



# Royal

## Environment Auditing & Consultancy Service

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Date: 30/11/2019

Ref. No. : 501/11/2019-20

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - NOVEMBER: 2019

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

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

NABL Certificate No. : TC 5948

Sr.No	Particulars	Unit	Location No. 1 : STP											
			1	2	3	4	5	6	7	8	9	10		
01.	No. of Week	---												
02.	Date & Time Starting of Monitoring	---	01/11/19 08 15	02/11/19 08 20	04/11/19 08 25	08/11/19 08 10	11/11/19 08.30	15/11/19 08.20	18/11/19 08 25	22/11/19 08 30	25/11/19 08 25	28/11/19 08 28		
03.	Date & Time Ending of Monitoring	---	02/11/19 08 15	03/11/19 08 20	05/11/19 08 25	09/11/19 08 10	12/11/19 08 30	16/11/19 08 20	19/11/19 08 25	23/11/19 08 30	26/11/19 08.25	29/11/19 08 28		
04.	Duration of Sampling	Min	1440 00	1440 00	1440 00	1440.00	1440 00	1440.00	1440.00	1440 00	1440 00	1440 00		
05.	Dominant Wind Direction (From)	---	NW	NW	NW	NE	NE	NNE	NNE	N	NE	NNE		
06.	Average Wind Speed	Km/Hr.	4 6	5 8	4.8	4 6	5 7	5 2	6.0	6 1	5 4	6 3		
07.	Average flow rate for PM10	m <sup>3</sup> /min.	1 16	1.12	1.20	1.17	1.13	1.18	1.13	1.17	1.10	1.20		
08.	Average flow rate for PM2.5	m <sup>3</sup> /hr	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0	1 0		
09.	Average flow rate for Gaseous	LPM	0 2	0 2	0 2	0 2	0 2	0 2	0 2	0 2	0 2	0 2		
10.	Permissible limits for PM10*	µg/m <sup>3</sup>	100	100	100	100	100	100	100	100	100	100		
11.	Measured Concentration of PM10	µg/m <sup>3</sup>	52	54	48	45	47	50	53	52	49	53		
12.	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60	60		
13.	Measured Concentration of PM2.5	µg/m <sup>3</sup>	38	40	43	39	33	37	35	43	39	40		
14.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80		
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	9.8	10.2	11.5	9.5	10.3	11.8	10.9	11 6	11.4	10.7		
16.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80		
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	17.3	18.4	18.8	16.7	17.3	15.8	17.5	16.9	15.6	17.2		
18.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000		
19.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL	BDL	BDL	BDL	BDL	BDL	BDL	B.D.L	B.D.L	B.D.L		

Instrument used RDS (APM - 217 BL) Gaseous Sampler (AAS 109), PM 2.5 Sampler (AAS 127)

Calibration done on 05/05/2019

\*Permissible Limits are as per NAAQ Standard 16th November 2009

# Parameters are not covered in NABL Scope

Royal Environment Auditing & Consultancy Service



Bhawal  
Analyst



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Ref. No. : 502/11/2019-20

Date: 30/11/2019

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - NOVEMBER: 2019

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

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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	Location No. 2 : Vikashpuram												
			1	2	3	4	5	6	7	8	9	10			
01.	No. of Week	---													
02.	Date & Time Starting of Monitoring	---	01/11/19 08.15	02/11/19 08.20	04/11/19 08.25	08/11/19 08.10	11/11/19 08.30	15/11/19 08.20	18/11/19 08.25	22/11/19 08.30	25/11/19 08.25	28/11/19 08.28			
03.	Date & Time Ending of Monitoring	---	02/11/19 08.15	03/11/19 08.20	05/11/19 08.25	09/11/19 08.10	12/11/19 08.30	16/11/19 08.20	19/11/19 08.25	23/11/19 08.30	26/11/19 08.25	29/11/19 08.28			
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	NW	NW	NW	NE	NE	NNE	NNE	N	NE	NNE			
06.	Average Wind Speed	Km/Hr.	5.3	5.8	5.2	4.7	5.2	5.4	6.4	6.1	6.3	6.5			
07.	Average flow rate for PM10	m <sup>3</sup> /min.	1.11	1.16	1.17	1.13	1.15	1.16	1.10	1.12	1.12	1.15			
08.	Average flow rate for PM2.5	m <sup>3</sup> /hr.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
09.	Average flow rate for Gaseous	LPM	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2			
10.	Permissible limits for PM10*	µg/m <sup>3</sup>	100	100	100	100	100	100	100	100	100	100			
11.	Measured Concentration of PM10	µg/m <sup>3</sup>	62	58	66	63	56	55	61	56	57	60			
12.	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60	60			
13.	Measured Concentration of PM2.5	µg/m <sup>3</sup>	45	50	42	44	48	46	49	41	44	48			
14.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80			
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	9.5	10.1	9.6	9.3	8.5	8.6	10.5	9.9	8.7	9.6			
16.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80			
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	16.4	18.1	16.8	17.5	18.9	17.4	18.3	17.9	16.7	17.5			
18.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000			
19.	Measured Concentration of CO#	µg/m <sup>3</sup>	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL			

Instrument used : RDS (APM - 217 BL), Gaseous Sampler (AAS 109), PM 2.5 Sampler (AAS 127)

# Parameters are not covered in NABL Scope

Calibration done on: 01/05/2019

\*Permissible Limits are as per NAAQ Standard 16th November 2009

Royal Environment Auditing & Consultancy Service



*Bhavant*  
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Date: 30/11/2019

Ref No : 503/11/2019-20

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - NOVEMBER: 2019

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

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

NABL Certificate No. : TC 5948

Sr. No	Particulars	Unit	Location No. 3: Nr. Spiral-II Pipe Storage Yard									
			1	2	3	4	5					
01.	No. of Week	---										
02	Date & Time Starting of Monitoring	---	01/11/19 08.15	02/11/19 08.20	04/11/19 08.25	08/11/19 08.10	11/11/19 08.30	15/11/19 08.20	18/11/19 08.25	22/11/19 08.30	25/11/19 08.25	28/11/19 08.28
03	Date & Time Ending of Monitoring	---	02/11/19 08.15	03/11/19 08.15	05/11/19 08.25	09/11/19 08.10	12/11/19 08.30	16/11/19 08.20	19/11/19 08.25	23/11/19 08.30	26/11/19 08.25	29/11/19 08.28
04	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00
05	Dominant Wind Direction (From)	---	NW	NW	NW	NE	NE	NNE	NNE	N	NE	NNE
06	Average Wind Speed	Km/Hr.	4.6	5.8	5.4	5.6	4.8	6.2	5.2	6.1	6.4	5.2
07	Average flow rate for PM10	m <sup>3</sup> /min.	1.17	1.12	1.15	1.10	1.21	1.13	1.14	1.20	1.14	1.22
08	Average flow rate for PM2.5	m <sup>3</sup> /hr.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
09	Average flow rate for Gaseous	LPM	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10	Permissible limits for PM10*	µg/m <sup>3</sup>	100	100	100	100	100	100	100	100	100	100
11	Measured Concentration of PM10	µg/m <sup>3</sup>	56	54	58	60	54	59	64	54	57	59
12	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60	60
13	Measured Concentration of PM2.5	µg/m <sup>3</sup>	43	46	42	44	37	41	46	48	47	40
14	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80
15	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	11.0	10.2	11.2	10.3	10.6	10.5	11.3	11.7	11.3	10.6
16	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80
17	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	18.6	19.7	19.1	17.3	19.2	20.5	21.2	19.7	18.6	19.4
18	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
19	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL	BDL	BDL	BDL	BDL	BDL	BDL	B.D.L.	BDL	B.D.L.

Instrument used RDS (APM - 217 BL), Gaseous Sampler (AAS 109), PM 2.5 Sampler (AAS 127)

Calibration done on 05/05/2019

\*Permissible Limits are as per NAAQ Standard 16th November 2009

# Parameters are not covered in NABL Scope

Royal Environment Auditing & Consultancy Service



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Date: 30/11/2019

Ref. No : 504/11/2019-20

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - NOVEMBER: 2019

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

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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	Location No. 4: Old Colony											
			1	2	3	4	5	6	7	8	9	10		
01.	No. of Week	---												
02.	Date & Time Starting of Monitoring	---	01/11/19 08.15	02/11/19 08.20	04/11/19 08.25	08/11/19 08.10	11/11/19 08.30	15/11/19 08.20	18/11/19 08.25	22/11/19 08.30	25/11/19 08.25	28/11/19 08.28		
03.	Date & Time Ending of Monitoring	---	02/11/19 08.15	03/11/19 08.20	05/11/19 08.25	09/11/19 08.10	12/11/19 08.30	16/11/19 08.20	19/11/19 08.25	23/11/19 08.30	26/11/19 08.25	29/11/19 08.28		
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00		
05.	Dominant Wind Direction (From)	---	NW	NW	NW	NE	NE	NNE	NNE	N	NE	NNE		
06.	Average Wind Speed	Km/Hr.	5.0	5.6	4.9	5.3	6.1	5.7	5.2	4.2	6.2	5.7		
07.	Average flow rate for PM10	m <sup>3</sup> /min	1.12	1.10	1.18	1.10	1.14	1.15	1.19	1.12	1.15	1.10		
08.	Average flow rate for PM2.5	m <sup>3</sup> /hr.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
09.	Average flow rate for Gaseous	LPM	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2		
10.	Permissible limits for PM10*	µg/m <sup>3</sup>	100	100	100	100	100	100	100	100	100	100		
11.	Measured Concentration of PM10	µg/m <sup>3</sup>	54	51	50	56	57	52	60	56	53	55		
12.	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60	60		
13.	Measured Concentration of PM2.5	µg/m <sup>3</sup>	40	44	45	46	42	47	43	41	49	46		
14.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80		
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	11.5	10.8	12.2	12.7	13.6	14.3	12.5	12.4	11.4	11.8		
16.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80	80		
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	18.4	19.2	16.4	17.2	17.3	18.1	18.1	18.5	17.8	18.9		
18.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000		
19.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL	BDL	BDL	BDL	BDL	BDL	BDL	B.D.L.	BDL	B.D.L.		

Instrument used RDS (APM - 217 BL) Gaseous Sampler (AAS 109), PM 2.5 Sampler (AAS 127)

# Parameters are not covered in NABL Scope

Calibration done on 05/05/2019

\*Permissible Limits are as per NAAQ Standard 16th November 2009

Royal Environment Auditing & Consultancy Service



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Ref. No. :505/11/2019-20

Date: 30/11/2019

### 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

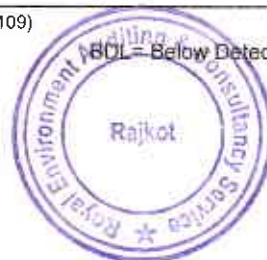
NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	A - 2	A - 2
01.	Location of Ambient	---	BF-2 Ground Hopper	BF-2 Cast House
02.	Date of sampling	---	14/11/2019	26/11/2019
03.	Time of sampling	---	9.40	9.35
04.	Duration of Sampling	Hr.	8.00	8.00
05.	Dominant Wind Direction (From)	---	SSE	SSE
06.	Average Wind Speed	Km/Hr.	5.7	5.6
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.2	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2
09.	Permissible limits for PM 10*	µg/m <sup>3</sup>	3000	3000
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1364	1240
11.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	150	150
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	7.8	8.1
13.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	120	120
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	20.0	21.7
15.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000
16.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL	BDL
17.	Permissible limit for Pb*	µg/m <sup>3</sup>	2	2
18.	Measured Concentration of Pb #	µg/m <sup>3</sup>	ND	ND

Instrument used : (1) 3 Nos RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampler (APM 109)  
Calibration done on 05/05/2019

# Parameters are not covered in NABL Scope  
BDL = Below Detectable Limit ND= Not Detectable

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Ref. No. :506/11/2019-20

Date: 30/11/2019

### 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 *NABL Certificate No. : TC 5948*

Sr. No.	Particulars	Unit	A - 1
01.	Location of Ambient	----	<b>Sinter-2 Ground Hopper</b>
02.	Date of sampling	----	21/11/2019
03.	Time of sampling	----	9.40
04.	Duration of Sampling	Hr.	8.00
05.	Dominant Wind Direction (From)	----	NE
06.	Average Wind Speed	Km/Hr.	5.2
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.1
08.	Average flow rate for Gas sampling	LPM	0.2
09.	<b>Permissible limits for PM 10*</b>	<b>µg/m<sup>3</sup></b>	<b>3000</b>
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1249
11.	<b>Permissible limits for SO<sub>2</sub>*</b>	<b>µg/m<sup>3</sup></b>	<b>150</b>
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	14.3
13.	<b>Permissible limits for NO<sub>2</sub>*</b>	<b>µg/m<sup>3</sup></b>	<b>120</b>
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	21.9
15.	<b>Permissible limit for CO **</b>	<b>µg/m<sup>3</sup></b>	<b>2000</b>
16.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL
17.	<b>Permissible limit for Pb*</b>	<b>µg/m<sup>3</sup></b>	<b>2</b>
18.	Measured Concentration of Pb #	µg/m <sup>3</sup>	ND

Instrument used : (1) Ecotech RDS (APM - 217 BL) & Gaseous Sampler (APM 109)

Calibration done on : 05/05/2019

# Parameters are not covered in NABL Scope

BDL= Below Detectable Limit

ND= Not Detectable

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Ref. No. :507/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	A - 5
01.	Location of Ambient	---	SINTER RMH YARD
02.	Date of sampling	---	20/11/2019
03.	Time of sampling	---	9.35
04.	Duration of Sampling	Hr.	8.00
05.	Dominant Wind Direction (From)	---	NNE
06.	Average Wind Speed	Km/Hr.	5.2
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.1
08.	Average flow rate for Gas sampling	LPM	0.2
09.	Permissible limits for PM 10*	µg/m <sup>3</sup>	3000
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1388
11.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	150
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	11.8
13.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	120
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	16.2
15.	Permissible limit for CO **	µg/m <sup>3</sup>	2000
16.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL
17.	Permissible limit for Pb*	µg/m <sup>3</sup>	2
18.	Measured Concentration of Pb #	µg/m <sup>3</sup>	ND

Instrument used : (1) Ecotech RDS (APM - 217 BL) & Gaseous Sampler (APM 109)

Calibration done on : 05/05/2019

# Parameters are not covered in NABL Scope

BDL= Below Detectable Limit

ND= Not Detectable

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Ref. No. :508/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	A - 6
01.	Location of Ambient	---	BF-1 Cast House
02.	Date of sampling	---	09/11/2019
03.	Time of sampling	----	9.45
04.	Duration of Sampling	Hr.	8.00
05.	Dominant Wind Direction (From)	----	SE
06.	Average Wind Speed	Km/Hr.	5.2
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.0
08.	Average flow rate for Gas sampling	LPM	0.2
09.	Permissible limits for PM 10*	µg/m <sup>3</sup>	3000
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1235
11.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	150
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	9.2
13.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	120
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	20.9
15.	Permissible limit for CO **	µg/m <sup>3</sup>	2000
16.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL
17.	Permissible limit for Pb*	µg/m <sup>3</sup>	2
18.	Measured Concentration of Pb #	µg/m <sup>3</sup>	ND

Instrument used : (1) Ecotech RDS (APM - 217 BL) & Gaseous Sampler (APM 109)

Calibration done on : 05/05/2019

# Parameters are not covered in NABL Scope

BDL= Below Detectable Limit

ND= Not Detectable

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Ph. +91 281 2360695 Email : royalenvironment@live.com admin@royalconsultancy.com

Ref. No. :509/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	A - 7
01.	Location of Ambient	---	DISP Induction Furnace area
02.	Date of sampling	---	13/11/2019
03.	Time of sampling	---	9.55
04.	Duration of Sampling	Hr.	8.00
05.	Dominant Wind Direction (From)	---	SE
06.	Average Wind Speed	Km/Hr.	4.8
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.2
08.	Average flow rate for Gas sampling	LPM	0.2
09.	Permissible limits for PM 10*	µg/m <sup>3</sup>	3000
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1175
11.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	150
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	12.8
13.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	120
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	15.7
15.	Permissible limit for CO **	µg/m <sup>3</sup>	2000
16.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL
17.	Permissible limit for Pb*	µg/m <sup>3</sup>	2
18.	Measured Concentration of Pb #	µg/m <sup>3</sup>	ND

Instrument used : (1) Ecotech RDS (APM - 217 BL) & Gaseous Sampler (APM 109)

Calibration done on : 05/05/2019

# Parameters are not covered in NABL Scope

BDL= Below Detectable Limit

ND= Not Detectable

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Ref. No. : 510/11/2019-20

Date: 30/11/2019

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

Name of Company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

*NABL Certificate No. : TC 5948*

Sr. No.	Particulars	Unit	S - 3
01	Date of Sampling	---	13/11/2019
02	Attached to	---	Sinter Furnace
03	Stack Height	Meter	50
04	Stack Diameter	Meter	2.0
05	Stack Temperature	°C	161
06	Ambient Temperature	°C	30
07	Average Velocity of Flue Gases	m/sec.	8.50
08	IsoKinetic Flowrate for Sampling	LPM	11
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	1342
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	38.0
11	Efficiency	%	97.17

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On : 15/10/2019



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Ref. No. : 511/11/2019-20

Date: 30/11/2019

### Performance Evaluation of Air Pollution Control Equipments Sinter Plant-2 (GPCB ID:29017)

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

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

*NABL Certificate No. : TC 5948*

Sr. No.	Particulars	Unit	S - 13
01	Date of Sampling	---	21/11/2019
02	Attached to	---	Sinter Furnace
03	Stack Height	Meter	50
04	Stack Diameter	Meter	2.0
05	Stack Temperature	°C	139
06	Ambient Temperature	°C	33
07	Average Velocity of Flue Gases	m/sec.	16.4
08	IsoKinetic Flowrate for Sampling	LPM	23
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	1356
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	42.3
11	Efficiency	%	96.88

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On : 15/10/2019



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Ref. No. : 512/11/2019-20

Date: 30/11/2019

### 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

*NABL Certificate No. : TC 5948*

Sr. No.	Particulars	Unit	S - 49
01	Date of Sampling	---	14/11/2019
02	Attached to	---	Dedusting System
03	Stack Height	Meter	40
04	Stack Duct Diameter	Meter	1.5
05	Stack Temperature	°C	41
06	Ambient Temperature	°C	30
07	Average Velocity of Flue Gases	m/sec.	14.48
08	IsoKinetic Flowrate for Sampling	LPM	26
09	Inlet	mg/Nm <sup>3</sup>	515
10	Outlet	mg/Nm <sup>3</sup>	8.4
11	Efficiency	%	98.37

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On. : 15/10/2019



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Ref. No. : 512/11/2019-20

### Performance Evaluation of Air Pollution Control Equipments Blast Furnace Plant-1 (GPCB ID:18037)

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

Sr. No.	Particulars	Unit	S - 44
01	Date of Sampling	--	15/11/2019
02	Attached to	---	Dedusting System
03	Stack Height	Meter	40
04	Stack Duct Diameter	Meter	1.5
05	Stack Temperature	°C	43
06	Ambient Temperature	°C	31
07	Average Velocity of Flue Gases	m/sec.	14.7
08	IsoKinetic Flowrate for Sampling	LPM	26
09	Inlet	mg/Nm <sup>3</sup>	458
10	Outlet	mg/Nm <sup>3</sup>	6.8
11	Efficiency	%	98.52

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On. : 15/10/2019



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Ref. No. : 513/11/2019-20

Date: 30/11/2019

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

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

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

NABL Certificate No. : TC 5948

Sr.No.	Particulars	Unit	S - 24	S - 31	S - 39	S - 38
01	Date of Sampling	---	12/11/2019	18/11/2019	18/11/2019	20/11/2019
02	Attached to	---	Mg Converter I&II	Zn Coating - II	Zn Coating - IV & V	Mg Converter - III
03	Stack Height	Meter	32	30	30	30
04	Stack Diameter	Meter	0.9	0.5	0.5	0.5
05	Stack Temperature	°C	45	38	45	51
06	Ambient Temperature	°C	30	31	30	30
07	Average Velocity of Flue Gases	m/sec	6.12	11.09	11.81	8.56
08	IsoKinetic Flowrate for Sampling	LPM	11	20	21	15
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	431.8	642.5	623	631
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	45.3	11	10.0	33
11	Efficiency	%	89.51	98.29	98.39	94.77

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On. : 15/10/2019

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Ref. No. : 514/11/2019-20

Date: 30/11/2019

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

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

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

**NABL Certificate No. : TC 5948**

Sr. No.	Particulars	Unit	S-58	S-65
01	Date of Sampling	---	16/11/2019	12/11/2019
02	Attached to	---	<b>Mg Treatment</b>	<b>Zinc Coating FL-7</b>
03	Stack Height	Meter	30	30
04	Stack Duct Diameter	Meter	0.5	1
05	Stack Temperature	°C	51	38
06	Ambient Temperature	°C	32	30
07	Average Velocity of Flue Gases	m/sec.	10.09	8.93
08	IsoKinetic Flowrate for Sampling	LPM	18	16
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	961	1034
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	38	16.9
11	Efficiency	%	96.05	98.37

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On. : 15/10/2019



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Ref. No. : 515/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 2	S - 3	S - 4	S - 5	S - 6
01	Date of Sampling	---	21/11/2019	13/11/2019	13/11/2019	21/11/2019	13/11/2019
02	Time of sampling	---	12.00	9.50	11.00	10.55	12.10
03	Stack Attached to	---	Fuel & Flux Crushing House	Sinter Furnace	Primary Mixture House	Secondary Mixture House	Discharge End
04	Air Pollution Control Measures	---	Bag Filter	ESP	---	---	ESP
05	Stack Height	Meter	27.00	50	19.75	36.08	32
06	Stack Diameter	Meter	1.40	2.0	1.25	1.25	1.30
07	Stack Temperature	°C	38	145	38	35	140
08	Ambient Temperature	°C	32	30	30	30	31
09	Average Velocity of Flue Gases	m/sec	7.6	7.80	8.10	3.78	8.80
10	Isokinetic flow rate for P.M. Sampling	LPM	15	11	15	7	12
11	Gaseous Sampling Flow Rate	LPM	NA	2.0	NA	NA	NA
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>	25.0	38.0	21.2	18.0	49.4
14	Permissible limits for SO <sub>2</sub>	ppm	NA	100	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	...	10.1	---	---	---
16	Permissible limits for NO <sub>x</sub>	ppm	NA	50	NA	NA	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	---	20.5	---	---	---

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

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On : 15/10/2019

NA= Not Applicable

ND=Not Detectable

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Date: 30/11/2019

Ref. No. : 516/11/2019-20

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 12	S - 7	S - 9	S - 16	S - 13	S - 15
01	Date of Sampling	---	08/11/2019	08/11/2019	08/11/2019	08/11/2019	21/11/2019	08/11/2019
02	Time of sampling	Hr.	11 20	10 30	12 25	15.30	9.50	16 25
03	Stack Attached to	---	Secondary Mixer House	Fuel crushing de-duster system (Flux)	Fuel Screening deduster System (Flux Screening)	Primary Mixer Drum	Sinter Furnace	Discharging End of sinter de-dusting system
04	Air Pollution Control Measures	---	Dust Collector	Dust Collector	Dust Collector	Dust Collector	ESP	ESP
05	Stack Height	Meter	30	30	30	20	50	50
06	Stack Diameter	Meter	0.7	0.7	0.7	0.7	2	1.3
07	Stack Temperature	°C	41	44	40	39	141	147
08	Ambient Temperature	°C	32	32	32	32	30	30
09	Average Velocity of Flue Gases	m/sec.	3.90	6.35	7.43	2.80	11.92	8.14
10	Isokinetic flow rate for P.M. Sampling	LPM	7	11	14	5	16	11
11	Gaseous Sampling Flow Rate	LPM	NA	NA	NA	NA	2.0	NA
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>	19.0	49.3	37.6	25.5	42.3	43.0
14	Permissible limits for SO <sub>2</sub>	ppm	NA	NA	NA	NA	100	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	---	---	---	---	6.6	---
16	Permissible limits for NO <sub>x</sub>	ppm	NA	NA	NA	NA	50	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	---	---	---	---	20.9	---

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

Instrument Used: Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On: 15/10/2019

NA= Not Applicable

ND= Not Detectable



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Ref. No. : 517/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 44	S - 45	S - 46
01	Date of Sampling	---	15/11/2019	15/11/2019	15/11/2019
02	Time of sampling	Hr.	9.50	11.05	12.15
03	Stack Attached to	---	Dedusting System	Boiler - I	Boiler - II
04	Air Pollution Control Measures	---	Bag Filter	---	---
05	Stack Height	Meter	35.0	45	45
06	Stack Diameter	Meter	1.5	1.4	1.4
07	Stack Temperature	°C	36	154	158
08	Ambient Temperature	°C	30	30	30
09	Average Velocity of Flue Gases	m/sec.	9.83	8.44	8.93
10	Isokinetic flow rate for P.M. Sampling	LPM	18	11	12
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
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	6.8	2.1	1.8
14	Permissible limits for SO <sub>2</sub>	ppm	100	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	ND	6.8	6.3
16	Permissible limits for NO <sub>x</sub>	ppm	50	50	50
17	Measured Concentration of NO <sub>x</sub>	ppm	ND	12.1	11.0
18	Permissible limits for CO vol/vol	%	N.A.	1 % Max.	1 % Max.
19	Measured Concentration of CO vol/vol #	%	ND	0.2	0.1

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

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On : 15/10/2019

N D=Not Detectable

# Parameters are not covered in NABL Scope



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Ref. No. : 518/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 49	S - 52	S - 53
01	Date of Sampling	---	14/11/2019	14/11/2019	14/11/2019
02	Time of sampling	Hr.	10.05	11.20	12.20
03	Stack Attached to	---	Dedusting System	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	30.0	30.0
06	Stack Diameter	Meter	1.5	0.45	0.35
07	Stack Temperature	°C	35	36	37
08	Ambient Temperature	°C	30	30	32
09	Average Velocity of Flue Gases	m/sec.	12.08	6.52	5.72
10	Isokinetic flow rate for P.M. Sampling	LPM	22	12	11
11	Gaseous Sampling Flow Rate	LPM	NA	NA	NA
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150
13	Measured Concentration of PM.	mg/Nm <sup>3</sup>	8.4	28.7	34.8
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	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
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	---	---	---

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 : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On. : 15/10/2019



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Ref. No. : 519/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 17	S - 18	S - 19	S - 20	S - 28	S - 23
01	Date of Sampling	---	09/11/19	09/11/19	09/11/19	09/11/19	22/11/19	09/11/19
02	Time of sampling	Hr.	9.50	10.35	11.35	12.20	10.00	14.30
03	Stack Attached to	---	Core Shop-I	Core Shop-II	Core Shop-III	Core Shop-IV	Core Cleaning & Dusting-I	Sand Reclamation
04	Air Pollution Control Measures	---	---	---	---	---	Bag Filter	Bag Filter
05	Stack Height	Meter	30	30	30	30	30	30
06	Stack Diameter	Meter	0.584	0.58	0.584	0.584	0.6	0.9
07	Stack Temperature	°C	35	34	36	35	37	74
08	Ambient Temperature	°C	30	30	31	31	30	32
09	Average Velocity of Flue Gases	m/sec.	4.5	4.9	4.4	4.8	7.63	7.43
10	Isokinetic flow rate for P.M. Sampling	LPM	8	9	8	9	14	12
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0	2.0	2.0	2.0	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	11.0	19.0	16.0	18.0	28.0	7.98
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	4.4	4.7	4.3	2.9	ND	4.8
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	25	25	25	25	25	25
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	8.7	7.4	8.6	5.1	5.2	15.8

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

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On : 15/10/2019

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Ref. No. : 520/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 25	S - 31	S - 36	S - 39
01	Date of Sampling	---	22/11/2019	18/11/2019	18/11/2019	18/11/2019
02	Time of sampling	Hr.	9 55	10 05	11 10	12 25
03	Stack Attached to	---	Zn Coating - I	Zn Coating - II	Zn Coating - III	Zn Coating - IV & V
04	Air Pollution Control Measures	---	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter	Cyclone Separator & Bag Filter
05	Stack Height	Meter	30	30	30	30
06	Stack Diameter	Meter	0.6	0.6	0.6	0.6
07	Stack Temperature	°C	39	35	36	43
08	Ambient Temperature	°C	29	31	30	30
09	Average Velocity of Flue Gases	m/sec	8.40	5.93	9.4	8.45
10	Isokinetic flow rate for P.M. Sampling	LPM	15	11	17	15
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	20 (Zn)	20 (Zn)	20 (Zn)	20 (Zn)
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	12.9	11.0	13.0	10.0
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	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
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	---	---	---	---

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

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On : 15/10/2019

NA=Not Applicable

NA=Not Applicable



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Ref. No. : 521/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 29	S - 24	S - 13
01	Date of Sampling	---	22/11/2019	12/11/2019	20/11/2019
02	Time of sampling	Hr.	11.00	10.20	10.15
03	Stack Attached to	---	Annealing Furnace -1	Common Stack Converter-I & II	Mg Converter-III
04	Air Pollution Control Measures	---	---	Bag Filter	Bag Filter
05	Stack Height	Meter	32	30	30
06	Stack Diameter	Meter	1.375	0.5	0.5
07	Stack Temperature	°C	130	49	46
08	Ambient Temperature	°C	30	31	30
09	Average Velocity of Flue Gases	m/sec	7.91	8.42	8.1
10	Isokinetic flow rate for P.M. Sampling	LPM	11	15	14
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	4.1	45.3	33
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	100 (PPM)	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	5.2	ND	ND
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	50 (PPM)	25	25
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	8.1	6.2	5.3

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

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On : 15/10/2019



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Ref No. : 522/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 58	S - 59	S - 62	S - 63	S - 61	S - 65
01	Date of Sampling	---	16/11/19	19/11/19	16/11/19	16/11/19	19/11/19	12/11/19
02	Time of sampling	Hr.	10.10	9.50	11.25	12.30	11.00	10.05
03	Stack Attached to	---	Magnesium Treatment	Socket Cleaning	Zinc Coating	Tri- Grinding Section	Annealing Furnace -2	Zinc Coating Machine (FL-7)
04	Air Pollution Control Measures	---	Bag Filter	Bag Filter	Bag Filter	Bag Filter	---	Cyclone Separator & Bag Filter
05	Stack Height	Meter	30	30	30	30	32	30
06	Stack Diameter	Meter	1.00	0.50	1.00	1.00	1.375	1.20
07	Stack Temperature	°C	46	37	36	40	126	38
08	Ambient Temperature	°C	30	31	30	30	31	30
09	Average Velocity of Flue Gases	m/sec	7.98	6.72	6.72	4.83	8.22	6.34
10	Isokinetic flow rate for PM Sampling	LPM	14	12	12	9	12	12
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	2.0	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	50	50	50 (Zn)	50	150	50 (Zn)
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	38.0	27.0	12.0	36.0	8.1	16.9
14	Permissible limits for SO <sub>2</sub>	PPM	NA	NA	NA	NA	100 (PPM)	NA
15	Measured Concentration of SO <sub>2</sub>	PPM	---	---	---	---	4.6	---
16	Permissible limits for NO <sub>x</sub>	PPM	NA	NA	NA	NA	50 (PPM)	NA
17	Measured Concentration of NO <sub>x</sub>	PPM	---	---	---	---	14.9	---

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

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On. : 15/10/2019

ND= Not Detectable

NA= Not Applicable

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Ref. No. : 523/11/2019-20

Date: 30/11/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 1	S - 2
01	Date of Sampling	---	20/11/2019	20/11/2019
02	Time of sampling	Hr.	9.55	11.00
03	Stack Attached to	---	Pickling & Passivation -1	Pickling & Passivation -2
04	Air Pollution Control Measures	---	Wet Scrubber	Wet Scrubber
05	Stack Height	Meter	15.0	15.0
06	Stack Diameter	Meter	-	-
07	Stack Temperature	°C	37	38
08	Ambient Temperature	°C	30	30
09	Average Velocity of Flue Gases	m/sec.	6.3	6.9
10	Isokinetic flow rate for P.M. Sampling	LPM	-	-
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	NA	NA
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	-	-
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	11.1	11.4
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	25	25
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	12.6	13.8

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

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100

Calibration Done On. : 15/10/2019



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Ref. No. : 529/11/2019-20

Date: 30/11/2019

### 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 : 26<sup>th</sup> November, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
1	Inside Control Room	45.5	64.2	55.4
2	Near Flux Crushing Building	58.2	62.5	60.2
3	Sinter Machine area	46.4	61.3	57.4

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

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

Calibration Done On. : 13/09/2019



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Ref. No. : 530/11/2019-20

Date: 30/11/2019

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

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

Date of sampling : 26th November, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Stock House	56.9	73.1	65.2
02.	Inside BF Control Room	47.8	59.2	55.1
03.	Cast House	44.5	61.1	56.3
04.	Inside Laboratory	39.9	53.5	48.6
05.	Inside Control Room of Blower House	49.9	59.8	54.7
06.	Inside Control Room of CPP	46.2	58.5	53.4

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

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

Calibration Done On. : 13/09/2019

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Ref. No. : 531/11/2019-20

Date: 30/11/2019

### 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 : 26th November, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside Control Room of Annealing Furnace of DISP	44.3	60.1	52.1
02	Inside Control Room – Mill Area of Spiral Plant	55.9	67.7	61.5
03	JCO Plant- Pickling & Passivation area area	45.5	57.7	55.7
04	Nr. Induction Furnace area of DISP Plant	55.1	65.1	57.3
05	Nr. Induction Furnace area of SDP-2 plant	57.1	69.9	61.4
06	Inside Control Room of Annealing Furnace of SDP-2	62.1	72.2	67.2
07	Control room of DISP Cement Lining	57.5	63.5	61.3
08	Zinc Coating of FL-7 control room	54.2	71.1	65.4
09	Mould Shop control room	61.2	70.2	64.9

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.

Calibration Done On. : 13/09/2019



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Ref. No. : 532/11/2019-20

Date: 30/11/2019

### 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 : 26th November, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside BF Control Room	45.4	65.4	56.8
02.	Stock House	57.5	73.4	67.3
03.	Cast House	53.1	77.5	71.3

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.

Calibration Done On. : 13/09/2019



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Ref. No. : 533/11/2019-20

Date: 30/11/2019

### WORK ZONE NOISE LEVEL MEASUREMENT SINTER PLANT - 2 (29017)

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

Date of sampling : 26th November, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside Control Room	44.8	71.8	57.6
02.	Sinter Machine area	46.3	66.2	60.2
03.	Near Proportioning Building	53.9	63.2	58.9
04.	Near Crusher House	56.5	73.8	65.8

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

Calibration Done On : 13/09/2019



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Ref. No. : 534/11/2019-20

Date: 30/11/2019

### AMBIENT NOISE LEVEL MEASUREMENT

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

Date of sampling : 26th November, 2019

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	44.5	71.8	62.3	44.7	63.4	57.6
02.	OHC	47.5	65.4	58.5	48.3	64.8	57.3
03.	New Colony (School)	44.3	61.8	54.4	44.8	58.9	52.3
04.	Old Colony	46.7	65.9	57.6	42.3	56.3	50.4
05.	Behind FL-7	51.8	70.1	64.3	54.7	66.8	58.8
06.	Nr. Sinter Plant-1 Canteen	61.3	72.4	66.1	53.2	61.5	56.7
07.	Blast Furnace RMHS	53.3	65.7	60.1	59.1	68.3	63.7
08.	Spiral-2-Behind work shop	57.2	64.5	61.4	46.2	64.3	56.4
09.	Chairman Bungalow	57.6	65.3	62.8	40.3	56.8	48.3
10.	301 Yard	55.4	67.1	63.7	56.8	68.2	59.3
11.	Guest House	43.9	65.3	61.5	50.7	55.7	52.3
12.	Harvesting pond	54.8	67.2	62.4	55.3	63.3	56.3

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.

Calibration Done On : 13/09/2019

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Ref. No. : 535/11/2019-20

Date: 02/12/2019

### 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 : 28/11/2019

Test Method : As per IS Standards - 3025

NABL Certificate No. : TC 5948

Sr. No.	Parameters	Unit	GPCB limits for Treated Effluent	Raw Sewage	Treated Effluent
01.	pH	pH Unit	6.5 to 9.0	6.9	7.15
02.	BOD (3 Days at 27°C)	mg/l	30	135	16
03.	Total Dissolve Solid	mg/l	...	1580	1295
04.	COD	mg/l	...	158	17
05.	Total Suspended Solid	mg/l	100	107	18
06.	Oil & Grease	mg/l	...	ND	ND
07.	Fecal Coliform #	MPN/100ml	1000	NA	Absent
08.	Residual Chlorine #	mg/l	Min. 0.5	NA	0.63

# Parameters are not covered in NABL Scope

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Ref. No. : 536/11/2019-20

Date: 02/12/2019

### WATER & WASTE WATER QUALITY ANALYSIS REPORT

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Source of Sample : Effluent Treatment Plant

Date of Sampling : 28/11/2019

*NABL Certificate No. : TC 5948*

Sr. No.	Parameters	Unit	Permissible limit	Results
01.	pH	...	6.5 to 8.5	7.54
02.	Colour	pt.co.units	100	6
03.	Temperature	°C	40	32
04.	Total suspended solids	mg/l	100	20
05.	Total dissolve solids	mg/l	2100	1542
06.	Phenolic compounds	mg/l	1	ND
07.	Oil & Grease	mg/l	10	ND
08.	Chlorides	mg/l	600	560
09.	Sulphate	mg/l	1000	132.4
10.	Ammonical nitrogen (as NH <sub>3</sub> -N)	mg/l	50	7.6
11.	BOD (3 Days at 27°C)	mg/l	30	8.1
12.	COD	mg/l	100	53.8



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**Form No. 37**

(Prescribed under Rule 12-B)

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

- 1 Name of the Department/Plant.: **Sinter 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 : 8<sup>th</sup> November, 2019


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						
1	Sinter Plant-2 (Crusher House area)	Total Dust	Personal Respirable Dust sampler VPDS 203	02	1.8-2.5	2.15	10	Gravimetric	3	----		Mr. Bharat Kalsaniya

Instruments used : Vaibhav make personal sampler, Model No. VPDS 203

Calibration Done on : 11/03/2019



For. Royal Environment Auditing &amp; Consultancy Service


  
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**Form No. 37**

(Prescribed under Rule 12-B)

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

- 1 Name of the Department/Plant.: **Sinter 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 : 07<sup>th</sup> November, 2019

Sr.No.	Location Operation monitored	Identified Contaminante	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						
1	Sinter Plant-1 (Day bin area)	Total Dust	Personal Respirable Dust sampler VPDS 203	02	1.6-2.5	2.05	10	Gravimetric	5	---		Mr. Bharat Kalsariya

Instruments used : Vaibhav make personal sampler, Model No VPDS 203

Calibration Done on : 11/03/2019



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

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

- 1 Name of the Department/Plant.: **DISP, JCO & Coating Units at JINDAL SAW LIMITED, Samaghogha.(GPCB ID: 18036)**
- 2 Raw materials, by products and finished products involved in the process. **TOTAL DUST**
- 3 Particulars of sampling

Date of Sampling : 09<sup>th</sup>, 12<sup>th</sup> & 19th November, 2019

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						
1	DISP Plant (Induction Furnace Area)	Total Dust	Personal Respirable Dust sampler VPDS 203	02	1.2-2.5	1.85	10	Gravimetric	4	---		Mr. Bharat Kalsariya
2	JCO Plant (Pickling & Passivation )	Total Dust		02	1.5-2.4	1.95	10	Gravimetric	5	---		

Instruments used : Vaibhav make personal sampler, Model No. VPDS 203

Calibration Done on. : 11/03/2019



For: Royal Environment Auditing & Consultancy Service


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

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

- 1 Name of the Department/Plant.: DISP,JCO & Coating Units at JINDAL SAW LIMITED, Samaghogha.(GPCB ID: 18036)
- 2 Raw materials, by products and finished products involved in the process. VOC
- 3 Particulars of sampling

Date of Sampling : 12<sup>th</sup> November, 2019

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						
1	Bitumen Coating Area (DISP)	VOC	Gas Analyzer	01	---	1.1	5	Gas Analyzer	2	---		Mr. Bharat Kalsariya



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Date of Sampling : 12th November, 2019

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				Number of sample	Range	Average						
1	Epoxy Coating Area (Coating Plant)	VOC	Gas Analyzer	01	---	1.2	10	Gas Analyzer	4	---		Mr. Bharat Kalsariya



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**Form No. 37**

(Prescribed under Rule 12-B)

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

1 Name of the Department/Plant.: **BF Plant-1 at JINDAL SAW LIMITED, Samaghogha. (GPCB ID: 18037)**2 Raw materials, by products and finished products involved in the process. **TOTAL DUST & CO.**

3 Particulars of sampling

Date of Sampling : 11th November, 2019

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						
1	BF Plant-1 (Cast House)	CO  Total Dust	Personal Respirable Dust sampler VPDS 203	02	3.6-6.4	5.0	50 (ppm)	Gravimetric	5	---	<i>Bharat Kalsariya</i>	Mr. Bharat Kalsariya

Instruments used : Vaibhav make personal sampler, Model No VPDS 203  
Calibration Done on : 11/03/2019

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

1 Name of the Department/Plant.: **BF Plant-1 at JINDAL SAW LIMITED, Samaghogha. (GPCB ID: 18037)**2 Raw materials, by products and finished products involved in the process. **TOTAL DUST & CO.**

3 Particulars of sampling

Date of Sampling : 11th November, 2019

Sr. No	Location Operation monitored	Identified Contaminant	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						
1	BF Plant-2 (Cast House)	CO Total Dust	Personal Respirable Dust sampler VPDS 203	02	2.8-5.3 2.1-4.8	4.05 3.45	50 (ppm) 10	Gravimetric	4	---	<i>Bharat Kalsariya</i>	Mr. Bharat Kalsariya

Instruments used : Vaibhav make personal sampler, Model No. VPDS 203

Calibration Done on. : 11/03/2019



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