



# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s Bal Adalat, Gondal Road, RAJKOT - 360 002.  
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Ref. No. : 222/07/2019-20

Date : 30/07/2019

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - JULY: 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			
01.	No. of Week	---												
02.	Date & Time Starting of Monitoring	---	03/07/19 09 30	05/07/19 09 30	08/07/19 09 30	12/07/19 09 30	15/07/19 09 30	19/07/19 09 30	22/07/19 09 30	26/07/19 09 30	29/07/19 09 30			
03.	Date & Time Ending of Monitoring	---	04/07/19 09 45	06/07/19 09 45	09/07/19 09 45	13/07/19 09 45	16/07/19 09 45	20/07/19 09 45	23/07/19 09 45	27/07/19 09 45	30/07/19 09 45			
04.	Duration of Sampling	Min.	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00			
05.	Dominant Wind Direction (From)	---	SSE	SSE	NNE	S	S	NNW	N	NNW	N			
06.	Average Wind Speed	Km/Hr.	5.4	5.0	3.8	6.4	6.5	5.2	5.1	7.5	6.6			
07.	Average flow rate for Dust Monitoring PM10	m <sup>3</sup> /min.	1.20	1.10	1.10	1.10	1.20	1.2	1.2	1.10	1.10			
08.	Average flow rate for Dust Monitoring 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			
09.	Average flow rate for Gas Monitoring	LPM	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			
11.	Measured Concentration of PM10	µg/m <sup>3</sup>	48	41	50	44	42	49	38	46	56			
12.	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60			
13.	Measured Concentration of PM2.5	µg/m <sup>3</sup>	35	39	37	34	35	33	30	28	35			
14.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80			
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	10.6	10.9	10.3	9.2	11.6	10.5	13.6	14.2	15.6			
16.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80			
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	20.1	18.6	17.6	14.2	14.9	18.6	15.6	16.3	20.3			
18.	Permissible limit for CO **	µg/m <sup>3</sup>	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.			

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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Analyst



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Ref. No. : 223/07/2019-20

Date : 30/07/2019

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - JULY: 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
01.	No. of Week	----									
02.	Date & Time Starting of Monitoring	---	03/07/19 09.30	05/07/19 09.30	08/07/19 09.30	12/07/19 09.30	15/07/19 09.30	19/07/19 09.30	22/07/19 09.30	26/07/19 09.30	29/07/19 09.30
03.	Date & Time Ending of Monitoring	---	04/07/19 09.45	06/07/19 09.45	09/07/19 09.45	13/07/19 09.45	16/07/19 09.45	20/07/19 09.45	23/07/19 09.45	27/07/19 09.45	30/07/19 09.45
04.	Duration of Sampling	Min.	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00	1440.00
05.	Dominant Wind Direction (From)	---	SSE	SSE	NNE	S	S	NNW	N	NNW	N
06.	Average Wind Speed	Km/Hr.	5.2	4.8	3.3	7.3	6.5	5.5	4.4	7.3	6.5
07.	Average flow rate for Dust Monitoring PM10	m <sup>3</sup> /min.	1.20	1.20	1.10	1.20	1.20	1.1	1.1	1.20	1.20
08.	Average flow rate for Dust Monitoring 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
09.	Average flow rate for Gas Monitoring	LPM	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
11.	Measured Concentration of PM10	µg/m <sup>3</sup>	53	56	60	35	41	48	51	55	53
12.	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60
13.	Measured Concentration of PM2.5	µg/m <sup>3</sup>	30	40	36	39	31	32	44	35	41
14.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	10.3	10.6	9.6	10.2	9.5	9.6	16.5	14.2	14.2
16.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	18.6	20.4	18.7	15.6	17.3	19.5	24.3	25.6	24.1
18.	Permissible limit for CO **	µg/m <sup>3</sup>	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

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.

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Analyst



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Ref. No. : 224/07/2019-20

Date : 30/07/2019

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - JULY: 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	---	03/07/19 09 30	05/07/19 09 30	08/07/19 09 30	12/07/19 09 30	15/07/19 09 30	19/07/19 09 30	22/07/19 09 30	26/07/19 09 30	29/07/19 09 30
03.	Date & Time Ending of Monitoring	---	04/07/19 09 45	06/07/19 09 45	09/07/19 09 45	13/07/19 09 45	16/07/19 09 45	20/07/19 09 45	23/07/19 09 45	27/07/19 09 45	30/07/19 09 45
04.	Duration of Sampling	Min	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00
05.	Dominant Wind Direction (From)	---	SSE	SSE	NNE	S	S	NNW	N	NNW	N
06.	Average Wind Speed	Km/Hr.	5.4	4.6	4.8	6.4	6.8	7.1	5.8	5.8	6.4
07.	Average flow rate for Dust Monitoring PM10	m <sup>3</sup> /min.	1.10	1.20	1.10	1.20	1.20	1.1	1.1	1.20	1.20
08.	Average flow rate for Dust Monitoring 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
09.	Average flow rate for Gas Monitoring	LPM	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
11.	Measured Concentration of PM10	µg/m <sup>3</sup>	60	55	58	57	61	48	64	62	65
12.	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60
13.	Measured Concentration of PM2.5	µg/m <sup>3</sup>	40	31	30	36	31	33	41	38	41
14.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	13.8	10.2	8.3	12.5	11.3	12.5	14.6	15.3	14.6
16.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	23.4	30.4	18.4	21.6	20.3	25.4	22.1	28.9	30.1
18.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000	2000	2000	2000	2000	2000	2000
19.	Measured Concentration of CO #	µg/m <sup>3</sup>	B. D. L.	BDL	BDL	BDL	BDL	BDL	BDL	B. D. L.	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.

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Ref. No. : 225/07/2019-20

Date : 30/07/2019

### NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - JULY: 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				
01.	No. of Week	---									
02.	Date & Time Starting of Monitoring	---	03/07/19 09 30	05/07/19 09 30	08/07/19 09 30	12/07/19 09 30	15/07/19 09 30	19/07/19 09 30	22/07/19 09 30	26/07/19 09 30	29/07/19 09 30
03.	Date & Time Ending of Monitoring	---	04/07/19 09 45	06/07/19 09 45	09/07/19 09 45	13/07/19 09 45	16/07/19 09 45	20/07/19 09 45	23/07/19 09 45	27/07/19 09 45	30/07/19 09 45
04.	Duration of Sampling	Min.	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00	1440 00
05.	Dominant Wind Direction (From)	---	SSE	SSE	NNE	S	S	NNW	N	NNW	N
06.	Average Wind Speed	Km/Hr	5.2	4.6	4.5	6.7	6.2	7.5	5.9	5.4	6.4
07.	Average flow rate for Dust Monitoring PM10	m <sup>3</sup> /min	1.10	1.20	1.10	1.20	1.20	1.1	1.1	1.20	1.20
08.	Average flow rate for Dust Monitoring 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
09.	Average flow rate for Gas Monitoring	LPM	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
11.	Measured Concentration of PM10	µg/m <sup>3</sup>	55	70	55	45	65	53	69	64	62
12.	Permissible limits for PM2.5*	µg/m <sup>3</sup>	60	60	60	60	60	60	60	60	60
13.	Measured Concentration of PM2.5	µg/m <sup>3</sup>	31	48	30	37	32	28	49	46	34
14.	Permissible limits for SO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	14.6	13.5	14.2	16.3	15.4	16.4	11.2	15.6	14.2
16.	Permissible limits for NO <sub>2</sub> *	µg/m <sup>3</sup>	80	80	80	80	80	80	80	80	80
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	18.5	22.6	17.6	15.4	17.5	26.4	21.3	20.1	27.8
18.	Permissible limit for CO **	µg/m <sup>3</sup>	2000	2000	2000	2000	2000	2000	2000	2000	2000
19.	Measured Concentration of CO #	µg/m <sup>3</sup>	B. D. L.	BDL	BDL	BDL	BDL	BDL	BDL	B. D. L.	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

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Ref. No. :226/07/2019-20

Date : 30/07/2019

### 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

Sr. No.	Particulars	Unit	A - 2	A-4
01.	Location of Ambient	----	BF-2 Cast House	BF-2 ground hopper
02.	Date of sampling	----	19/07/2019	20/07/2019
03.	Time of sampling	----	9.00	10.25
04.	Duration of Sampling	Hr.	8.00	8.00
05.	Dominant Wind Direction (From)	----	WNW	WNW
06.	Average Wind Speed	Km/Hr.	5.1	5.3
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.0	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>	1340	1520
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>	12.6	17.8
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>	21.4	25.6
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)

# Parameters are not covered in NABL Scope

Calibration done on : 05/05/2019

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Ref. No. :227/07/2019-20

Date : 30/07/2019

### 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 - 3
01.	Location of Ambient	---	Sinter RMH Yard
02.	Date of sampling	---	17/07/2019
03.	Time of sampling	---	9.30
04.	Duration of Sampling	Hr.	8.00
05.	Dominant Wind Direction (From)	---	WNW
06.	Average Wind Speed	Km/Hr.	4.4
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>	1308
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>	12.3
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>	20.4
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) 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. :107/07/2019-20

Date : 30/07/2019

### 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	----	DISP CCM Area
02.	Date of sampling	----	23/07/2019
03.	Time of sampling	----	10.30
04.	Duration of Sampling	Hr.	8.00
05.	Dominant Wind Direction (From)	----	WNW
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.	<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>	1380
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>	15.8
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>	18.9
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) 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

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Ref. No. :108/07/2019-20

Date : 30/07/2019

### 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	A - 1
01.	Location of Ambient	---	BF-1 Dedusting System	BF-1 Ground Hopper
02.	Date of sampling	---	24/07/2019	18/07/2019
03.	Time of sampling	---	10.00	9.45
04.	Duration of Sampling	Hr.	8.00	8.00
05.	Dominant Wind Direction (From)	---	ESE	ESE
06.	Average Wind Speed	Km/Hr.	5.5	6.1
07.	Average flow rate during sampling	m <sup>3</sup> /Hr.	1.0	1.0
08.	Average flow rate for Gas sampling	LPM	0.2	0.2
09.	<b>Permissible limits for PM 10*</b>	<b>µg/m<sup>3</sup></b>	<b>3000</b>	<b>3000</b>
10.	Measured Concentration of PM 10	µg/m <sup>3</sup>	1470	1320
11.	<b>Permissible limits for SO<sub>2</sub>*</b>	<b>µg/m<sup>3</sup></b>	<b>150</b>	<b>150</b>
12.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	16.9	19.7
13.	<b>Permissible limits for NO<sub>2</sub>*</b>	<b>µg/m<sup>3</sup></b>	<b>120</b>	<b>120</b>
14.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	18.9	25.8
15.	<b>Permissible limit for CO **</b>	<b>µg/m<sup>3</sup></b>	<b>2000</b>	<b>2000</b>
16.	Measured Concentration of CO #	µg/m <sup>3</sup>	BDL	BDL
17.	<b>Permissible limit for Pb*</b>	<b>µg/m<sup>3</sup></b>	<b>2</b>	<b>2</b>
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

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Ref. No. : 228/07/2019-20

Date : 30/07/2019

### 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	---	10-07-2019
02	Attached to	---	Sinter Furnace
03	Stack Height	Meter	50
04	Stack Diameter	Meter	2.0
05	Stack Temperature	°C	144
06	Ambient Temperature	°C	30
07	Average Velocity of Flue Gases	m/sec.	15.50
08	IsoKinetic Flowrate for Sampling	LPM	22
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	1236
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	35.2
11	Efficiency	%	97.15

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

Calibration Done On. : 13/09/2018

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Ref. No. : 229/07/2019-20

Date : 30/07/2019

### 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-15	S - 13
01	Date of Sampling	---	12-07-2019	12-07-2019
02	Attached to	---	Discharging End of Sinter de-dusting system	Sinter Furnace
03	Stack Height	Meter	50	50
04	Stack Diameter	Meter	1.3	2.0
05	Stack Temperature	°C	144	150
06	Ambient Temperature	°C	34	33
07	Average Velocity of Flue Gases	m/sec.	13.78	6.6
08	IsoKinetic Flowrate for Sampling	LPM	23	20
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	1378.7	1265.2
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	54.4	39.2
11	Efficiency	%	96.05	96.90

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

Calibration Done On. : 13/09/2018

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Ref. No. : 230/07/2019-20

Date : 30/07/2019

### 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

**NABL Certificate No. : TC 5948**

Sr. No.	Particulars	Unit	S - 44
01	Date of Sampling	---	16/07/2019
02	Attached to	---	De-dustingSystem
03	Stack Height	Meter	35
04	Stack Duct Diameter	Meter	1.4
05	Stack Temperature	°C	40
06	Ambient Temperature	°C	32
07	Average Velocity of Flue Gases	m/sec.	10.12
08	IsoKinetic Flowrate for Sampling	LPM	25
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	730.8
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	44
11	Efficiency	%	93.98

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

Calibration Done On. : 13/09/2018

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Ref. No. : 232/07/2019-20

Date : 30/07/2019

### 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	---	18/07/2019
02	Attached to	---	Dedusting System
03	Stack Height	Meter	40
04	Stack Duct Diameter	Meter	1.5
05	Stack Temperature	°C	37
06	Ambient Temperature	°C	30
07	Average Velocity of Flue Gases	m/sec.	9.52
08	IsoKinetic Flowrate for Sampling	LPM	22
09	Inlet	mg/Nm <sup>3</sup>	1140.25
10	Outlet	mg/Nm <sup>3</sup>	39
11	Efficiency	%	96.58

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

Calibration Done On. : 13/09/2018

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Ref. No. : 233/07/2019-20

Date : 30/07/2019

### 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 - 7	S - 31	S - 36
01	Date of Sampling	---	25/07/2019	24/07/2019	25/07/2019
02	Attached to	---	Mg Converter I&II	Zn Coating - II	Zn Coating - III
03	Stack Height	Meter	32	30	30
04	Stack Diameter	Meter	0.9	0.5	0.5
05	Stack Temperature	°C	48	35	33
06	Ambient Temperature	°C	32	33	30
07	Average Velocity of Flue Gases	m/sec.	6.72	8.57	11.85
08	IsoKinetic Flowrate for Sampling	LPM	17	18	20
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	356.1	455.2	408.2
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	40.8	14	11
11	Efficiency	%	88.54	96.92	97.31

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

Calibration Done On. : 13/09/2018

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Ref. No. : 234/07/2019-20

Date : 30/07/2019

### 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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S-8	S-62	S-65
01	Date of Sampling	---	19/07/2019	23/07/2019	20/07/2019
02	Attached to	---	Mg Treatment	Zinc Coating	Zinc Coating FL-7
03	Stack Height	Meter	30	30	30
04	Stack Duct Diameter	Meter	0.5	1	1
05	Stack Temperature	°C	48	43	40
06	Ambient Temperature	°C	32	31	35
07	Average Velocity of Flue Gases	m/sec.	10.15	9.21	9.25
08	IsoKinetic Flowrate for Sampling	LPM	18	23	17
09	PM Concentration in Inlet	mg/Nm <sup>3</sup>	1035.2	308.6	365
10	PM Concentration in Outlet	mg/Nm <sup>3</sup>	33	17	15
11	Efficiency	%	96.81	94.49	95.89

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

Calibration Done On. : 13/09/2018

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Ref. No. : 235/07/2019-20

Date : 30/07/2019

### 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 - 1	S - 3	S - 4	S - 5	S - 6
01	Date of Sampling	---	11-07-2019	10-07-2019	11-07-2019	11-07-2019	10-07-2019
02	Time of sampling	---	10.00	9.30	11.30	9.30	14.30
03	Stack Attached to	---	Fuel & Flux Crusher and Screening building	Sinter Furnace	Primary Mixture House	Secondary Mixture House	Discharge End
04	Air Pollution Control Measures	---	Bag Filter	ESP	....	....	ESP
05	Stack Height	Meter	32.0	50	19.75	36.08	32
06	Stack Diameter	Meter	1.40	2.0	1.25	1.25	1.30
07	Stack Temperature	°C	37	135	36	35	146
08	Ambient Temperature	°C	30	32	31	33	35
09	Average Velocity of Flue Gases	m/sec.	6.90	11.40	7.35	3.48	10.80
10	Isokinetic flow rate for P.M. Sampling	LPM	15	12	16	14	15
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>	15.6	35.2	8.9	10.5	53
14	Permissible limits for SO <sub>2</sub>	ppm	NA	100	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	...	13.8	....	....	....
16	Permissible limits for NO <sub>x</sub>	ppm	NA	50	NA	NA	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	....	27.4	....	....	....

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 : 13/09/2018

NA= Not Applicable  
ND=Not Detectable

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Ref. No. : 236/07/2019-20

Date : 30/07/2019

### 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 - 3	S - 16	S - 13	S - 15
01	Date of Sampling	---	13-07-2019	13-07-2019	13-07-2019	13-07-2019	12-07-2019	12-07-2019
02	Time of sampling	Hr.	9.15	11.00	12.10	11.00	14.00	14.30
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	42	43	40	36	138	135
08	Ambient Temperature	°C	30	34	31	34	33	31
09	Average Velocity of Flue Gases	m/sec.	3.78	6.28	7.60	2.99	7.15	8.83
10	Isokinetic flow rate for P.M. Sampling	LPM	16	13	14	15	16	15
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>	15.2	12.8	15.0	16.7	39.2	54.4
14	Permissible limits for SO <sub>2</sub>	ppm	NA	NA	NA	NA	100	NA
15	Measured Concentration of SO <sub>2</sub>	ppm	---	---	---	---	8.2	---
16	Permissible limits for NO <sub>x</sub>	ppm	NA	NA	NA	NA	50	NA
17	Measured Concentration of NO <sub>x</sub>	ppm	---	---	---	---	24.5	---

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 : 13/09/2018

NA= Not Applicable  
ND= Not Detectable



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Ref. No. : 237/07/2019-20

Date : 30/07/2019

### 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 - 47	S - 45	S - 46
01	Date of Sampling	---	16/07/2019	18/07/2019	17/07/2019	17/07/2019
02	Time of sampling	Hr.	9.30	12.30	10.30	12.00
03	Stack Attached to	---	Dedusting System	Stove Stack	Boiler - I	Boiler - II
04	Air Pollution Control Measures	---	Bag Filter	---	---	---
05	Stack Height	Meter	35.0	65.0	45	45
06	Stack Diameter	Meter	1.5	2.250	1.4	1.4
07	Stack Temperature	°C	38	160	138	145
08	Ambient Temperature	°C	33	30	32	33
09	Average Velocity of Flue Gases	m/sec.	8.22	7.62	6.80	7.20
10	Isokinetic flow rate for P.M. Sampling	LPM	19	22	10	20
11	Gaseous Sampling Flow Rate	LPM	2.0	NA	2.0	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150
13	Measured Concentration of PM.	mg/Nm <sup>3</sup>	44.0	5.7	4.8	5.6
14	Permissible limits for SO <sub>2</sub>	ppm	100	100	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	ND	ND	7.8	8.3
16	Permissible limits for NO <sub>x</sub>	ppm	50	50	50	50
17	Measured Concentration of NO <sub>x</sub>	ppm	ND	ND	15.3	15.8
18	Permissible limits for CO vol/vol	%	N.A.	N.A.	1 % Max.	1 % Max.
19	Measured Concentration of CO vol/vol #	%	ND	ND	0.2	0.4

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. : 13/09/2018

# Parameters are not covered in NABL Scope N D=Not Detectable

N.A.=Not Applicable

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Ref. No. : 238/07/2019-20

Date : 30/07/2019

### 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 - 50	S - 52	S - 53
01	Date of Sampling	---	18/07/2019	20/07/2019	19/07/2019	19/07/2019
02	Time of sampling	Hr.	10.15	12.30	11.15	10.00
03	Stack Attached to	---	Dedusting System	Stove 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	30.0	30.0
06	Stack Diameter	Meter	1.5	2.250	0.45	0.35
07	Stack Temperature	°C	34	164	32	36
08	Ambient Temperature	°C	31	33	29	33
09	Average Velocity of Flue Gases	m/sec.	8.35	8.65	7.80	6.15
10	Isokinetic flow rate for P.M. Sampling	LPM	19	22	23	18
11	Gaseous Sampling Flow Rate	LPM	NA	NA	NA	NA
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	39.0	4.0	27.8	36.7
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> & 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. : 13/09/2018

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Ref. No. : 119/06/2019-20

Date : 30/07/2019

### 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\_Part - 1/2/3/7

Sr. No.	Particulars	Unit	S - 41
01	Date of Sampling	---	09/07/2019
02	Time of sampling	Hr.	12.00
03	Stack Attached to	---	Shot Blasting - I
04	Air Pollution Control Measures	---	Bag Filter
05	Stack Height	Meter	10.0
06	Stack Diameter	Meter	1.125
07	Stack Temperature	°C	38
08	Ambient Temperature	°C	31
09	Average Velocity of Flue Gases	m/sec.	6
10	Isokinetic flow rate for P.M. Sampling	LPM	16
11	Gaseous Sampling Flow Rate	LPM	2
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	28.3
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	1.2
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	25
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	12.5

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. : 13/09/2018

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Ref. No. : 239/07/2019-20

Date : 30/07/2019

### 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
01	Date of Sampling	---	22/07/2019	22/07/2019	22/07/2019	22/07/2019
02	Time of sampling	Hr.	14.00	14.40	15.20	16.00
03	Stack Attached to	---	Core Shop-I	Core Shop-II	Core Shop-III	Core Shop-IV
04	Air Pollution Control Measures	---	---	---	---	---
05	Stack Height	Meter	30	30	30	30
06	Stack Diameter	Meter	0.584	0.58	0.584	0.584
07	Stack Temperature	°C	33	33	34	34
08	Ambient Temperature	°C	31	28	31	32
09	Average Velocity of Flue Gases	m/sec.	4.4	5.1	4.6	3.8
10	Isokinetic flow rate for P.M. Sampling	LPM	11	10	9	10
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
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	16	17	13	10
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	40	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	6.3	5.6	4.1	4.3
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	25	25	25	25
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	9.3	7.3	6.2	7.2

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 : 13/09/2018

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Hardeep  
Analyst



# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s Bal Adalat, Gondal Road, RAJKOT - 360 002.  
Ph. +91 281 2360695 Email : royaleenvironment@live.com admin@royalconsultancy.com

Ref. No. : 240/07/2019-20

Date : 30/07/2019

### 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
01	Date of Sampling	---	24/07/2019	24/07/2019	25/07/2019
02	Time of sampling	Hr.	15.00	15.10	9.45
03	Stack Attached to	---	Zn Coating - I	Zn Coating - II	Zn Coating - III
04	Air Pollution Control Measures	---	Cyclone Seprater & Bag Filter	Cyclone Seprater & Bag Filter	Cyclone Seprater & Bag Filter
05	Stack Height	Meter	30	30	30
06	Stack Diameter	Meter	0.6	0.6	0.6
07	Stack Temperature	°C	31	33	31
08	Ambient Temperature	°C	33	30	30
09	Average Velocity of Flue Gases	m/sec.	4.83	7.86	7.8
10	Isokinetic flow rate for P.M. Sampling	LPM	15	12	16
11	Gaseous Sampling Flow Rate	LPM	---	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	20 (Zn)	20 (Zn)	20 (Zn)
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	12.0	14.0	11
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> & Nox is 0.1 and 0.01 ppm respectively.

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

Calibration Done On. : 13/09/2018

NA=Not Applicable

NA=Not Applicable



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Ref. No. : 241/07/2019-20

Date : 30/07/2019

### 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-28	S - 24	S - 23
01	Date of Sampling	---	27/07/2019	27/07/2019	25/07/2019	22/07/2019
02	Time of sampling	Hr.	10.00	11.00	16.00	15.30
03	Stack Attached to	---	Annealing Furnace -1	Core Cleaning & Dusting - 1	Common Stack Mg Converter-I & II	Sand Reclamation
04	Air Pollution Control Measures	---	---	---	Bag Filter	Bag Filter
05	Stack Height	Meter	32	20	30	30
06	Stack Diameter	Meter	1.375	0.9	0.5	0.9
07	Stack Temperature	°C	123	34	51	88
08	Ambient Temperature	°C	30	32	32	30
09	Average Velocity of Flue Gases	m/sec.	5.24	9.26	8.9	7.55
10	Isokinetic flow rate for P.M. Sampling	LPM	22	20	25	18
11	Gaseous Sampling Flow Rate	LPM	2.0	---	---	2.0
12	Permissible limits for PM	mg/Nm <sup>3</sup>	150	150	150	150
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	8.8	22	40.8	41.3
14	Permissible limits for SO <sub>2</sub>	mg/Nm <sup>3</sup>	100 (PPM)	40	40	40
15	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	5.1	5.0	ND	3.1
16	Permissible limits for NO <sub>x</sub>	mg/Nm <sup>3</sup>	50 (PPM)	25	25	25
17	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	14.8	9.0	5.2	20

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. : 13/09/2018



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Ref. No. : 242/07/2019-20

Date : 30/07/2019

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

NABL Certificate No. : TC 5948

Sr. No.	Particulars	Unit	S - 58	S - 2	S - 62	S - 63	S - 65
01	Date of Sampling	---	19/07/2019	24/07/2019	23/07/2019	23/07/2019	20/07/2019
02	Time of sampling	Hr.	10.00	10.00	11.30	14.30	16.30
03	Stack Attached to	---	Magnesium Treatment	Socket Cleaning	Zinc Coating	Tri- Grinding Section	Zinc Coating Machine (FL-7) Cyclone Separator & Bag Filter
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	30
06	Stack Diameter	Meter	1.00	0.50	1.00	1.00	1.20
07	Stack Temperature	°C	44	33	34	32	37
08	Ambient Temperature	°C	33	30	32	30	31
09	Average Velocity of Flue Gases	m/sec	7.15	7.95	5.12	2.90	5.25
10	Isokinetic flow rate for PM Sampling	LPM	12	23	16	17	13
11	Gaseous Sampling Flow Rate	LPM	---	---	---	---	---
12	Permissible limits for PM	mg/Nm <sup>3</sup>	50	50	50 (Zn)	50	50 (Zn)
13	Measured Concentration of PM	mg/Nm <sup>3</sup>	33	18.0	17	31	15
14	Permissible limits for SO <sub>2</sub>	PPM	NA	NA	NA	NA	NA
15	Measured Concentration of SO <sub>2</sub>	PPM	---	---	---	---	---
16	Permissible limits for NO <sub>x</sub>	PPM	NA	NA	NA	NA	NA
17	Measured Concentration of NO <sub>x</sub>	PPM	---	---	---	---	---

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. : 13/09/2018

ND= Not Detectable

NA= Not Applicable



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Ref. No. : 248/07/2019-20

Date : 30/07/2019

### 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 : 12<sup>th</sup> July, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
1	Inside Control Room	45.8	62.4	54.9
2	Near Flux Crushing Building	50.6	63.4	60.2
3	Sinter Machine area	44.8	58.4	53.6

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

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

Calibration Done On. : 13/09/2018

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Ref. No. : 249/07/2019-20

Date : 30/07/2019

### 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 : 17<sup>th</sup> July, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Stock House	58.4	75.8	69.4
02.	Inside BF Control Room	52.3	55.6	55.3
03.	Cast House	45.6	65.4	58.9
04.	Inside Laboratory	40.3	55.3	54.3
05.	Inside Control Room of Blower House	50.1	58.4	52.1
06.	Inside Control Room of CPP	44.6	59.4	55.5

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.

Calibration Done On. : 13/09/2018

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Ref. No. : 250/07/2019-20

Date : 30/07/2019

### 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: 29th July, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside Control Room of Annealing Furnace of DISP	40.8	52.3	52.6
02	Inside Control Room – Mill Area of Spiral Plant	52.6	60.4	59.2
03	JCO Plant- Finishing area	48.9	54.8	51.4
04	Nr. CCM area of DISP Plant	54.6	61.9	55.2
05	Nr. CCM area of SDP-2	56.3	72.4	70.4
06	Inside Control Room of Annealing Furnace of SDP-2	75.9	80.5	76.8
07	Control room of DISP Cement Lining	56.3	60.4	58.7
08	Zinc Coating of FL-7 control room	62.1	77.5	72.5
09	Control room of IFBE Coating Plant	52.1	74.6	65.4
10	Mould Shop control room	60.9	76.1	68.6

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

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

Calibration Done On: : 13/09/2018

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Ref. No. : 251/07/2019-20

Date : 30/07/2019

### 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 : 20<sup>th</sup> July 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside BF Control Room	44.2	63.4	60.3
02.	Stock House	53.6	65.7	63.2
04.	Cast House	52.1	64.8	59.6

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

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

Calibration Done On. : 13/09/2018



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Ref. No. : 252/07/2019-20

Date : 30/07/2019

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

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

Date of sampling : 12th July, 2019

Sr. No.	Location of Sampling	Value in dB(A)		
		Min.	Max.	Leq
01.	Inside Control Room	45.8	70.1	58.6
02.	Sinter Machine area	45.6	69.6	54.2
03.	Near Proportioning Building	52.3	65.2	63.2
04.	Near Crusher House	55.3	72.3	64.3

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. : 13/09/2018

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Ref. No. : 253/07/2019-20

Date : 30/07/2019

### AMBIENT NOISE LEVEL MEASUREMENT

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 29<sup>th</sup> July, 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	44.3	59.3	58.4	44.5	70.6	56.9
02.	OHC	46.9	60.1	56.1	41.2	60.1	55.3
03.	New Colony (School)	44.6	58.4	53.1	42.6	56.3	51.3
04.	Behind FL-7	55.8	68.4	59.4	55.9	65.1	58.6
05.	Nr. Sinter Plant-1 Canteen	60.3	75.6	63.2	53.1	70.2	65.2
06.	Blast Furnace RMHS	50.1	65.4	62.5	58.9	64.2	65.1
07.	Spiral-2-Behind work shop	54.7	63.1	60.4	49.6	61.2	60.4
08.	Chairman Bungalow	55.3	62.3	58.4	42.3	53.6	53.6
09.	301 Yard	56.3	64.3	62.7	55.6	66.4	64.5
10.	Guest House	47.1	62.1	55.9	50.2	63.1	49.8
11.	Harvesting pond	52.3	68.7	59.5	52.3	66.4	56.2

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

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

Calibration Done On : 13/09/2018

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Ref. No. : 254/06/2019-20

Date : 30/07/2019

### 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 : 29/07/2019

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	8.5	7.95
02.	BOD (3 Days at 27°C)	mg/l	30	135	12
03.	Total Dissolve Solid	mg/l	...	2236	1425
04.	COD	mg/l	...	165	11
05.	Total Suspended Solid	mg/l	100	120	9
06.	Oil & Grease	mg/l	...	ND	ND
07.	Fecal Coliform #	MPN/100ml	1000	NA	Absent
08.	Residual Chlorine #	mg/l	Min. 0.5	NA	0.60

# Parameters are not covered in NABL Scope

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Ref. No. : 255/07/2019-20

Date : 30/07/2019

### 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 : 29/07/2019

*NABL Certificate No. : TC 5948*

Sr. No.	Parameters	Unit	Permissible limit	Results
01.	pH	...	6.5 to 8.5	7.58
02.	Colour	pt.co.units	100	13
03.	Temperature	°C	40	35
04.	Total suspended solids	mg/l	100	15
05.	Total dissolve solids	mg/l	2100	1560
06.	Phenolic compounds	mg/l	1	ND
07.	Oil & Grease	mg/l	10	ND
08.	Chlorides	mg/l	600	325
09.	Sulphate	mg/l	1000	286
10.	Ammonical nitrogen (as NH <sub>3</sub> -N)	mg/l	50	5.6
11.	BOD (3 Days at 27°C)	mg/l	30	12.4
12.	COD	mg/l	100	46.9

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Ref. No. : 257/07/2019-20

Date : 30/07/2019

### RAIN WATER HARVESTING POND WATER ANALYSIS

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

Source of Sample : Rain water Harvesting Pond

Date of Sampling : 29/07/2019

*NABL Certificate No. : TC 5948*

Sr. No.	Parameters	Unit	Permissible limit	Results
01.	pH	...	6.5 to 8.5	7.15
02.	Total Suspended Solid	mg/l	100	28
03.	Total Dissolve Solid	mg/l	...	1280
04.	Oil & Grease	mg/l	10	ND
05.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	600	423
06.	Chloride (as Cl)	mg/l	1000	545
07.	Sulphate (as SO <sub>4</sub> )	mg/l	400	126
08.	BOD (3 Days at 27°C)	mg/l	<30	ND

ND-Not Detectable

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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 : 12<sup>th</sup> July, 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	Remarks	Signature of person taking samples	Name (in block letters)
				Number of sample	Range	Average						
1	Sinter Plant-2 ( Sinter Machine area)	Total Dust	Personal Respirable Dust sampler VPDS 203	02	1.2-1.9	1.55	10	Gravimetric	4	---	Hardeep	Mr. Hardeepsinh Zala

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

Calibration Done on. : 11/03/2019

For. Royal Environment Auditing &amp; Consultancy Service



Hardeep  
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 : 12<sup>th</sup> July, 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	Sinter Plant-1 ( Sinter Machine area)	Total Dust	Personal Respirable Dust sampler VPDS 203	02	1.2-2.3	1.8	10	Gravimetric	4	----	Hardeep	Mr. Hardeepsinh Zala

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

Calibration Done on. : 11/03/2019



For. Royal Environment Auditing &amp; Consultancy Service

*Hardeep*  
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.: **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 : 20<sup>th</sup> July, 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-2 (Cast House)	CO	Personal Respirable Dust sampler VPDS 203	02	3-5	4 (ppm)	50 (ppm)	Gravimetric	5	----	<i>Hardeep</i>	Mr. Hardeepsinh Zala
		Total Dust			1.5-2.4	2.0	10					

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. TOTAL DUST
- 3 Particulars of sampling

Date of Sampling : 23rd to 24th and 27th July, 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	Spiral Plant-2 (Nr. ID/OD)	Total Dust	Personal Respirable Dust sampler VPDS 203	02	1.5-2.3	1.90	10	Gravimetric	4	----	Hardeep	Mr. Hardeepsinh Zala
2	Coating Plant-1 (Shot blasting area)	Total Dust		02	1.5-2.9	2.20	10	Gravimetric	5	----		
3	DISP Plant (CCM Area)	Total Dust		02	1.8-2.6	2.20	10	Gravimetric	4	----		
4	JCO Plant (JCO Press area )	Total Dust		02	1.5-2.1	1.8	10	Gravimetric	3	----		
5	SDP-2 (CCM area)	Total Dust		02	1.7-3.5	2.6	10	Gravimetric	6	----		

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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Ref. No. : 258/07/2019-20

Date : 30/07/2019

**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 : 15<sup>th</sup> July, 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	---	1.4	5	Gas Analyzer	3	---	Hardeep	Mr. Hardeepsinh Zala

For. Royal Environment Auditing & Consultancy Service



*Hardeep*  
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: 18036)
- 2 Raw materials, by products and finished products involved in the process. VOC
- 3 Particulars of sampling

Date of Sampling : 15th July, 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	Epoxy Coating Area (Coating Plant)	VOC	Gas Analyzer	01	---	1.8	10	Gas Analyzer	5	----	Hardeepsinh Zala	Mr. Hardeepsinh Zala



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.: **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 : 19th July, 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	Personal Respirable Dust sampler VPDS 203	02	4.5-5.9	5.2	50 (ppm)	Gravimetric	5	----	Hardeep	Mr. Hardeepsinh Zala
		Total Dust			1.6-2.3	1.95	10					

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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