



Royal

Environment Auditing & Consultancy Service

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

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Ref. No. : 0103/09/2016-17

Date : 02/10/2016

NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - SEPTEMBER : 2016

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

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

| Sr. No. | Particulars | Unit | Location No.1 : Weigh Bridge (Nr.Gate No-2) (E) | | | | | | | | |
|---------|---|----------------------|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
| 01. | No. of Week | --- | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
| 02. | Date & Time Starting of Monitoring | --- | 02/09/2016; 08.00 | 06/09/2016; 08.30 | 09/09/2016; 08.15 | 12/09/2016; 08.20 | 16/09/2016; 08.05 | 19/09/2016; 08.00 | 23/09/2016; 08.30 | 26/09/2016; 08.15 | 29/09/2016; 08.25 |
| 03. | Date & Time Ending of Monitoring | --- | 03/09/2016; 08.15 | 07/09/2016; 08.30 | 10/09/2016; 08.15 | 13/09/2016; 08.20 | 17/09/2016; 08.05 | 20/09/2016; 08.00 | 24/09/2016; 08.30 | 27/09/2016; 08.15 | 30/09/2016; 08.25 |
| 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) | --- | W | WSW | WSW | WSW | WNW | W | WNW | WNW | W |
| 06. | Average Wind Speed | Km/Hr. | 7.3 | 10.9 | 7.4 | 5.7 | 7.7 | 7.8 | 8.2 | 4.9 | 5.1 |
| 07. | Average flow rate for Dust Monitoring PM ₁₀ | m ³ /min. | 1.18 | 1.16 | 1.14 | 1.16 | 1.15 | 1.17 | 1.18 | 1.16 | 1.15 |
| 08. | Average flow rate for Dust Monitoring PM _{2.5} | m ³ /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 PM ₁₀ * | µg/m ³ | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 11. | Measured Concentration of PM ₁₀ | µg/m ³ | 40 | 49 | 50 | 44 | 47 | 42 | 41 | 44 | 53 |
| 12. | Permissible limits for PM _{2.5} * | µg/m ³ | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 13. | Measured Concentration of PM _{2.5} | µg/m ³ | 16 | 20 | 16 | 19 | 15 | 17 | 19 | 15 | 21 |
| 14. | Permissible limits for SO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| 15. | Measured Concentration of SO ₂ | µg/m ³ | 4.8 | 4.2 | 3.9 | 4.5 | 3.1 | 3.4 | 4.3 | 3.5 | 3.2 |
| 16. | Permissible limits for NO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| 17. | Measured Concentration of NO ₂ | µg/m ³ | 15.7 | 16.5 | 17.3 | 15.4 | 16.3 | 11.7 | 10.3 | 10.8 | 9.7 |
| 18. | Permissible limit for CO ** | µg/m ³ | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| 19. | Measured Concentration of CO | µg/m ³ | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. |

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

All Calibration due on : 15/05/2017

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

B.D.L.= Below Detectable Limit

Royal Environment Auditing & Consultancy Service



Manoj
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Ref. No. : 0104/09/2016-17

Date : 02/10/2016

NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - SEPTEMBER : 2016

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

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

| Sr. No. | Particulars | Unit | Location No.2 : Sinter plant - 1 (NNW) | | | | | | | | |
|---------|---|----------------------|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | | | 01 | 02 | 03 | 04 | 05 | | | | |
| 01. | No. of Week | ---- | 01 | 02 | 03 | 04 | 05 | | | | |
| 02. | Date & Time Starting of Monitoring | ---- | 02/09/2016; 08.20 | 06/09/2016; 08.50 | 09/09/2016; 08.35 | 12/09/2016; 08.40 | 16/09/2016; 08.25 | 19/09/2016; 08.15 | 23/09/2016; 08.55 | 26/09/2016; 08.40 | 29/09/2016; 08.45 |
| 03. | Date & Time Ending of Monitoring | ---- | 03/09/2016; 08.20 | 07/09/2016; 08.50 | 10/09/2016; 08.35 | 13/09/2016; 08.40 | 17/09/2016; 08.25 | 20/09/2016; 08.15 | 24/09/2016; 08.55 | 27/09/2016; 08.40 | 30/09/2016; 08.45 |
| 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) | ---- | W | WSW | WSW | WSW | WNW | W | WNW | WNW | W |
| 06. | Average Wind Speed | Km/Hr. | 7.3 | 10.9 | 7.4 | 5.7 | 7.7 | 7.8 | 8.2 | 4.9 | 5.1 |
| 07. | Average flow rate for Dust Monitoring PM ₁₀ | m ³ /min. | 1.16 | 1.15 | 1.17 | 1.15 | 1.14 | 1.16 | 1.15 | 1.14 | 1.17 |
| 08. | Average flow rate for Dust Monitoring PM _{2.5} | m ³ /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 PM ₁₀ * | µg/m ³ | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 11. | Measured Concentration of PM ₁₀ | µg/m ³ | 51 | 55 | 53 | 60 | 58 | 56 | 54 | 50 | 59 |
| 12. | Permissible limits for PM _{2.5} * | µg/m ³ | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 13. | Measured Concentration of PM _{2.5} | µg/m ³ | 19 | 20 | 25 | 23 | 18 | 24 | 21 | 22 | 23 |
| 14. | Permissible limits for SO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| 15. | Measured Concentration of SO ₂ | µg/m ³ | 3.1 | 2.8 | 2.4 | 2.9 | 3.5 | 2.6 | 3.1 | 1.9 | 2.7 |
| 16. | Permissible limits for NO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| 17. | Measured Concentration of NO ₂ | µg/m ³ | 13.7 | 16.4 | 17.6 | 15.4 | 17.3 | 18.2 | 15.7 | 14.6 | 12.1 |
| 18. | Permissible limit for CO ** | µg/m ³ | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| 19. | Measured Concentration of CO | µg/m ³ | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. |

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

All Calibration due on : 15/05/2017

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

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Ref. No. : 0105/09/2016-17

Date : 02/10/2016

NATIONAL AMBIENT AIR QUALITY MONITORING REPORT FOR THE MONTH - SEPTEMBER : 2016

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

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

| Sr. No. | Particulars | Unit | Location No.3 : Nr. Work Shop Spiral-II (W) | | | | | | | | |
|---------|---|----------------------|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | | | 01 | 02 | 03 | 04 | 05 | | | | |
| 01. | No. of Week | --- | 01 | 02 | 03 | 04 | 05 | | | | |
| 02. | Date & Time Starting of Monitoring | --- | 02/09/2016; 08.40 | 06/09/2016; 09.10 | 09/09/2016; 08.55 | 12/09/2016; 09.00 | 16/09/2016; 08.45 | 19/09/2016; 08.35 | 23/09/2016; 09.15 | 26/09/2016; 09.00 | 29/09/2016; 09.05 |
| 03. | Date & Time Ending of Monitoring | --- | 03/09/2016; 08.40 | 07/09/2016; 09.10 | 10/09/2016; 08.55 | 13/09/2016; 09.00 | 17/09/2016; 08.45 | 20/09/2016; 08.35 | 24/09/2016; 09.15 | 27/09/2016; 09.00 | 30/09/2016; 09.05 |
| 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) | --- | W | WSW | WSW | WSW | WNW | W | WNW | WNW | W |
| 06. | Average Wind Speed | Km/Hr. | 7.3 | 10.9 | 7.4 | 5.7 | 7.7 | 7.8 | 8.2 | 4.9 | 5.1 |
| 07. | Average flow rate for Dust Monitoring PM ₁₀ | m ³ /min. | 1.24 | 1.22 | 1.23 | 1.24 | 1.22 | 1.23 | 1.20 | 1.21 | 1.19 |
| 08. | Average flow rate for Dust Monitoring PM _{2.5} | m ³ /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 PM ₁₀ * | µg/m ³ | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 11. | Measured Concentration of PM ₁₀ | µg/m ³ | 40 | 47 | 45 | 46 | 42 | 35 | 40 | 33 | 37 |
| 12. | Permissible limits for PM _{2.5} * | µg/m ³ | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 13. | Measured Concentration of PM _{2.5} | µg/m ³ | 19 | 14 | 15 | 18 | 16 | 12 | 18 | 15 | 13 |
| 14. | Permissible limits for SO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| 15. | Measured Concentration of SO ₂ | µg/m ³ | 1.3 | 1.7 | 2.2 | 1.4 | 1.8 | 1.5 | 2.4 | 1.9 | 2.1 |
| 16. | Permissible limits for NO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| 17. | Measured Concentration of NO ₂ | µg/m ³ | 9.4 | 10.6 | 11.4 | 13.2 | 12.3 | 13.4 | 10.5 | 9.6 | 8.7 |
| 18. | Permissible limit for CO ** | µg/m ³ | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| 19. | Measured Concentration of CO | µg/m ³ | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. | B.D.L. |

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

All Calibration due on : 15/05/2017

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

B.D.L.= Below Detectable Limit

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Ref. No. : 0106/09/2016-17

Date : 02/10/2016

AMBIENT AIR QUALITY MONITORING REPORT

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

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

| Sr.No. | Particulars | Unit | AAQM - 1 (S) | AAQM - 2 (SSW) | AAQM - 3 (WSW) | AAQM - 4 (NW) |
|--------|---|--------|---|--------------------------------|--------------------------------|---------------------------------|
| 01. | Location of Ambient | --- | Old Colony (Nr. Environment Laboratory) | Nr. Rain Water Harvesting Pond | LPG Yard (Nr. Water Reservoir) | Between Sinter - 2 & Spiral - 2 |
| 02. | Date of sampling | --- | 07/09/2016 | 07/09/2016 | 08/09/2016 | 08/09/2016 |
| 03. | Time of sampling | --- | 8.40 | 9.10 | 9.00 | 9.30 |
| 04. | Duration of Sampling | Min. | 1440.00 | 1440.00 | 1440.00 | 1440.00 |
| 05. | Dominant Wind Direction (From) | --- | WSW | WSW | WSW | WSW |
| 06. | Average Wind Speed | Km/Hr. | 10.1 | 10.1 | 7.4 | 7.4 |
| 07. | Average flow rate during sampling | m3/Hr. | 1.0 | 1.0 | 1.0 | 1.0 |
| 08. | Average flow rate for Gas sampling | LPM | 0.2 | 0.2 | 0.2 | 0.2 |
| 09. | Permissible limits for PM 10* | µg/m3 | 100 | 100 | 100 | 100 |
| 10. | Measured Concentration of PM 10 | µg/m3 | 36 | 46 | 40 | 53 |
| 11. | Permissible limits for PM 2.5* | µg/m3 | 60 | 60 | 60 | 60 |
| 12. | Measured Concentration of PM 2.5 | µg/m3 | 10 | 19 | 14 | 22 |
| 13. | Permissible limits for SO ₂ * | µg/m3 | 80 | 80 | 80 | 80 |
| 14. | Measured Concentration of SO ₂ | µg/m3 | 0.8 | 1.9 | 2.4 | 2.1 |
| 15. | Permissible limits for NO ₂ * | µg/m3 | 80 | 80 | 80 | 80 |
| 16. | Measured Concentration of NO ₂ | µg/m3 | 6.5 | 9.8 | 10.4 | 9.3 |
| 17. | Permissible limit for CO ** | µg/m3 | 2000 | 2000 | 2000 | 2000 |
| 18. | Measured Concentration of CO | µg/m3 | BDL | BDL | BDL | BDL |

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

All Calibration due on : 15/05/2017

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

BDL= Below Detectable Limit

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Ref. No. : 0107/09/2016-17

Date : 02/10/2016

AMBIENT AIR QUALITY MONITORING REPORT

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

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

| Sr. No. | Particulars | Unit | AAQM - 5 (NE) | AAQM - 6 (SE) | AAQM - 7 (ESE) | AAQM - 8 (E) |
|---------|---|---------------------|-----------------------|--|--------------------|-----------------|
| 01. | Location of Ambient | --- | Vikashpuram Colony | Savitri Vihar Colony (Shopping Centre) | VIP Guest House | Main Gate |
| 02. | Date of sampling | --- | 09/09/2016 | 09/09/2016 | 10/09/2016 | 10/09/2016 |
| 03. | Time of sampling | --- | 9.20 | 9.50 | 9.45 | 10.15 |
| 04. | Duration of Sampling | Min. | 1440.00 | 1440.00 | 1440.00 | 1440.00 |
| 05. | Dominant Wind Direction (From) | --- | WSW | WSW | WSW | WSW |
| 06. | Average Wind Speed | Km/Hr. | 7.4 | 7.4 | 9.2 | 9.2 |
| 07. | Average flow rate during sampling | m ³ /Hr. | 1.0 | 1.0 | 1.0 | 1.0 |
| 08. | Average flow rate for Gas sampling | LPM | 0.2 | 0.2 | 0.2 | 0.2 |
| 09. | Permissible limits for PM 10* | µg/m ³ | 100 | 100 | 100 | 100 |
| 10. | Measured Concentration of PM 10 | µg/m ³ | 38 | 49 | 50 | 45 |
| 11. | Permissible limits for PM 2.5* | µg/m ³ | 60 | 60 | 60 | 60 |
| 12. | Measured Concentration of PM 2.5 | µg/m ³ | 20 | 18 | 25 | 15 |
| 13. | Permissible limits for SO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 |
| 14. | Measured Concentration of SO ₂ | µg/m ³ | 3.5 | 2.9 | 4.2 | 5.1 |
| 15. | Permissible limits for NO ₂ * | µg/m ³ | 80 | 80 | 80 | 80 |
| 16. | Measured Concentration of NO ₂ | µg/m ³ | 8.7 | 7.8 | 9.2 | 11.4 |
| 17. | Permissible limit for CO ** | µg/m ³ | 2000 | 2000 | 2000 | 2000 |
| 18. | Measured Concentration of CO | µg/m ³ | BDL | BDL | BDL | BDL |

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

All Calibration due on : 15/05/2017

BDL= Below Detectable Limit

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

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Ref. No. :0108/09/2016-17

Date : 02/10/2016

FUGITIVE EMISSION MONITORING REPORT

Name of company : JINDAL SAW LIMITED

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

| Sr. No. | Particulars | Unit | A - 1 | A - 2 | A - 3 |
|---------|------------------------------------|--------|--------------------|-----------------|-----------------|
| 01. | Location of Ambient | ---- | RMH Junction House | RMH Stock House | Sinter RMH Yard |
| 02. | Date of sampling | ---- | 20/09/2016 | 20/09/2016 | 21/09/2016 |
| 03. | Time of sampling | ---- | 8.05 | 8.25 | 8.00 |
| 04. | Duration of Sampling | Hr. | 8.00 | 8.00 | 8.00 |
| 05. | Dominant Wind Direction (From) | ---- | W | W | W |
| 06. | Average Wind Speed | Km/Hr. | 7.8 | 7.8 | 6.5 |
| 07. | Average flow rate during sampling | m3/Hr. | 1.0 | 1.0 | 1.0 |
| 08. | Average flow rate for Gas sampling | LPM | 0.2 | 0.2 | 0.2 |
| 09. | Permissible limits for PM 10* | µg/m3 | 3000 | 3000 | 3000 |
| 10. | Measured Concentration of PM 10 | µg/m3 | 1545 | 1402 | 1334 |
| 11. | Permissible limits for SO2* | µg/m3 | 150 | 150 | 150 |
| 12. | Measured Concentration of SO2 | µg/m3 | 14.7 | 13.5 | 15.4 |
| 13. | Permissible limits for NO2* | µg/m3 | 120 | 120 | 120 |
| 14. | Measured Concentration of NO2 | µg/m3 | 25.2 | 23.1 | 24.5 |
| 15. | Permissible limit for CO ** | µg/m3 | 2000 | 2000 | 2000 |
| 16. | Measured Concentration of CO | µg/m3 | BDL | BDL | BDL |
| 17. | Permissible limit for Pb* | µg/m3 | 2 | 2 | 2 |
| 18. | Measured Concentration of Pb | µg/m3 | ND | ND | ND |

Instrument used : (1) 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampler (APM 109)
All Calibration due on : 15/05/2017

BDL= Below Detectable Limit
ND= Not Detectable

Royal Environment Auditing & Consultancy Service



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Ref. No. :0109/09/2016-17

Date : 02/10/2016

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 - 4 | A - 5 | A - 6 |
|---------|------------------------------------|--------|------------------------|-----------------|---------------|
| 01. | Location of Ambient | --- | Sinter 2 Ground Hopper | DISP "CCM" Area | BF CAST HOUSE |
| 02. | Date of sampling | --- | 21/09/2016 | 22/09/2016 | 22/09/2016 |
| 03. | Time of sampling | --- | 8.30 | 8.15 | 8.40 |
| 04. | Duration of Sampling | Hr. | 8.00 | 8.00 | 8.00 |
| 05. | Dominant Wind Direction (From) | --- | W | WNW | WNW |
| 06. | Average Wind Speed | Km/Hr. | 6.5 | 6.2 | 6.2 |
| 07. | Average flow rate during sampling | m3/Hr. | 1.0 | 1.0 | 1.0 |
| 08. | Average flow rate for Gas sampling | LPM | 0.2 | 0.2 | 0.2 |
| 09. | Permissible limits for PM 10* | µg/m3 | 3000 | 3000 | 3000 |
| 10. | Measured Concentration of PM 10 | µg/m3 | 1246 | 509 | 1794 |
| 11. | Permissible limits for SO2* | µg/m3 | 150 | 150 | 150 |
| 12. | Measured Concentration of SO2 | µg/m3 | 11.6 | 19.5 | 17.8 |
| 13. | Permissible limits for NO2* | µg/m3 | 120 | 120 | 120 |
| 14. | Measured Concentration of NO2 | µg/m3 | 21.3 | 27.2 | 26.4 |
| 15. | Permissible limit for CO ** | µg/m3 | 2000 | 2000 | 2000 |
| 16. | Measured Concentration of CO | µg/m3 | BDL | BDL | BDL |
| 17. | Permissible limit for Pb* | µg/m3 | 2 | 2 | 2 |
| 18. | Measured Concentration of Pb | µg/m3 | ND | ND | ND |

Instrument used : (1) 3 Nos. RDS (APM - 217 BL), (2) 3 Nos. Gaseous Sampler (APM 109)
All Calibration due on : 15/05/2017

BDL= Below Detectable Limit
ND= Not Detectable

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Ref. No. : 0110/09/2016-17

Date : 02/10/2016

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 6 |
|---------|----------------------------------|--------------------|--|-------------------------------|----------------|---------------|
| 01 | Date of Sampling | --- | 07/09/2016 | Not in operation during visit | 06/09/2016 | 06/09/2016 |
| 02 | Attached to | --- | Fuel & Flux crusher & screening building | Fuel & Flux crushing house | Sinter Furnace | Discharge end |
| 03 | Stack Height | Meter | 32 | 27 | 50 | 32 |
| 04 | Stack Diameter | Meter | 1.4 | 1.4 | 2.0 | 1.3 |
| 05 | Stack Temperature | °C | 49 | ... | 152 | 141 |
| 06 | Ambient Temperature | °C | 34 | ... | 27 | 35 |
| 07 | Average Velocity of Flue Gases | m/sec. | 10.3 | ... | 30.5 | 27.6 |
| 08 | IsoKinetic Flowrate for Sampling | LPM | 18 | ... | 10 | 9 |
| 09 | Inlet | mg/Nm ³ | 2461 | ... | 4131 | 3149 |
| 10 | Outlet | mg/Nm ³ | 23 | ... | 50 | 31 |
| 11 | Efficiency | % | 99.07 | ... | 98.79 | 99.02 |

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100
Calibration due on 12/09/2017

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Ref. No. : 0111/09/2016-17

Date : 02/10/2016

Blast Furnace Plant-1(GPCB ID:18037)

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

| Sr. No. | Particulars | Unit | S - 1 |
|---------|----------------------------------|--------------------|------------------|
| 01 | Date of Sampling | --- | 15/09/2016 |
| 02 | Attached to | --- | De-dustingSystem |
| 03 | Stack Height | Meter | 35 |
| 04 | Stack Duct Diameter | Meter | 1.4 |
| 05 | Stack Temperature | °C | 52 |
| 06 | Ambient Temperature | °C | 32 |
| 07 | Average Velocity of Flue Gases | m/sec. | 15.1 |
| 08 | IsoKinetic Flowrate for Sampling | LPM | 26 |
| 09 | Inlet | mg/Nm ³ | 463 |
| 10 | Outlet | mg/Nm ³ | 4 |
| 11 | Efficiency | % | 99.14 |

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

Calibration due on 12/09/2017



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Ref. No. : 0112/09/2016-17

Date : 02/10/2016

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 7 | S - 9 | S-10 |
|---------|----------------------------------|--------------------|---------------------------------------|---------------------------------------|---|----------------|---|---------------------------|
| 01 | Date of Sampling | --- | 08/09/2016 | Not in operation during visit | 08/09/2016 | 08/09/2016 | 08/09/2016 | 07/09/2016 |
| 02 | Attached to | --- | Fuel crushing de-duster system (Fuel) | Fuel crushing de-duster system (Flux) | Fuel screening deduster system (Flux screening) | Sinter Furnace | Discharging end of Sinter de-dusting System | Pulverised Coal Injection |
| 03 | Stack Height | Meter | 30 | 30 | 30 | 50 | 50 | 32 |
| 04 | Stack Diameter | Meter | 0.7 | 0.7 | 0.7 | 2.0 | 1.3 | 1.0 |
| 05 | Stack Temperature | °C | 46 | .... | 51 | 158 | 139 | 137 |
| 06 | Ambient Temperature | °C | 35 | .... | 35 | 28 | 33 | 33 |
| 07 | Average Velocity of Flue Gases | m/sec. | 14.3 | .... | 11.5 | 32.2 | 31.5 | 14.8 |
| 08 | IsoKinetic Flowrate for Sampling | LPM | 25 | .... | 20 | 11 | 11 | 20 |
| 09 | Inlet | mg/Nm ³ | 1637 | .... | 1926 | 4155 | 2213 | 1946 |
| 10 | Outlet | mg/Nm ³ | 15 | .... | 18 | 41 | 20 | 19 |
| 11 | Efficiency | % | 99.08 | .... | 99.07 | 99.01 | 99.10 | 99.02 |

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100
Calibration due on 12/09/2017

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Ref. No. : 0113/09/2016-17

Date : 02/10/2016

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

| Sr. No. | Particulars | Unit | S - 7 | S - 8 | S - 12 | S - 18 | S - 22 |
|---------|----------------------------------|--------------------|------------------|--|--------------------------------|---------------------------------|-----------------------|
| 01 | Date of Sampling | --- | 10/09/2016 | 22/09/2016 | 10/09/2016 | 12/09/2016 | 13/09/2016 |
| 02 | Attached to | | Sand Reclamation | Common stack Mg Converter - I & II | Core Cleaning & Dusting - I | Core Cleaning & Dusting - II | Mg Converter - III |
| 03 | Stack Height | Meter | 32 | 30 | 30 | 30 | 30 |
| 04 | Stack Diameter | Meter | 0.9 | 0.5 | 0.6 | 0.6 | 0.5 |
| 05 | Stack Temperature | °C | 104 | 51 | 53 | 57 | 86 |
| 06 | Ambient Temperature | °C | 32 | 32 | 35 | 35 | 34 |
| 07 | Average Velocity of Flue Gases | m/sec. | 22.8 | 15.2 | 13.4 | 16.1 | 7.2 |
| 08 | IsoKinetic Flowrate for Sampling | LPM | 9 | 26 | 23 | 27 | 25 |
| 09 | Inlet | mg/Nm ³ | 4435 | 4021 | 3653 | 4352 | 3518 |
| 10 | Outlet | mg/Nm ³ | 42 | 40 | 37 | 46 | 33 |
| 11 | Efficiency | % | 99.05 | 99.01 | 98.99 | 98.94 | 99.06 |

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

Calibration due on 12/09/2017

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Ref. No. : 0114/09/2016-17

Date : 02/10/2016

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

| Sr. No. | Particulars | Unit | S - 9 | S - 10 | S - 15 | S - 16 | S - 20 | S - 21 | S - 23 |
|---------|----------------------------------|--------------------|------------------|-------------------------------|-------------------|-------------------------------|--------------------|-------------------------------|-----------------------|
| 01 | Date of Sampling | --- | 12/09/2016 | Not in operation during visit | 13/09/2016 | Not in operation during visit | 22/09/2016 | Not in operation during visit | 16/09/2016 |
| 02 | Attached to | --- | Zinc Coating - I | Barrel Grinding-I | Zinc Coating - II | Barrel Grinding-II | Zinc Coating - III | Barrel Grinding-III | Zinc Coating - IV & V |
| 03 | Stack Height | Meter | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 04 | Stack Duct Diameter | Meter | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.9 |
| 05 | Stack Temperature | °C | 47 | ... | 50 | ... | 44 | ... | 48 |
| 06 | Ambient Temperature | °C | 31 | ... | 34 | ... | 35 | ... | 34 |
| 07 | Average Velocity of Flue Gases | m/sec. | 15.2 | ... | 15.7 | ... | 14.6 | ... | 13.4 |
| 08 | IsoKinetic Flowrate for Sampling | LPM | 26 | ... | 27 | ... | 26 | ... | 23 |
| 09 | Inlet | mg/Nm ³ | 1346 | ... | 1682 | ... | 1876 | ... | 1527 |
| 10 | Outlet | mg/Nm ³ | 11 | ... | 15 | ... | 17 | ... | 13 |
| 11 | Efficiency | % | 99.18 | ... | 99.11 | ... | 99.09 | ... | 99.15 |

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

Calibration due on 12/09/2017

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Ref. No. : 0115/09/2016-17

Date : 02/10/2016

Performance Evaluation of Air Pollution Control Equipments

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

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

| Sr. No. | Particulars | Unit | S - 1 | S - 5 | S - 6 | S-8 |
|---------|----------------------------------|--------------------|--------------|--------------|--------------|----------------------|
| 01 | Date of Sampling | --- | 19/09/2016 | 17/09/2016 | 17/09/2016 | 27/09/2016 |
| 02 | Attached to | --- | Mg Treatment | Zinc Coating | Tri-Grinding | Zinc Coating machine |
| 03 | Stack Height | Meter | 30 | 30 | 30 | 30 |
| 04 | Stack Duct Diameter | Meter | 1.00 | 1.00 | 1.00 | 0.8 |
| 05 | Stack Temperature | °C | 47 | 45 | 39 | 40 |
| 06 | Ambient Temperature | °C | 30 | 29 | 31 | 33 |
| 07 | Average Velocity of Flue Gases | m/sec. | 8.5 | 7.8 | 3.6 | 5.9 |
| 08 | IsoKinetic Flowrate for Sampling | LPM | 15 | 14 | 15 | 24 |
| 09 | Inlet | mg/Nm ³ | 2957 | 1788 | 1269 | 2694 |
| 10 | Outlet | mg/Nm ³ | 26 | 16 | 12 | 27 |
| 11 | Efficiency | % | 99.12 | 99.11 | 99.05 | 99.00 |

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

Calibration due on 12/09/2017

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Ref. No. : 0116/09/2016-17

Date : 02/10/2016

Performance Evaluation of Air Pollution Control Equipments Blast Furnace Plant-2 (GPCB ID:29026)

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

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

| Sr. No. | Particulars | Unit | S - 1 | S - 4 | S - 5 |
|---------|----------------------------------|--------------------|------------------|---|--|
| 01 | Date of Sampling | --- | 21/09/2016 | 21/09/2016 | 21/09/2016 |
| 02 | Attached to | --- | Dedusting System | Coke fine building dust collecting system | Iron Ore fine & Dust Collecting System |
| 03 | Stack Height | Meter | 40 | 30 | 30 |
| 04 | Stack Duct Diameter | Meter | 1.5 | 0.85 | 0.65 |
| 05 | Stack Temperature | °C | 53 | 61 | 37 |
| 06 | Ambient Temperature | °C | 31 | 34 | 34 |
| 07 | Average Velocity of Flue Gases | m/sec. | 24.8 | 11.1 | 8.9 |
| 08 | IsoKinetic Flowrate for Sampling | LPM | 11 | 19 | 16 |
| 09 | Inlet | mg/Nm ³ | 3063 | 1005 | 649 |
| 10 | Outlet | mg/Nm ³ | 28 | 9 | 6 |
| 11 | Efficiency | % | 99.09 | 99.10 | 99.08 |

Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100
Calibration due on 12/09/2017

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Ref. No. :0117/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS

Sinter Plant - 1(GPCB ID:35456)

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

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 4 | S - 5 | S - 6 |
|---------|--|--------|--|-------------------------------|----------------|-----------------------|-------------------------|---------------|
| 01 | Date of Sampling | --- | 07/09/2016 | Not in operation during visit | 06/09/2016 | NA | NA | 06/09/2016 |
| 02 | Time of sampling | --- | 12.50 | | 9.00 | | | 14.00 |
| 03 | Stack Attached to | --- | Fuel & Flux Crusher and Screening building | Fuel & Flux Crushing House | Sinter Furnace | Primary Mixture House | Secondary Mixture House | Discharge End |
| 04 | Air Pollution Control Measures | --- | Bag Filter | Bag Filter | ESP | .... | .... | ESP |
| 05 | Stack Height | Meter | 32.0 | 27.00 | 50 | 19.75 | 36.08 | 32 |
| 06 | Stack Diameter | Meter | 1.40 | 1.40 | 2.0 | 1.25 | 1.25 | 1.30 |
| 07 | Stack Temperature | °C | 43 | .... | 146 | .... | .... | 135 |
| 08 | Ambient Temperature | °C | 34 | .... | 27 | .... | .... | 35 |
| 09 | Average Velocity of Flue Gases | m/sec. | 4.1 | .... | 5.8 | .... | .... | 17.2 |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | 17 | .... | 18 | .... | .... | 24 |
| 11 | Gaseous Sampling Flow Rate | LPM | .... | .... | 2.0 | .... | .... | .... |
| 12 | Permissible limits for PM | mg/Nm3 | 150 | 150 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM. | mg/Nm3 | 23 | ... | 50 | ... | ... | 31 |
| 14 | Permissible limits for SO2 | ppm | NA | NA | 100 | NA | NA | NA |
| 15 | Measured Concentration of SO2 | ppm | ... | ... | ND | .... | .... | .... |
| 16 | Permissible limits for NOx | ppm | NA | NA | 50 | NA | NA | NA |
| 17 | Measured Concentration of NOx | ppm | .... | .... | 5.7 | .... | .... | .... |

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

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

Calibration due on : 12/09/2017

NA= Not Applicable

ND=Not Detectable

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Ref. No. : 0118/09/2016-17

Date : 02/10/2016

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 4 | S - 5 | S - 6 | S - 7 | S - 8 | S - 9 | S - 10 |
|---------|--|--------|---------------------------------------|--------------------------------------|---|--|--------------------------------|----------------------------------|----------------|---|---|---------------------------|
| 01 | Date of Sampling | --- | Not In Operation During The Visit | 08/09/2016 | 08/09/2016 | Not In Operation During The Visit | NA | NA | 08/09/2016 | Not In Operation During The Visit | 08/09/2016 | 07/09/2016 |
| 02 | Time of sampling | Hr. | | 13.40 | 16.00 | | | | 9.20 | | 11.30 | 11.00 |
| 03 | Stack Attached to | --- | Fuel crushing de-duster system (Flux) | Fuel crushing de-duster system(Fuel) | Fuel Screening deduster System (Flux Screening) | No.1 Transfer Station De-duster System | Primary Mixer De-duster system | Secondary Mixer De-duster system | Sinter Furnace | Transfer station no. 4 & 5 dedusting system | Discharging End of sinter de-dusting system | Pulverized Coal Injection |
| 04 | Air Pollution Control Measures | --- | Dust Collector | Dust Collector | Dust Collector | Dust Collector | Dust Collector | Dust Collector | ESP | Dust Collector | ESP | Bag Filter |
| 05 | Stack Height | Meter | 30 | 30 | 30 | 30 | 20 | 30 | 50 | 30 | 50 | 32 |
| 06 | Stack Diameter | Meter | 0.7 | 0.7 | 0.7 | 0.7 | --- | --- | 2 | --- | 1.3 | 1.00 |
| 07 | Stack Temperature | °C | --- | 39 | 42 | --- | --- | --- | 152 | --- | 132 | 128 |
| 08 | Ambient Temperature | °C | --- | 35 | 35 | --- | --- | --- | 28 | --- | 33 | 33 |
| 09 | Average Velocity of Flue Gases | m/sec. | --- | 12.1 | 5.1 | --- | --- | --- | 12.9 | --- | 27.3 | 8.3 |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | --- | 22 | 21 | --- | --- | --- | 17 | --- | 10 | 12 |
| 11 | Gaseous Sampling Flow Rate | LPM | --- | --- | --- | --- | --- | --- | 2.0 | --- | --- | 2.0 |
| 12 | Permissible limits for PM | mg/Nm3 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM | mg/Nm3 | --- | 15 | 18 | --- | --- | --- | 41 | --- | 20 | 19 |
| 14 | Permissible limits for SO2 | ppm | NA | NA | NA | NA | NA | NA | 100 | NA | NA | 100 (ppm) |
| 15 | Measured Concentration of SO2 | ppm | --- | --- | --- | --- | --- | --- | ND | --- | --- | 0.76 |
| 16 | Permissible limits for NOx | ppm | NA | NA | NA | NA | NA | NA | 50 | NA | NA | 50 (ppm) |
| 17 | Measured Concentration of NOx | ppm | --- | --- | --- | --- | --- | --- | 4.8 | --- | --- | 0.54 |

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

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

Calibration due on : 12/09/2017

NA= Not Applicable
ND= Not Detectable

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Ref. No. :0119/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS BLAST FURNACE - 2 (GPCB ID:29026)

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

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 4 | S - 5 |
|---------|--|--------|------------------|-------------|-------------------------|---|--|
| 01 | Date of Sampling | --- | 21/09/2016 | 21/09/2016 | Monitoring Not Possible | 21/09/2016 | 21/09/2016 |
| 02 | Time of sampling | Hr. | 10.30 | 8.30 | | 14.15 | 16.10 |
| 03 | Stack Attached to | --- | Dedusting System | Stove Stack | Flare Stack | Coke fine building dust collecting system | Iron Ore fine & Dust Collecting System |
| 04 | Air Pollution Control Measures | --- | Bag Filter | --- | --- | Bag Filter | Bag Filter |
| 05 | Stack Height | Meter | 40.0 | 65.0 | 45 | 30.0 | 30.0 |
| 06 | Stack Diameter | Meter | 1.5 | 2.250 | --- | 0.45 | 0.35 |
| 07 | Stack Temperature | °C | 44 | 211 | --- | 52 | 34 |
| 08 | Ambient Temperature | °C | 31 | 28 | --- | 34 | 34 |
| 09 | Average Velocity of Flue Gases | m/sec. | 26.3 | 2.4 | --- | 9.8 | 7.2 |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | 12 | 6 | --- | 17 | 13 |
| 11 | Gaseous Sampling Flow Rate | LPM | --- | --- | --- | --- | --- |
| 12 | Permissible limits for PM | mg/Nm3 | 150 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM. | mg/Nm3 | 28 | 3 | --- | 9 | 6 |
| 14 | Permissible limits for SO2 | mg/Nm3 | NA | NA | NA | NA | NA |
| 15 | Measured Concentration of SO2 | mg/Nm3 | --- | --- | --- | --- | --- |
| 16 | Permissible limits for NOx | mg/Nm3 | NA | NA | NA | NA | NA |
| 17 | Measured Concentration of Nox | mg/Nm3 | --- | --- | --- | --- | --- |

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

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

Calibration due on : 12/09/2017

NA=Not Applicable

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Ref. No. : 0120/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS

BLAST FURNACE-1 (GPCB ID:18037)

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

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 4 | S - 5 |
|---------|---|--------------------|------------------|------------|-------------|-------------|-------------------------|
| 01 | Date of Sampling | --- | 15/09/2016 | 15/09/2016 | 15/09/2016 | 15/09/2016 | Monitoring Not Possible |
| 02 | Time of sampling | Hr. | 10.45 | 15.00 | 16.20 | 8.10 | |
| 03 | Stack Attached to | --- | Dedusting System | Boiler - I | Boiler - II | Stove Stack | Flare Stack |
| 04 | Air Pollution Control Measures | --- | Bag Filter | --- | --- | --- | --- |
| 05 | Stack Height | Meter | 35.0 | 45 | 45 | 50.0 | 30 |
| 06 | Stack Diameter | Meter | 1.5 | 1.4 | 1.4 | 2.25 | --- |
| 07 | Stack Temperature | °C | 40 | 163 | 170 | 206 | --- |
| 08 | Ambient Temperature | °C | 32 | 34 | 34 | 27 | --- |
| 09 | Average Velocity of Flue Gases | m/sec. | 11.3 | 3.4 | 3.7 | 2.4 | --- |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | 20 | 10 | 11 | 6 | --- |
| 11 | Gaseous Sampling Flow Rate | LPM | 2.0 | 2.0 | 2.0 | 2.0 | --- |
| 12 | Permissible limits for PM | mg/Nm ³ | 150 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM. | mg/Nm ³ | 4 | 17 | 12 | 2 | --- |
| 14 | Permissible limits for SO ₂ | mg/Nm ³ | 40 | 40 | 40 | 40 | 40 |
| 15 | Measured Concentration of SO ₂ | mg/Nm ³ | ND | ND | ND | ND | --- |
| 16 | Permissible limits for NO _x | mg/Nm ³ | 25 | 25 | 25 | 25 | 25 |
| 17 | Measured Concentration of NO _x | mg/Nm ³ | ND | ND | ND | ND | --- |

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.
Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100
Calibration due on : 12/09/2017

N.D=Not Detectable

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Ref. No. : 0121/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS

Captive Power Plant (GPCB ID:18037)

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 4 |
|---------|--|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| 01 | Date of Sampling | --- | Not In Operation During The Visit | Not In Operation During The Visit | Not In Operation During The Visit | Not In Operation During The Visit |
| 02 | Time of sampling | Hr. | --- | --- | --- | --- |
| 03 | Stack Attached to | --- | 6000 KVA D.G. | 3240 KVA D.G. | 3240 KVA D.G. | 1180 KVA D.G. |
| 04 | Air Pollution Control Measures | --- | --- | --- | --- | --- |
| 05 | Stack Height | Meter | 57.0 | 35 | 35 | 35 |
| 06 | Stack Diameter | Meter | 1.984 | 1.484 | 1.484 | 0.980 |
| 07 | Stack Temperature | °C | --- | --- | --- | --- |
| 08 | Ambient Temperature | °C | --- | --- | --- | --- |
| 09 | Average Velocity of Flue Gases | m/sec. | --- | --- | --- | --- |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | --- | --- | --- | --- |
| 11 | Gaseous Sampling Flow Rate | LPM | --- | --- | --- | --- |
| 12 | Permissible limits for PM | mg/Nm3 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM. | mg/Nm3 | --- | --- | --- | --- |
| 14 | Permissible limits for SO2 | ppm | 100 | 100 | 100 | 100 |
| 15 | Measured Concentration of SO2 | ppm | --- | --- | --- | --- |
| 16 | Permissible limits for Nox | ppm | 50 | 50 | 50 | 50 |
| 17 | Measured Concentration of Nox | ppm | --- | --- | --- | --- |

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

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

Calibration due on : 12/09/2017

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Ref. No. : 0122/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS

Pipe Plant (GPCB ID:18036)

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

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

| Sr. No. | Particulars | Unit | S - 11 | S - 17 | S - 25 | S - 26 | S - 27 |
|---------|---|--------------------|--------------------------------------|--|----------------------|-----------------------|------------------------|
| 01 | Date of Sampling | --- | Not In Operation During The Visit | 26/09/2016 | 26/09/2016 | 26/09/2016 | 26/09/2016 |
| 02 | Time of sampling | Hr. | | 10.45 | 14.30 | 15.25 | 16.35 |
| 03 | Stack Attached to | --- | Bitumin Drying Oven - I | Common stack Bitumin Drying Oven - II & Boiler | Shot Blasting - I | Shot Blasting - II | Shot Blasting - III |
| 04 | Air Pollution Control Measures | --- | --- | --- | Bag Filter | Bag Filter | Bag Filter |
| 05 | Stack Height | Meter | 32.8 | 32.8 | 10.0 | 10.0 | 10.0 |
| 06 | Stack Diameter | Meter | 1.375 | 1.375 | 0.41 | 0.41 | 1.125 |
| 07 | Stack Temperature | °C | --- | 154 | 44 | 41 | 42 |
| 08 | Ambient Temperature | °C | --- | 33 | 34 | 34 | 34 |
| 09 | Average Velocity of Flue Gases | m/sec. | | 5.2 | 12.7 | 10.5 | 11.3 |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | --- | 16 | 22 | 19 | 20 |
| 11 | Gaseous Sampling Flow Rate | LPM | --- | 2.0 | 2.0 | 2.0 | 2.0 |
| 12 | Permissible limits for PM | mg/Nm ³ | 150 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM | mg/Nm ³ | --- | 60 | 35 | 23 | 19 |
| 14 | Permissible limits for SO ₂ | mg/Nm ³ | 100 ppm | 100 ppm | 40 | 40 | 40 |
| 15 | Measured Concentration of SO ₂ | mg/Nm ³ | --- | 22.8 | ND | ND | ND |
| 16 | Permissible limits for Nox | mg/Nm ³ | 50 ppm | 50 ppm | 25 | 25 | 25 |
| 17 | Measured Concentration of Nox | mg/Nm ³ | --- | 20.9 | ND | ND | ND |

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

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

Calibration due on : 12/09/2017

N.D= Not Detectable

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Mamraj
Analyst



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Ref. No. : 0123/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS

Pipe Plant (GPCB ID:18036)

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

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

| Sr. No. | Particulars | Unit | S - 8 | S - 9 | S - 15 | S - 20 | S - 22 | S - 23 |
|---------|--|--------|-----------------------------------|----------------------------------|----------------------------------|--------------------------------------|-----------------------|--------------------------------------|
| 01 | Date of Sampling | --- | 22/09/2016 | 12/09/2016 | 13/09/2016 | 22/09/2016 | 13/09/2016 | 16/09/2016 |
| 02 | Time of sampling | Hr. | 10.30 | 10.00 | 14.45 | 15.00 | 9.45 | 11.10 |
| 03 | Stack Attached to | --- | Common stack Mg Converter-I&II | Zn Coating - I | Zn Coating - II | Zn Coating - III | Mg Converter - III | Zn Coating - IV & V |
| 04 | Air Pollution Control Measures | --- | Bag Filter | Cyclone Seprater & Bag Filter | Cyclone Seprater & Bag Filter | Cyclone Separator & Bag Filter | Bag Filter | Cyclone Separator & Bag Filter |
| 05 | Stack Height | Meter | 30 | 30 | 30 | 30 | 30 | 30 |
| 06 | Stack Diameter | Meter | 0.5 | 0.6 | 0.6 | 0.6 | 0.5 | 0.9 |
| 07 | Stack Temperature | °C | 45 | 41 | 43 | 39 | 53 | 40 |
| 08 | Ambient Temperature | °C | 32 | 31 | 34 | 35 | 31 | 34 |
| 09 | Average Velocity of Flue Gases | m/sec. | 23.9 | 12.4 | 13.1 | 15.7 | 10.5 | 3.6 |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | 11 | 22 | 23 | 28 | 18 | 15 |
| 11 | Gaseous Sampling Flow Rate | LPM | 2.0 | --- | --- | --- | 2.0 | --- |
| 12 | Permissible limits for PM | mg/Nm3 | 150 | 20 (Zn) | 20 (Zn) | 20 (Zn) | 150 | 20 (Zn) |
| 13 | Measured Concentration of PM | mg/Nm3 | 40 | 11 (Zn) | 15 (Zn) | 17 (Zn) | 33 | 13 (Zn) |
| 14 | Permissible limits for SO2 | mg/Nm3 | 40 | NA | NA | NA | 40 | NA |
| 15 | Measured Concentration of SO2 | mg/Nm3 | ND | --- | --- | --- | ND | --- |
| 16 | Permissible limits for Nox | mg/Nm3 | 25 | NA | NA | NA | 25 | NA |
| 17 | Measured Concentration of Nox | mg/Nm3 | 1.2 | --- | --- | --- | 0.8 | --- |

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

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

Calibration due on : 12/09/2017

NA=Not Applicable

ND=Not Detectable

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Analyst



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Ref. No. : 0124/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS

Pipe Plant (GPCB ID:18036)

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

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 4 | S - 5 | S - 6 | S - 12 | S - 18 |
|---------|---|--------------------|-------------|--------------|---------------|--------------|-------------|--------------|---------------------------|----------------------------|
| 01 | Date of Sampling | --- | 09/09/2016 | 09/09/2016 | 09/09/2016 | 09/09/2016 | 09/09/2016 | 09/09/2016 | 10/09/2016 | 12/09/2016 |
| 02 | Time of sampling | Hr. | 9.15 | 10.00 | 10.45 | 11.50 | 14.20 | 15.25 | 15.50 | 12.25 |
| 03 | Stack Attached to | --- | Core Shop-I | Core Shop-II | Core Shop-III | Core Shop-IV | Core Shop-V | Core Shop-VI | Core Cleaning & Dusting-I | Core Cleaning & Dusting-II |
| 04 | Air Pollution Control Measures | --- | --- | --- | --- | --- | --- | --- | Bag Filter | Bag Filter |
| 05 | Stack Height | Meter | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 06 | Stack Diameter | Meter | 0.584 | 0.584 | 0.584 | 0.584 | 0.584 | 0.584 | 0.6 | 0.6 |
| 07 | Stack Temperature | °C | 39 | 36 | 37 | 40 | 42 | 39 | 48 | 51 |
| 08 | Ambient Temperature | °C | 27 | 29 | 29 | 34 | 34 | 34 | 35 | 35 |
| 09 | Average Velocity of Flue Gases | m/sec. | 3.5 | 3.2 | 3.9 | 4.3 | 3.7 | 3.8 | 11.6 | 14.9 |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | 14 | 13 | 16 | 17 | 15 | 15 | 20 | 26 |
| 11 | Gaseous Sampling Flow Rate | LPM | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 12 | Permissible limits for PM | mg/Nm ³ | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM | mg/Nm ³ | 27 | 15 | 28 | 42 | 20 | 30 | 37 | 46 |
| 14 | Permissible limits for SO ₂ | mg/Nm ³ | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 15 | Measured Concentration of SO ₂ | mg/Nm ³ | 2.1 | 1.5 | 1.9 | 2.2 | 2.7 | 2.4 | ND | ND |
| 16 | Permissible limits for Nox | mg/Nm ³ | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| 17 | Measured Concentration of Nox | mg/Nm ³ | 3.8 | 2.5 | 3.6 | 4.1 | 4.5 | 3.9 | 5.2 | 4.8 |

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

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

Calibration due on : 12/09/2017

ND= Not Detectable

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Analyst



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Ref. No. : 0125/09/2016-17

Date : 02/10/2016

STACK EMISSION MONITORING RESULTS

Pipe Plant (GPCB ID:18036)

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

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

| Sr. No. | Particulars | Unit | S - 7 | S - 10 | S - 13 | S - 14 | S - 16 | S - 19 | S - 21 | S - 24 |
|---------|--|--------|------------------|-------------------------------|-----------------------|------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------------|
| 01 | Date of Sampling | --- | 10/09/2016 | Not in operation during visit | 14/09/2016 | 14/09/2016 | Not in operation during visit | 14/09/2016 | Not in operation during visit | Not in operation during visit |
| 02 | Time of sampling | Hr. | 10.00 | | 9.15 | 10.30 | | 15.20 | | |
| 03 | Stack Attached to | --- | Sand Reclamation | Barrel Grinding - I | Annealing Furnace - I | Annealing Furnace - II | Barrel Grinding - II | Annealing Furnace - III | Barrel Grinding-III | Barrel Grinding -IV&V |
| 04 | Air Pollution Control Measures | --- | Bag Filter | Bag Filter | --- | --- | Bag Filter | --- | Bag Filter | Bag Filter |
| 05 | Stack Height | Meter | 30 | 30 | 32 | 32 | 30 | 32 | 30 | 30 |
| 06 | Stack Diameter | Meter | 0.9 | 0.6 | 1.375 | 1.375 | 0.6 | 1.375 | 0.5 | 0.5 |
| 07 | Stack Temperature | °C | 84 | ... | 169 | 165 | ... | 172 | ... | ... |
| 08 | Ambient Temperature | °C | 32 | ... | 29 | 31 | ... | 34 | ... | ... |
| 09 | Average Velocity of Flue Gases | m/sec. | 13.8 | ... | 3.1 | 3.2 | ... | 3.5 | ... | ... |
| 10 | Isokinetic flow rate for P.M. Sampling | LPM | 22 | ... | 9 | 9 | ... | 10 | ... | ... |
| 11 | Gaseous Sampling Flow Rate | LPM | 2.0 | ... | 2.0 | 2.0 | ... | 2.0 | ... | ... |
| 12 | Permissible limits for PM | mg/Nm3 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| 13 | Measured Concentration of PM | mg/Nm3 | 42 | ... | 10 | 13 | ... | 14 | ... | ... |
| 14 | Permissible limits for SO2 | mg/Nm3 | 40 | 40 | 100 (PPM) | 100 (PPM) | 40 | 100 (ppm) | 40 | 40 |
| 15 | Measured Concentration of SO2 | mg/Nm3 | 5.2 | ... | 2.1 | 2.7 | ... | 3.2 | ... | ... |
| 16 | Permissible limits for Nox | mg/Nm3 | 25 | 25 | 50 (PPM) | 50 (PPM) | 25 | 50 (PPM) | 25 | 25 |
| 17 | Measured Concentration of Nox | mg/Nm3 | 13.7 | ... | 8.2 (PPM) | 7.6 (PPM) | ... | 8.1 (PPM) | ... | ... |

Note : Minimum Detectable Limit of SO2 & Nox is 0.1 and 0.01 ppm respectively.
Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100
Calibration due on : 12/09/2017

N.D= Not Detectable

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Ref. No. : 0126/09/2016-17

Date : 02/10/2016

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

| Sr. No. | Particulars | Unit | S - 1 | S - 2 | S - 3 | S - 4 | S - 5 | S - 6 | S - 7 | S - 8 |
|---------|---|--------------------|---------------------|-----------------|-----------------------|------------------------|--------------|-----------------------|-------------------------------|----------------------|
| 01 | Date of Sampling | --- | 19/09/2016 | 17/09/2016 | 19/09/2016 | 19/09/2016 | 17/09/2016 | 17/09/2016 | | 27/09/2016 |
| 02 | Time of sampling | Hr. | 10.20 | 14.25 | 14.45 | 15.50 | 9.50 | 11.45 | Not in operation during visit | 10.00 |
| 03 | Stack Attached to | --- | Magnesium Treatment | Socket Cleaning | Annealing Furnace - I | Annealing Furnace - II | Zinc Coating | Tri- Grinding Section | Pre & Post Heating | Zinc Coating Machine |
| 04 | Air Pollution Control Measures | --- | Bag Filter | Bag Filter | --- | --- | Bag Filler | Bag Filter | --- | --- |
| 05 | Stack Height | Meter | 30 | 30 | 45 | 45 | 30 | 30 | 30 | 30 |
| 06 | Stack Diameter | Meter | 1.00 | 0.50 | 0.85 | 0.85 | 1.00 | 1.00 | 0.85 | 1.20 |
| 07 | Stack Temperature | °C | 39 | 36 | 136 | 133 | 38 | 35 | --- | 36 |
| 08 | Ambient Temperature | °C | 30 | 32 | 32 | 32 | 29 | 31 | --- | 33 |
| 09 | Average Velocity of Flue Gases | m/sec | 4.8 | 2.5 | 4.5 | 4.7 | 3.9 | 2.2 | --- | 3.7 |
| 10 | Isokinetic flow rate for PM Sampling | LPM | 19 | 10 | 14 | 15 | 16 | 9 | --- | 15 |
| 11 | Gaseous Sampling Flow Rate | LPM | --- | --- | 2.0 | 2.0 | --- | --- | --- | --- |
| 12 | Permissible limits for PM | mg/Nm ³ | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 13 | Measured Concentration of PM | mg/Nm ³ | 26 | 10 | 12 | 8 | 16 (Zn) | 12 | --- | 27 (Zn) |
| 14 | Permissible limits for SO ₂ | PPM | NA | NA | 100 | 100 | NA | NA | NA | NA |
| 15 | Measured Concentration of SO ₂ | PPM | --- | --- | 2.9 | 2.5 | --- | --- | --- | --- |
| 16 | Permissible limits for NO _x | PPM | NA | NA | 50 | 50 | NA | NA | NA | NA |
| 17 | Measured Concentration of NO _x | PPM | --- | --- | 3.8 | 4.3 | --- | --- | --- | --- |

Note : Minimum Detectable Limit of SO₂ & Nox is 0.1 and 0.01 ppm respectively.
Instrument Used : Stack Monitoring Kit - Ecotech make - ESS 100
Calibration due on : 12/09/2017

ND= Not Detectable
N.A= Not Applicable

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[Handwritten Signature]
Analyst

Ref. No. : 0127/09/2016-17

Date : 02/10/2016

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 : 14th September, 2016

| Sr. No | Location Operation monitored | Identified Contaminate | Sampling Instrument used | Airborne Contamination | | | TWA concentration (As given in Second Schedule) | Reference Method | Number of workers exposed at the location being monitored | Remarks | Signature of person taking samples | Name (in block letters) |
|--------|------------------------------|------------------------|--|------------------------|-------|---------|---|------------------|---|---------|------------------------------------|-------------------------|
| | | | | Number of sample | Range | Average | mg/m3 | | | | | |
| 1 | Sinter Plant At First Floor | Total Dust | Personal Respirable Dust sampler IAS 001 | 02 | 4-5 | 4.5 | 10 | Gravimetric | 3 | --- | <i>Manoj</i> | Mr. MANOJ SONRAT |

Instruments used : Envirotech make personal sampler, Model No. IAS 001

Calibration Due on. : 02/11/2016

For. Royal Environment Auditing & Consultancy Service



Manoj
Authorized Sign

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

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

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

Date of Sampling : 14th September, 2016

| Sr. No | Location Operation monitored | Identified Contaminate | Sampling Instrument used | Airborne Contamination | | | TWA concentration (As given in Second Schedule) | Reference Method | Number of workers exposed at the location being monitored | Remark | Signature of person taking samples | Name (in block letters) |
|--------|------------------------------|------------------------|--|------------------------|-------|---------|---|------------------|---|--------|------------------------------------|-------------------------|
| | | | | Number of sample | Range | Average | mg/m3 | | | | | |
| 1 | Sinter Plant At First Floor | Total Dust | Personal Respirable Dust sampler IAS 001 | 02 | 3-5 | 4.0 | 10 | Gravimetric | 4 | --- | <i>Manoj</i> | Mr. MANOJ SONRAT |

Instruments used : Envirotech make personal sampler, Model No. IAS 001

Calibration Due on. : 02/11/2016

For. Royal Environment Auditing & Consultancy Service

Manoj
Authorized Sign



Ref. No. : 0129/09/2016-17

Date : 02/10/2016

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 : 14th September, 2016

| Sr. No | Location Operation monitored | Identified Contaminate | Sampling Instrument used | Airborne Contamination | | | TWA concentration (As given in Second Schedule) | Reference Method | Number of workers exposed at the location being monitored | Remark | Signature person taking samples | Name (in block letters) |
|--------|------------------------------|------------------------|--|------------------------|-------|---------|---|------------------|---|--------|---------------------------------|-------------------------|
| | | | | Number of sample | Range | Average | mg/m3 | | | | | |
| 1 | BF Plant (Cast House) | CO | Personal Respirable Dust sampler IAS 001 | 02 | 15-17 | 16(ppm) | 50 (ppm) | Gravimetric | 4 | ---- | <i>Manoj</i> | Mr. MANOJ SONRAT |
| | | Total Dust | | | 4-8 | 6.0 | 10 | | | | | |

Instruments used : Envirotech make personal sampler, Model No. IAS 001
Calibration Due on. : 02/11/2016

For. Royal Environment Auditing & Consultancy Service

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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 : 14th September, 2016

| Sr. No | Location Operation monitored | Identified Contaminate | Sampling Instrument used | Airborne Contamination | | | TWA concert ration (As given in Second Schedule) | Refrance Method | Number of workers exposed at the location being monitored | Remark | Signature person taking samples | Name (in block letters) |
|--------|------------------------------|------------------------|--|------------------------|-------|---------|--|-----------------|---|--------|---------------------------------|-------------------------|
| | | | | Number of sample | Range | Average | mg/m3 | | | | | |
| 1 | BF Plant (Cast House) | CO | Personal Respirable Dust sampler IAS 001 | 02 | 14-16 | 15(ppm) | 50 (ppm) | Gravimetric | 5 | --- | <i>Manoj</i> | Mr. MANOJ SONRAT |
| | | Total Dust | | | 5-6 | 5.5 | 10 | | | | | |

Instruments used : Envirotech make personal sampler, Model No. IAS 001

Calibration Due on. : 02/11/2016

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 : 15th & 16th September, 2016

| Sr. No | Location Operation monitored | Identified Contaminate | Sampling Instrument used | Airborne Contamination | | | TWA concentration (As given in Second Schedule) | Reference Method | Number of workers exposed at the location being monitored | Remark | Signature of person taking samples | Name (in block letters) |
|--------|--------------------------------------|------------------------|--|------------------------|-------|---------|---|------------------|---|--------|------------------------------------|-------------------------|
| | | | | Number of sample | Range | Average | mg/m3 | | | | | |
| 1 | Spiral Plant (Nr. ID/OD) | Total Dust | Personal Respirable Dust sampler IAS 001 | 02 | 2-3 | 2.5 | 10 | Gravimetric | 4 | ---- | Manoj | Mr. MANOJ SONRAT |
| 2 | JCO Plant (Nr. JCO Press) | Total Dust | | 02 | 3-4 | 3.5 | 10 | Gravimetric | 5 | ---- | | |
| 3 | Coating Plant-1 (Shot Blasting Area) | Total Dust | | 02 | 2-5 | 3.5 | 10 | Gravimetric | 4 | ---- | | |
| 4 | CCM Area (SDP / DISP) | Total Dust | | 02 | 4-6 | 5.0 | 10 | Gravimetric | 3 | ---- | | |
| 5 | Coating Plant-2 (Shot Blasting Area) | Total Dust | | 02 | 3-6 | 4.5 | 10 | Gravimetric | 3 | ---- | | |
| 6 | CCM Area (SDP-2) | Total Dust | | 02 | 5-7 | 6.0 | 10 | Gravimetric | 4 | ---- | | |

Instruments used : Envirotech make personal sampler, Model No. IAS 001

Calibration Due on. : 02/11/2016

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Ref. No. : 0132/09/2016-17

Date : 02/10/2016

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 : 17th September, 2016

| Sr. No. | Location of Sampling | Value in dB(A) | | |
|---------|------------------------|----------------|------|------|
| | | Min. | Max. | Leq |
| 1 | Inside Control Room | 38.4 | 43.8 | 42.3 |
| 2 | Inside Mechanical Room | 43.6 | 48.9 | 46.4 |
| 3 | Inside Electrical Room | 42.1 | 47.6 | 44.8 |
| 4 | Inside Plant Office | 47.5 | 53.6 | 51.3 |

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

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

Recalibration is due on : 25/09/2016

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Analyst



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Ref. No. : 0133/09/2016-17

Date : 02/10/2016

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 : 17th September, 2016

| Sr. No. | Location of Sampling | Value in dB(A) | | |
|---------|-------------------------------------|----------------|------|------|
| | | Min. | Max. | Leq |
| 01. | Nr. Stock House | 60.3 | 71.9 | 63.3 |
| 02. | Inside Control Room | 41.7 | 51.1 | 43.9 |
| 03. | Inside Control room of Cast House | 42.9 | 47.6 | 44.8 |
| 04. | Inside Laboratory | 39.2 | 44.3 | 40.3 |
| 05. | Inside Control Room of Blower House | 52.8 | 58.9 | 55.6 |
| 06. | Inside Control Room of CPP | 49.2 | 58.4 | 51.8 |

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

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

Recalibration is due on : 25/09/2016

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Analyst



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Ref. No. : 0134/09/2016-17

Date : 02/10/2016

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 : 17th September, 2016

| Sr. No. | Location of Sampling | Value in dB(A) | | |
|---------|--|----------------|------|------|
| | | Min. | Max. | Leq |
| 01. | Inside Control Room of Annealing Furnace of DISP / SDP | 45.1 | 49.7 | 47.7 |
| 02 | Inside Control Room – Mill Area of Spiral Plant | 56.7 | 60.6 | 57.3 |
| 03 | Nr. Pipe Cutting Area of Spiral Plant | 63.7 | 74.1 | 69.4 |
| 04 | Inside JCO Plant | 62.2 | 72.1 | 63.6 |
| 05 | Inside DISP / SDP Plant | 65.3 | 75.6 | 69.9 |
| 06 | Inside Coating Plant | 61.6 | 71.8 | 66.6 |
| 07 | Nr. CCM SDP-2 | 59.5 | 69.7 | 63.2 |
| 08 | Inside Control Room of Annealing Furnace of SDP-2 | 46.7 | 51.9 | 48.1 |
| 09 | Nr. Zinc Coating SDP-2 | 62.9 | 74.1 | 69.2 |
| 10 | Near Mould Shop | 73.3 | 84.8 | 74.6 |

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.

Recalibration is due on : 25/09/2016

Royal Environment Auditing & Consultancy Service



Manoj
Analyst



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Ref. No. : 0135/09/2016-17

Date : 02/10/2016

AMBIENT NOISE LEVEL MEASUREMENT

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 16th September, 2016

| 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 | 38.2 | 45.9 | 40.3 | 32.9 | 39.8 | 35.2 |
| 02. | Old Colony | 32.6 | 36.4 | 33.8 | 28.3 | 34.9 | 29.1 |
| 03. | Nr. LPG Yard | 47.6 | 57.1 | 50.4 | 44.1 | 50.3 | 45.2 |
| 04. | New Colony (School) | 33.6 | 39.2 | 35.6 | 30.3 | 34.1 | 31.1 |
| 05. | Nr. SDP-2 | 52.1 | 59.9 | 56.8 | 48.5 | 54.8 | 51.7 |
| 06. | Nr. Coating Plant | 49.8 | 58.6 | 52.1 | 47.6 | 55.6 | 49.5 |
| 07. | Nr. Gate No. 2 | 51.1 | 57.8 | 53.5 | 44.5 | 53.2 | 46.2 |
| 08. | Nr. Sinter Plant-1 | 56.9 | 60.6 | 57.7 | 49.7 | 54.8 | 51.3 |
| 09. | Nr. Sinter Plant-2 | 53.8 | 61.9 | 55.8 | 50.1 | 56.4 | 52.7 |
| 10. | Nr. Blast Furnace-1 | 52.4 | 56.1 | 54.6 | 46.9 | 53.2 | 49.2 |
| 11. | Nr. Blast Furnace-2 | 51.8 | 56.9 | 53.7 | 43.7 | 49.7 | 46.1 |
| 12. | Nr. Main Gate (Security Office) | 38.6 | 47.5 | 42.5 | 36.4 | 42.2 | 39.5 |

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

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

Recalibration is due on : 25/09/2016

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Ref. No. : 0136/09/2016-17

Date : 02/10/2016

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 : 17th September, 2016

| Sr. No. | Location of Sampling | Value in dB(A) | | |
|---------|----------------------|----------------|------|------|
| | | Min. | Max. | Leq |
| 01. | Inside Control Room | 52.8 | 57.9 | 53.7 |
| 02. | Nr. Stock House | 59.9 | 64.5 | 62.1 |
| 03. | C/R Blower House | 61.5 | 69.8 | 63.7 |

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

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

Recalibration is due on : 25/09/2016

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Ref. No. : 0137/09/2016-17

Date : 02/10/2016

WORK ZONE NOISE LEVEL MEASUREMENT

SINTER PLANT - 2 (29017)

Name of company : JINDAL SAW LIMITED,

Village: Samaghogha,

Tal. : Mundra, Dist. Kutch

Date of sampling : 17th September, 2016

| Sr. No. | Location of Sampling | Value in dB(A) | | |
|---------|----------------------------|----------------|------|------|
| | | Min. | Max. | Leq |
| 01. | Inside Control Room | 45.8 | 48.1 | 46.5 |
| 02. | Inside Operator Room | 54.9 | 60.2 | 55.8 |
| 03. | Near Proportioning Bulding | 59.2 | 61.1 | 60.2 |
| 04. | Near Crusher House | 63.1 | 70.7 | 67.9 |

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.

Recalibration is due on : 25/09/2016

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Ref. No. : 0138/09/2016-17

Date : 02/10/2016

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 : 28/09/2016

Test Method : As per IS Standards - 3024

| Sr. No. | Parameters | Unit | GPCB limits for Treated Effluent | Raw Sewage | Treated Effluent |
|---------|-----------------------|---------|----------------------------------|------------|------------------|
| 01. | pH | pH Unit | ---- | 7.65 | 7.34 |
| 02. | BOD (3 Days at 27°C) | mg/l | <20 | 186 | 10 |
| 03. | Total Dissolve Solid | mg/l | ... | 952 | 1181 |
| 04. | COD | mg/l | ... | 244 | 24 |
| 05. | Total Suspended Solid | mg/l | <30 | 216 | 14 |
| 06. | Oil & Grease | mg/l | ... | ND | ND |
| 07. | Residual Chlorine | mg/l | Min. 0.5 | ---- | 0.75 |

ND=Not Detectable

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