collector	Dust Collector	Dust Collector	Dust Collector	Dust Collector	ESP	Dust Collector	ESP	Bag Filter
05	Stack Height	Meter	30	30	30	30	20	30	50	50	50	30
06	Stack Diameter	Meter	0.7	0.7	0.7	0.7	---	---	2	0.7	1.3	1.00
07	Stack Temperature	°C	---	---	---	---	---	---	151	---	101	---
08	Ambient Temperature	°C	---	---	---	---	---	---	30	---	32	---
09	Average Velocity of Flue Gases	m/sec.	---	---	---	---	---	---	11.3	---	27.8	---
10	Isokinetic Flow rate for P.M. Sampling	LPM	---	---	---	---	---	---	15	---	10	---
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	---	---	2.0	---	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	---	---	---	---	---	---	58	---	21	---
14	Permissible limits for SO <sub>2</sub>	ppm	NA	NA	NA	NA	NA	NA	100	NA	NA	100 (ppm)
15	Measured Concentration of SO <sub>2</sub>	ppm	---	---	---	---	---	---	ND	---	---	---
16	Permissible limits for NO <sub>x</sub>	ppm	NA	NA	NA	NA	NA	NA	50	NA	NA	50 (ppm)
17	Measured Concentration of NO <sub>x</sub>	ppm	---	---	---	---	---	---	10.3	---	---	---

Note: Minimum Detectable Limit of SO<sub>2</sub> & NO<sub>x</sub> is 0.1 and 0.01 ppm respectively.

Instrument Used: 2 Nos of Stack Monitoring Kit - Vayubhedan make VSE 1

Calibration due on: 25/09/2016

NA= Not Applicable

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Ref. No. : 025/09/2015-16

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal : Mundra, Dist: Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 2	S - 3	S - 4	S - 5
01	Date of Sampling	---	18/09/2015	18/09/2015	Monitoring Not Possible	18/09/2015	18/09/2015
02	Time of sampling	Hr.	9.50	8.20	---	11.05	15.10
03	Stack Attached to	---	Dedusting System	Stove Stack	Hare Stack	Coke fine building dust collecting system	Iron Ore fine & Dust Collecting System
04	Air Pollution Control Measures	---	Bag Filter	---	---	Bag Filter	Bag Filter
05	Stack Height	Meter	40.0	65.0	45	30.0	30.0
06	Stack Diameter	Meter	1.5	2.250	---	---	0.85
07	Stack Temperature	°C	49	225	---	53	34
08	Ambient Temperature	°C	31	29	---	33	34
09	Average Velocity of Flue Gases	m/sec.	30.6	2.9	---	14.4	11.1
10	Iso-kinetic flow rate for P.M. Sampling	LPM	13	7	---	25	20
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	---
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>	40	2	---	5	4
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	NA	NA	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	---	---	---	---	---
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	NA	NA	NA	NA	NA
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	---	---	---	---	---

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

NA=Not Applicable

Instrument Used : Stack Monitoring Kit - Vayubodhan make - VSS 1

Calibration due on 25/09/2016

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Ref. No. : 525/09/2015-16

Date: 04/10/2016

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAW LIMITED,  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 2	S - 3	S - 4	S - 5
01	Date of Sampling	---	19/09/2015	19/09/2015	19/09/2015	19/09/2015	Monitoring Not Possible
02	Time of sampling	Hr.	14.50	9.20	10.30	8.00	
03	Stack Attached to	---	Dedusting System	Boiler - I	Boiler - II	Stove Stack	Flare Stack
04	Air Pollution Control Measures	---	Bag Filter	---	---	---	---
05	Stack Height	Meter	35.0	45	45	60.0	30
06	Stack Diameter	Meter	1.5	1.4	1.4	2.25	---
07	Stack Temperature	°C	40	172	179	230	---
08	Ambient Temperature	°C	35	32	33	30	---
09	Average Velocity of Flue Gases	m/sec.	12.6	4.1	4.3	3.1	---
10	Isokinetic flow rate for P.M. Sampling	LPM	22	12	12	8	---
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>	18	8	11	3	---
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	ND	ND	ND	ND	---
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	ND	ND	ND	ND	---

Note: Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.  
Instrument Used: Stack Monitoring Kit - Vayubodhan make - VSS I  
Calibration due on 25/09/2016

N.D=Not Detectable

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Ref. No. : 527/09/2015-18

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 2	S - 3	S - 4
01	Date of Sampling	---	15/09/2015	23/09/2015	23/09/2015	15/09/2015
02	Time of sampling	Hr.	9.10	9.30	10.40	10.25
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	254	238	227	219
08	Ambient Temperature	°C	29	30	33	33
09	Average Velocity of Flue Gases	m/sec.	18.4	15.7	16.2	17.8
10	Isckinetic flow rate for P.M. Sampling	LPM	19	17	18	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
13	Measured Concentration of PM.	mg/Nm3	58	47	55	40
14	Permissible limits for SO2	ppm	100	100	100	100
15	Measured Concentration of SO2	ppm	30.8	25.9	24.6	23.9
16	Permissible limits for Nox	ppm	50	50	50	50
17	Measured Concentration of Nox	ppm	22.1	19.5	20.3	19.2

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

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

Calibration due on 25/09/2016

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Ref. No. : 528/09/2015-16

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAW LIMITED,  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 11	S - 17	S - 25	S - 26	S - 27
01	Date of Sampling	---	Not In Operation During The Visit	11/09/2015	23/09/2015	23/09/2015	Not In Operation During The Visit
02	Time of sampling	Hr.		9.15	15.25	16.30	
03	Stack Attached to	---	Bitumin Drying Oven - I	Common stack Bitumin Drying Oven - II & Boiler	Shot Blasing - I	Shot Blasing - II	Shot Blasing - III
04	Air Pollution Control Measures	---	---	---	Bag Filter	Bag Filter	Bag Filter
05	Stack Height	Meter	32.8	32.8	10.0	10.0	10.0
06	Stack Diameter	Meter	1.375	1.375	0.41	0.41	1.125
07	Stack Temperature	°C	---	148	43	40	---
08	Ambient Temperature	°C	---	31	35	35	---
09	Average Velocity of Flue Gases	m/sec.	---	5.4	13.8	12.4	---
10	Isokinetic flow rate for P.M. Sampling	LPM	---	16	24	22	---
11	Gaseous Sampling Flow Rate	LPM	---	2.0	---	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	---	88	53	42	---
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	100 ppm	100 ppm	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	---	19.6	ND	ND	---
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	50 ppm	50 ppm	25	25	25
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	---	17.8	ND	ND	---

Note : Minimum Detectable Limit of SO<sub>2</sub> & Nox is 0.1 and 0.01 ppm respectively.  
Instrument Used : 2 Nos of Stack Monitoring Kit - Vayubodhan make - VSS I  
Calibration due on 25/09/2016

N,D= Not Detectable

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Ref. No. : 529/09/2015-18

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 8	S - 9	S - 15	S - 20	S - 22	S - 23
01	Date of Sampling	---	10/09/2015	10/09/2015	12/09/2015	12/09/2015	16/09/2015	15/09/2015
02	Time of sampling	Hr	9.45	10.50	9.30	10.40	10.10	10.15
03	Stack Attached to	---	Common stack Mg Converter-I&II	Zn Coating - I	Zn Coating - II	Zn Coating - III	Mg Converter - III	Zn Coating - IV & V
04	Air Pollution Control Measures	---	Bag Filter	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter	Bag Filter	Cyclone Separator & Bag Filter
05	Stack Height	Meter	30	30	30	30	30	30
06	Stack Diameter	Meter	0.5	0.6	0.6	0.6	0.5	0.9
07	Stack Temperature	°C	48	45	47	43	56	40
08	Ambient Temperature	°C	31	33	32	33	34	33
09	Average Velocity of Flue Gases	m/sec.	21.9	13.6	14.5	18.7	11.3	4.2
10	Isokinetic flow rate for P.M. Sampling	LPM	10	24	25	26	20	18
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	---	2.0	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	20 (Zn)	20 (Zn)	20 (Zn)	150	20 (Zn)
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	38	17 (Zn)	15 (Zn)	19 (Zn)	43	10 (Zn)
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	NA	NA	NA	40	NA
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	ND	---	---	---	ND	---
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	25	NA	NA	NA	25	NA
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	2.8	---	---	---	2.1	---

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

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

Calibration due on 25/09/2016

NA=Not Applicable

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*Signature*



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Analyst



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Ref. No.: 500/09/2015-18

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAW LIMITED,  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 2	S - 3	S - 4	S - 5	S - 6	S - 12	S - 18
01	Date of Sampling	—	09/09/2015	09/09/2015	09/09/2015	09/09/2015	09/09/2015	09/09/2015	11/09/2015	15/09/2015
02	Time of sampling	Hr.	9.30	10.35	11.30	14.20	15.30	16.25	11.10	14.35
03	Stack Attached to	—	Core Shop-I	Core Shop-II	Core Shop-III	Core Shop-IV	Core Shop-V	Core Shop-VI	Core Cleaning & Dusting-I	Core Cleaning & Dusting-II
04	Air Pollution Control Measures	—	—	—	—	—	—	—	Bag Filter	Bag Filter
05	Stack Height	Meter	30	30	30	30	30	30	30	30
06	Stack Diameter	Meter	0.584	0.584	0.584	0.584	0.584	0.584	0.6	0.6
07	Stack Temperature	°C	30	39	39	41	40	38	48	50
08	Ambient Temperature	°C	31	32	33	34	34	34	34	35
09	Average Velocity of Flue Gases	m/sec.	4.1	3.9	4.3	4.9	4.0	4.5	4.2	4.9
10	Isokinetic flow rate for P.M. Sampling	LPM	17	16	17	20	19	19	25	26
11	Caseous Sampling flow Rate	LPM	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	16	35	22	30	38	29	40	31
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	40	40	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	3.7	3.1	3.8	2.5	3.3	2.5	ND	ND
16	Permissible limits for Nox	mg/Nm <sup>3</sup>	25	25	25	25	25	25	25	25
17	Measured Concentration of Nox	mg/Nm <sup>3</sup>	1.8	1.4	1.2	1.6	2.1	1.1	2.8	3.2

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 - Vayubudhan make - VSS I

Calibration due on 26/09/2016

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*[Handwritten Signature]*



*[Handwritten Signature]*  
Analyst



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Ref. No. : 531/09/2015-10

Date: 04/10/2015

### STACK EMISSION MONITORING RESULTS

Pipe Plant (GPCB ID:18036)

Name of company : JINDAL SAW LIMITED

Village: Samaghogha

Tal. : Mundra, Dist. Kutch

Test Method : As per IS Standards - 11265\_1/2/3/7

Sr. No.	Particulars	Unit	S - 7	S - 10	S - 13	S - 14	S - 16	S - 19	S - 21	S - 24
01	Date of Sampling	---	10/09/2015	Not in operation during visit	11/09/2015	11/09/2015	Not in operation during visit	12/09/2015	Not in operation during visit	Not in operation during visit
02	Time of sampling	Hr	14.30		10.40	15.50		11.00		
03	Stack Attached to	---	Sand Reclamation	Barrel Grinding - I	Annealing Furnace - I	Annealing Furnace - II	Barrel Grinding - II	Annealing Furnace - III	Barrel Grinding-III	Barrel Grinding -IV&V
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	---	---	Bag Filter	---	Bag Filter	Bag Filter
05	Stack Height	Meter	32	30	32	32	30	32	30	30
06	Stack Diameter	Meter	0.9	0.8	1.375	1.375	0.6	1.375	0.5	0.5
07	Stack Temperature	°C	84	---	165	198	---	162	---	---
08	Ambient Temperature	°C	35	---	34	35	---	35	---	---
09	Average Velocity of Flue Gases	m/sec	16.7	---	5.6	5.8	---	5.0	---	---
10	Isokinetic flow rate for P.M. Sampling	LPM	27	---	16	17	---	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	150	150	150
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	50	---	18	13	---	15	---	---
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	100 (PPM)	100 (PPM)	40	100 (ppm)	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	3.4	---	2.2	2.6	---	2.3	---	---
16	Permissible limits for NOx	mg/Nm <sup>3</sup>	25	25	60 (PPM)	60 (PPM)	25	60 (PPM)	25	25
17	Measured Concentration of NOx	mg/Nm <sup>3</sup>	9.7	---	7.5 (PPM)	5.7 (PPM)	---	5.2 (PPM)	---	---

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 K1 - Vajubodhan make - V881

Calibration due on 25/09/2015

N.D= No. Detectable

Royal Environment Auditing & Consultancy Service

*Signature*



*Signature*  
Analyst



# Royal

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Ref. No. : S&A/2015-18

Date: 24/10/2015

### STACK EMISSION MONITORING RESULTS

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

Name of company : JINDAL SAWL MITED,  
Village: Samnaghogha,  
Ta. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 1	S - 2	S - 3	S - 4	S - 5	S - 6	S - 7	S - 8
01	Date of Sampling	---	21/09/2015	22/09/2015	22/09/2015	22/09/2015	21/09/2015	21/09/2015	Not in operation during visit	20/09/2015
02	Time of sampling	hr.	9.05	15.00	9.15	10.30	10.10	11.30	---	10.30
03	Stack Attached to	---	Magnesium Treatment	Socket Cleaning	Annealing Furnace - I	Annealing Furnace - II	Zinc Coating	Tri-Grinding Section	Pre & Post Heating	Zinc Coating Machine
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	---	---	Bag Filter	Bag Filter	---	---
05	Stack Height	Meter	30	30	45	45	30	30	30	30
06	Stack Diameter	Meter	1.00	0.50	0.85	0.85	1.00	1.00	0.85	1.20
07	Stack Temperature	°C	39	36	139	132	40	36	---	42
08	Ambient Temperature	°C	30	34	31	33	33	33	---	32
09	Average Velocity of Flue Gases	m/sec.	3.6	2.5	4.5	4.8	4.6	3.2	---	3.8
10	Isokinetic flow rate for P.M. Sampling	LPM	15	12	14	15	13	13	---	16
11	Gaseous Sampling Flow Rate	LPM	---	---	2.0	2.0	---	---	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	50	50	50	50	50	50	50	50
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	38	18	13	17	81 (Zr)	24	---	8
14	Permissible limits for SO <sub>2</sub>	PPM	NA	NA	100	100	NA	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	PPM	---	---	1.0	2.3	---	---	---	---
16	Permissible limits for NOx	PPM	NA	NA	50	60	NA	NA	NA	NA
17	Measured Concentration of NOx	PPM	---	---	4.1	4.8	---	---	---	---

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 - Vayalodhan make - VDS I  
Calibration due on 28/09/2015

ND= Not Detectable  
NA= Not Applicable

Royal Environment Auditing & Consultancy Service

*[Handwritten Signature]*



*[Handwritten Signature]*  
Analyst

Ref. No. : 533/09/2015-16

Date: 04/10/2015

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

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

- 1 Name of the Department/Plant.: **Sinter Plant-2 at JINDAL SAW LIMITED, Samaghogha. (GPCB ID:29017)**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

Date of Sampling : 24th September, 2015

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remarks	Signature of person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m3					
1	Sinter Plant At First Floor	Total Dust	Personal Respirable Dust sampler APM 800	02	4-7	5.5	10	Gravimetric	5	—	<i>Manoj</i>	Mr. MANOJ SONRAT

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

Calibration Date Due on : 02/11/2015

For: Royal Environment Auditing & Consultancy Service



*Manoj*  
Authorized Sign

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

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

- 1 Name of the Department/Plant: **Sinter Plant-1 at JINDAL SAW LIMITED, Samaghogha. (GPCB ID: 35456)**
- 2 Raw materials, by products and finished products involved in the process: **TOTAL DUST**
- 3 Particulars of sampling:

Date of Sampling : 24th September, 2015

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature of person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m <sup>3</sup>					
1	Sinter Plant At First Floor	Total Dust	Personal Respirable Dust sampler APM 800	02	5-7	6.0	10	Gravimetric	4	---	<i>Manoj</i>	MR. MANOJ SONRAI

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

Calibration Date Due on : 02/11/2015

For, Royal Environment Auditing & Consultancy Service

*Dijadeja*  
Authorized Sign



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

Register containing particulars of monitoring of working environment required under Section 4-A (a)(e).  
 1 Name of the Department/Plant.: **BF Plant 1 at JINDAL SAW LIMITED, Samaghogha. (GPCB ID: 15037)**  
 2 Raw materials, by products and finished products involved in the process: **TOTAL DUST & CO.**  
 3 Particulars of sampling

Date of Sampling : 24th September, 2015

Sr. No	Location Operation monitored	Identified Contaminant	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule) mg/m3	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature person taking samples	Name (in block letters)
				Number of sample	Range	Average						
1	BF Plant (Cast House)	CO	Personal Respirable Dust sampler APM 800	02	11-13	12.0	55	Gravimetric	5	—	<i>Munshi</i>	Mr. VANOJ SONIAT
		Total Dust			6-7	6.5	10					

Instruments used : Envirotech make personal sampler, Model No. APM 800  
 Calibration Date Due on : 02/11/2015

For: Royal Environment Auditing & Consultancy Service

*D. Jadhav*  
 Authorized Sign



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

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

- 1 Name of the Department/Plant.: **BF Plant-2 at JINDAL SAW LIMITED, Samaghogha. (GPCB ID: 29026)**
- 2 Raw materials, by products and finished products involved in the process **TOTAL DUST & CO.**
- 3 Particulars of sampling

Date of Sampling : 24th September, 2015

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m <sup>3</sup>					
1	BF Plant (Cast House)	CO	Personal Respirable Dust sampler APM 800	02	12-14	13.0	55	Gravimetric	6	—	<i>Munaj</i>	Mr. MANOJ SONRAT
		Total Dust			5-6	5.5	10					

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

Calibration Date Due on : 02/11/2015



For: Royal Environment Auditing & Consultancy Service

*Djadya*  
Authorized Sign

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

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

- 1 Name of the Department/Plant: DISP, JCO & Coating Units at JINDAL SAW LIMITED, Samaghogha, (GPCB ID: 13035)
- 2 Raw materials, by products and finished products involved in the process, TOTAL DUST
- 3 Particulars of sampling

Date of Sampling : 22nd &amp; 23rd September, 2015

Sr. No	Location Operation monitored	Identified Contaminate	Sampling Instrument used	Airborne Contamination			TWA concentration (As given in Second Schedule)	Reference Method	Number of workers exposed at the location being monitored	Remark	Signature of person taking samples	Name (in block letters)
				Number of sample	Range	Average	mg/m <sup>3</sup>					
1	Spiral Plant (Nr. ID/OD)	Total Dust	Personal Respirable Dust sampler APM 800	02	3-4	3.5	10	Gravimetric	4	---	<i>Muney</i>	Mr. MANJU SONRAT
2	JCO Plant (Nr. JCO Press)	Total Dust		02	1-3	2.0	10	Gravimetric	4	---		
3	Coating Plant-1 (Shot Blasting Area)	Total Dust		02	4-5	4.5	10	Gravimetric	5	---		
4	CCM Area (SDP / DISP)	Total Dust		02	6-7	6.5	10	Gravimetric	6	---		
5	Coating Plant-2 (Shot Blasting Area)	Total Dust		02	2-5	3.5	10	Gravimetric	3	---		
6	CCM Area (SDP-2)	Total Dust		02	4-6	5.0	10	Gravimetric	4	---		

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

Calibration Date Due on: 02/11/2015

For: Royal Environment Auditing &amp; Consultancy Service



*Muney*  
Authorized Sign



# Royal

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Ref. No. : 538/09/2015-16

Date: 04/10/2015

### WORK ZONE NOISE LEVEL MEASUREMENT

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

Name of company : JINDAL SAW LIMITED.

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 16th September, 2015

Sr. No.	Location of Sampling	Value In dB(A)		
		Min.	Max.	Leq
1	Inside Control Room	39.5	45.6	41.6
2	Inside Mechanical Room	45.7	51.8	47.5
3	Inside Electrical Room	46.9	52.5	48.1
4	Inside Plant Office	48.7	55.9	50.8

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

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

Recalibration is due on : 25/09/2016

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Money  
Analyst



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Ref. No. : 539/09/2015-16

Date: 04/10/2015

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghegha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 16th September, 2015

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Nr. Stock House	62.5	73.6	65.6
02.	Inside Control Room	44.6	52.4	46.2
03.	Inside Control room of Cast House	45.8	50.7	47.4
04.	Inside Laboratory	41.2	46.2	42.9
05.	Inside Control Room of Blower House	54.2	61.7	57.5
06.	Inside Control Room of CPP	51.6	60.2	53.7

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

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

Recalibration is due on : 25/09/2016

Royal Environment Auditing & Consultancy Service



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Ref. No. : 540/09/2015-16

Date: 04/10/2015

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 16th September, 2015

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside Control Room of Annealing Furnace of DISP / SDP	47.6	52.8	50.7
02	Inside Control Room – Mill Area of Spiral Plant	59.5	63.7	60.6
03	Nr. Pipe Cutting Area of Spiral Plant	66.7	76.5	70.8
04	Inside JCO Plant	63.5	74.3	66.4
05	Inside DISP / SDP Plant	67.4	78.6	72.5
06	Inside Coating Plant	64.8	73.7	69.4
07	Nr. CCM SDP-2	63.7	71.3	66.1
08	Inside Control Room of Annealing Furnace of SDP-2	49.6	53.2	50.9
09	Nr. Zinc Coating SDP-2	65.1	76.5	70.4
10	Near Mould Shop	71.7	80.4	74.3

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

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

Recalibration is due on : 25/09/2016

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Ref. No. : 541/09/2015-15

Date: 04/10/2015

### AMBIENT NOISE LEVEL MEASUREMENT

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha

Tal. : Mundra, Dist. Kutch

Date of sampling : 17th September, 2015

Sr. No.	Location of Sampling	Value in dB(A) Day Time			Value in dB(A) Night Time		
		Min.	Max.	Leq	Min.	Max.	Leq
01.	Admin. Building	43.1	51.6	44.9	39.1	44.3	40.8
02.	Old Colony	37.6	42.5	39.3	34.3	40.5	35.7
03.	Nr. LPG Yard	53.2	61.4	55.1	50.2	56.1	51.3
04.	New Colony (School)	38.6	44.3	40.3	35.6	40.2	36.5
05.	Nr. SDP-2	57.4	65.5	59.8	54.3	60.4	56.3
06.	Nr. Coating Plant	56.1	64.7	60.2	52.4	62.3	56.9
07.	Nr. Gate No. 2	55.3	64.1	56.4	50.2	58.5	51.3
08.	Nr. Sinter Plant-1	61.3	66.5	62.5	55.1	60.7	56.7
09.	Nr. Sinter Plant-2	58.9	67.6	61.2	56.2	62.1	57.6
10.	Nr. Blast Furnace-1	55.2	61.4	58.6	53.1	59.1	54.5
11.	Nr. Blast Furnace-2	54.7	62.3	57.8	46.5	52.4	50.1
12.	Nr. Main Gate (Security Office)	44.9	53.7	47.1	40.4	46.5	42.5

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

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

Recalibration is due on : 25/09/2016

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Ref. No. : 542/09/2015-16

Date: 04/10/2015

### WORK ZONE NOISE LEVEL MEASUREMENT BLAST FURNACE - 2 (GPCB ID:29026)

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 16th September, 2015.

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside Control Room	56.2	61.3	57.5
02.	Nr. Stock House	63.4	67.8	65.1
03.	C/R Blower House	64.5	71.6	67.3

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

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

Recalibration is due on : 25/09/2016

Royal Environment Auditing & Consultancy Service

*Mehraj*  
Analyst





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Ref. No. : 543/09/2015-16

Date: 04/10/2015

### WORK ZONE NOISE LEVEL MEASUREMENT

#### SINTER PLANT - 2 (29017)

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. Mundra, Dist. Kutch

Date of sampling : 16th September, 2015

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside Control Room	49.4	51.6	50.2
02.	Inside Operator Room	58.3	62.7	59.8
03.	Near Proportioning Building	61.7	64.5	62.4
04.	Near Crusher House	66.2	74.3	69.3

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

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

Recalibration is due on : 25/09/2016

Royal Environment Auditing & Consultancy Service



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Analyst



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Ref. No. : 544/09/2015-16

Date: 04/10/2015

### REPORT OF DOMESTIC WASTE WATER ANALYSIS

Name of company : JINDAL SAW LIMITED,  
Village: Samaghogha,  
Tal. : Mundra, Dist. Kutch

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

Date of Sampling : 30/09/2015

Test Method : As per IS Standards - 3024

Sr. No.	Parameters	Unit	GPCB limits for Treated Effluent	Raw Sewage	Treated Effluent
01.	pH	pH Unit	---	7.60	7.20
02.	BOD (3 Days at 27°C)	mg/l	<20	164	13
03	Total Dissolve Solid	mg/l	...	1511	1624
03	COD	mg/l	...	203	49
04	Total Suspended Solid	mg/l	<30	248	17
05	Oil & Grease	mg/l	...	ND	ND
06	Residual Chlorine	mg/l	Min. 0.5	---	0.60

ND=Not Detectable

Royal Environment Auditing & Consultancy Service



*D. D. D.*  
Analyst