

ภาคผนวก ค

ใบรับรองผลการตรวจวิเคราะห์

ภาคผนวก ค-1

คุณภาพอากาศจากแหล่งกำเนิด



Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388764
Date Received : Sep 26, 2023
Date Reported : Oct 03, 2023
Report Number: 2732309-1

Page 1 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388764-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.1 - S1 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.46 | m | Oxygen | 4.6 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 9.2 | % |
| Type of Process | Combustion | | Stack Temperature | 97.7 | °C | Gas Velocity | 3.4 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.02 | % | Flow Rate (Actual O2) | 1533 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result at 7 %O ₂ | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|-----------------------------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 09:30 AM - 09:40 AM | ppm | - | 1.0 | 13.6 | 690 | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 09:30 AM - 09:40 AM | ppm | - | 1.06 | 9.72 | 200 | 60 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 09:30 AM - 10:00 AM | ppm | - | 2.0 | <2.0 | 60 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 09:30 AM - 10:26 AM | mg/m3 | - | 0.5 | 8.6 | 320 | 40 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Life Sciences

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S:\Reports_Air Stack_2GL.rpt (6:02PM)



Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388764
Date Received : Sep 26, 2023
Date Reported : Oct 03, 2023
Report Number: 2732309-1

Page 2 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388764-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.1 - S1 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one plastic bottle, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.46 | m | Oxygen | 4.6 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 9.2 | % |
| Type of Process | Combustion | | Stack Temperature | 97.7 | °C | Gas Velocity | 3.4 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.02 | % | Flow Rate (Actual O2) | 1533 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 09:30 AM - 09:40 AM | g/s | - | - | 0.008 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 09:30 AM - 09:40 AM | g/s | - | - | 0.009 | - | 0.0717 | Calculated | Rayong |
| Sulfur dioxide * | 09:30 AM - 10:00 AM | g/s | - | - | <0.002 | - | 0.0333 | Calculated | Rayong |
| Total Suspended Particulate * | 09:30 AM - 10:26 AM | g/s | - | - | 0.004 | - | 0.0254 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Approved by

D. Chongchon

Dej Changchon
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S:\Reports_Air Stack_2GL.rpt (6:02PM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388766
Date Received : Sep 26, 2023
Date Reported : Oct 03, 2023
Report Number: 2732310-1



TESTING
No.0042

Page 1 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388766-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.2 - S2 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.31 | m | Oxygen | 4.3 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 9.4 | % |
| Type of Process | Combustion | | Stack Temperature | 105 | °C | Gas Velocity | 5.2 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 5.87 | % | Flow Rate (Actual O2) | 1037 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result at 7 %O ₂ | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|-----------------------------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 10:35 AM - 10:45 AM | ppm | - | 1.0 | 5.6 | 690 | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 10:35 AM - 10:45 AM | ppm | - | 1.06 | 9.36 | 200 | 60 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 10:35 AM - 11:05 AM | ppm | - | 2.0 | <2.0 | 60 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 10:35 AM - 11:23 AM | mg/m3 | - | 0.5 | 0.5 | 320 | 40 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
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Technical Management

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Approved by

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Dej Chanchon
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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388766
Date Received : Sep 26, 2023
Date Reported : Oct 03, 2023
Report Number: 2732310-1



TESTING
No.0042

Page 2 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388766-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.2 - S2 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.31 | m | Oxygen | 4.3 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 9.4 | % |
| Type of Process | Combustion | | Stack Temperature | 105 | °C | Gas Velocity | 5.2 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 5.87 | % | Flow Rate (Actual O2) | 1037 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 10:35 AM - 10:45 AM | g/s | - | - | 0.002 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 10:35 AM - 10:45 AM | g/s | - | - | 0.006 | - | 0.0362 | Calculated | Rayong |
| Sulfur dioxide * | 10:35 AM - 11:05 AM | g/s | - | - | <0.001 | - | 0.0168 | Calculated | Rayong |
| Total Suspended Particulate * | 10:35 AM - 11:23 AM | g/s | - | - | 0.0002 | - | 0.0128 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Oetjinda

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388767
Date Received : Sep 26, 2023
Date Reported : Oct 04, 2023
Report Number: 2732313-1

TESTING
No.0042

Page 1 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388767-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.3 - S3 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|-----|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.31 | m | Oxygen | 6.5 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 8.0 | % |
| Type of Process | Combustion | | Stack Temperature | 143 | °C | Gas Velocity | 2.6 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.02 | % | Flow Rate (Actual O2) | 466 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result at 7 %O ₂ | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|-----------------------------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 01:00 PM - 01:10 PM | ppm | - | 1.0 | 8.4 | 690 | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 01:00 PM - 01:10 PM | ppm | - | 1.06 | 36.6 | 200 | 75 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 01:00 PM - 01:30 PM | ppm | - | 2.0 | <2.0 | 60 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 01:00 PM - 01:56 PM | mg/m3 | - | 0.5 | 0.8 | 320 | 40 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

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Approved by

D. Chongchon

Dej Changchon
Senior Manager
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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388767
Date Received : Sep 26, 2023
Date Reported : Oct 04, 2023
Report Number: 2732313-1

TESTING
No.0042

Page 2 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388767-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.3 - S3 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one plastic bottle, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|-----|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.31 | m | Oxygen | 6.5 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 8.0 | % |
| Type of Process | Combustion | | Stack Temperature | 143 | °C | Gas Velocity | 2.6 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.02 | % | Flow Rate (Actual O2) | 466 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 01:00 PM - 01:10 PM | g/s | - | - | 0.001 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 01:00 PM - 01:10 PM | g/s | - | - | 0.009 | - | 0.0792 | Calculated | Rayong |
| Sulfur dioxide * | 01:00 PM - 01:30 PM | g/s | - | - | <0.001 | - | 0.0294 | Calculated | Rayong |
| Total Suspended Particulate * | 01:00 PM - 01:56 PM | g/s | - | - | 0.0001 | - | 0.0225 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388768
Date Received : Sep 26, 2023
Date Reported : Oct 03, 2023
Report Number: 2732315-1



TESTING
No.0042

Page 1 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388768-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.4 - S4 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.46 | m | Oxygen | 8.3 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 7.4 | % |
| Type of Process | Combustion | | Stack Temperature | 153 | °C | Gas Velocity | 4.9 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.41 | % | Flow Rate (Actual O2) | 1890 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result at 7 %O ₂ | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|-----------------------------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 02:05 PM - 02:15 PM | ppm | - | 1.0 | 3.4 | 690 | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 02:05 PM - 02:15 PM | ppm | - | 1.06 | 28.7 | 200 | 75 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 02:05 PM - 02:35 PM | ppm | - | 2.0 | <2.0 | 60 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 02:05 PM - 03:01 PM | mg/m3 | - | 0.5 | <0.5 | 320 | 40 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

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Approved by

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388768
Date Received : Sep 26, 2023
Date Reported : Oct 03, 2023
Report Number: 2732315-1



TESTING
No.0042

Page 2 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388768-1 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Boiler Stack No.4 - S4 |
| Date Analysis Commenced | Sep 27, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.46 | m | Oxygen | 8.3 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 7.4 | % |
| Type of Process | Combustion | | Stack Temperature | 153 | °C | Gas Velocity | 4.9 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.41 | % | Flow Rate (Actual O2) | 1890 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 02:05 PM - 02:15 PM | g/s | - | - | 0.002 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 02:05 PM - 02:15 PM | g/s | - | - | 0.026 | - | 0.0318 | Calculated | Rayong |
| Sulfur dioxide * | 02:05 PM - 02:35 PM | g/s | - | - | <0.003 | - | 0.0118 | Calculated | Rayong |
| Total Suspended Particulate * | 02:05 PM - 03:01 PM | g/s | - | - | <0.0003 | - | 0.009 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

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Dej Chanchon
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S:\Reports_Air Stack_2GL.rpt (6:07PM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388769
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732316-1

TESTING
No.0042

Page 1 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388769-1 |
| Sampled Date | Sep 25, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Heating Furnace Stack - S5 |
| Date Analysis Commenced | Sep 26, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 14.8 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 3.5 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 205 | °C | Gas Velocity | 6.2 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.95 | % | Flow Rate (Actual O2) | 2423 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 01:40 PM - 01:50 PM | ppm | - | 1.0 | 405 | 690 | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 01:30 PM - 01:40 PM | ppm | - | 1.06 | 5.13 | 180 | 80 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 01:30 PM - 02:00 PM | ppm | - | 2.0 | <2.0 | 800 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 01:30 PM - 02:18 PM | mg/m3 | - | 0.5 | 0.9 | 120 | 40 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

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Approved by

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S:\Reports_Air Stack_2GL.rpt (4:05PM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388769
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732316-1

TESTING
No.0042

Page 2 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388769-1 |
| Sampled Date | Sep 25, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Heating Furnace Stack - S5 |
| Date Analysis Commenced | Sep 26, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 14.8 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 3.5 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 205 | °C | Gas Velocity | 6.2 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 6.95 | % | Flow Rate (Actual O2) | 2423 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 01:40 PM - 01:50 PM | g/s | - | - | 0.31 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 01:30 PM - 01:40 PM | g/s | - | - | 0.007 | - | 0.057 | Calculated | Rayong |
| Sulfur dioxide * | 01:30 PM - 02:00 PM | g/s | - | - | <0.003 | - | 0.0198 | Calculated | Rayong |
| Total Suspended Particulate * | 01:30 PM - 02:18 PM | g/s | - | - | 0.0006 | - | 0.0151 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Approved by

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Dej Chanchon
Senior Manager
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S:\Reports_Air Stack_2GL.rpt (4:05PM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388770
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732317-1

TESTING
No.0042

Page 1 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2388770-1 | | | | | | |
| Sampled Date | Sep 25, 2023 | | | | | | |
| Sample Description | Emission from Stationary Source | | | | | | |
| Location | PT_Dust Collector Furnace Stack - S6 | | | | | | |
| Date Analysis Commenced | Sep 26, 2023 | | | | | | |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated | | | | | | |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 19.2 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 1.0 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 431 | °C | Gas Velocity | 9.6 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 9.13 | % | Flow Rate (Actual O2) | 2487 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 02:30 PM - 02:40 PM | ppm | - | 1.0 | 21.4 | 690 | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 02:30 PM - 02:40 PM | ppm | - | 1.06 | 3.00 | 180 | 60 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 02:30 PM - 03:00 PM | ppm | - | 2.0 | <2.0 | 800 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 02:30 PM - 03:18 PM | mg/m3 | - | 0.5 | 7.8 | 120 | 50 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

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Approved by

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Dej Changchon
Senior Manager
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S:\Reports_Air Stack_2GL.rpt (4:10PM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388770
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732317-1

TESTING
No.0042

Page 2 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2388770-1 | | | | | | |
| Sampled Date | Sep 25, 2023 | | | | | | |
| Sample Description | Emission from Stationary Source | | | | | | |
| Location | PT_Dust Collector Furnace Stack - S6 | | | | | | |
| Date Analysis Commenced | Sep 26, 2023 | | | | | | |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one plastic bottle, one 10-L air sampling bag and one amber plastic bottle, refrigerated | | | | | | |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 19.2 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 1.0 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 431 | °C | Gas Velocity | 9.6 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 9.13 | % | Flow Rate (Actual O2) | 2487 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 02:30 PM - 02:40 PM | g/s | - | - | 0.02 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 02:30 PM - 02:40 PM | g/s | - | - | 0.004 | - | 0.0261 | Calculated | Rayong |
| Sulfur dioxide * | 02:30 PM - 03:00 PM | g/s | - | - | <0.003 | - | 0.0121 | Calculated | Rayong |
| Total Suspended Particulate * | 02:30 PM - 03:18 PM | g/s | - | - | 0.005 | - | 0.0116 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Approved by

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Dej Changchon
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S:\Reports_Air Stack_2GL.rpt (4:10PM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388771
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732318-1

TESTING
No.0042

Page 1 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2388771-1 | | | | | | |
| Sampled Date | Sep 25, 2023 | | | | | | |
| Sample Description | Emission from Stationary Source | | | | | | |
| Location | PT_Dust Collector Diffusion Furnace Stack No.1 - S7 | | | | | | |
| Date Analysis Commenced | Sep 26, 2023 | | | | | | |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated | | | | | | |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 13.2 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 4.4 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 455 | °C | Gas Velocity | 10.6 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 8.60 | % | Flow Rate (Actual O2) | 2664 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 10:55 AM - 11:05 AM | ppm | - | 1.0 | 2.6 | - | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 11:00 AM - 11:10 AM | ppm | - | 1.06 | 13.2 | 180 | 50 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 10:55 AM - 11:25 AM | ppm | - | 2.0 | <2.0 | 800 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 10:55 AM - 11:43 AM | mg/m3 | - | 0.5 | 1.7 | 120 | 50 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

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Approved by

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Dej Changchon
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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388771
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732318-1

TESTING
No.0042

Page 2 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2388771-1 | | | | | | |
| Sampled Date | Sep 25, 2023 | | | | | | |
| Sample Description | Emission from Stationary Source | | | | | | |
| Location | PT_Dust Collector Diffusion Furnace Stack No.1 - S7 | | | | | | |
| Date Analysis Commenced | Sep 26, 2023 | | | | | | |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one plastic bottle, one 10-L air sampling bag and one amber plastic bottle, refrigerated | | | | | | |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 13.2 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 4.4 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 455 | °C | Gas Velocity | 10.6 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 8.60 | % | Flow Rate (Actual O2) | 2664 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 10:55 AM - 11:05 AM | g/s | - | - | 0.002 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 11:00 AM - 11:10 AM | g/s | - | - | 0.018 | - | 0.0331 | Calculated | Rayong |
| Sulfur dioxide * | 10:55 AM - 11:25 AM | g/s | - | - | <0.004 | - | 0.0184 | Calculated | Rayong |
| Total Suspended Particulate * | 10:55 AM - 11:43 AM | g/s | - | - | 0.001 | - | 0.0176 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Approved by

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S:\Reports_Air Stack_2GL.rpt (4:13PM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388772
TESTING
No.0042
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732319-1

Page 1 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388772-1 |
| Sampled Date | Sep 25, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Dust Collector Diffusion Furnace Stack No.2 - S8 |
| Date Analysis Commenced | Sep 26, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 12.7 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 4.9 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 472 | °C | Gas Velocity | 9.5 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 7.93 | % | Flow Rate (Actual O2) | 2351 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 10:00 AM - 10:10 AM | ppm | - | 1.0 | 2.8 | - | - | United States Environmental Protection Agency, EPA Method 10 | Rayong |
| Oxides of Nitrogen * | 10:00 AM - 10:10 AM | ppm | - | 1.06 | 14.0 | 180 | 50 | United States Environmental Protection Agency, EPA Method 7 | Rayong |
| Sulfur dioxide * | 10:00 AM - 10:30 AM | ppm | - | 2.0 | <2.0 | 800 | 20 | United States Environmental Protection Agency, EPA Method 6 | Rayong |
| Total Suspended Particulate | 10:00 AM - 10:48 AM | mg/m3 | - | 0.5 | 2.0 | 120 | 50 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

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Thanita Kulsuriwong
Scientist (4)
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Approved by

D. Khunon.

Dej Changchon
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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388772
TESTING
No.0042
Date Received : Sep 25, 2023
Date Reported : Oct 03, 2023
Report Number: 2732319-1

Page 2 of 2

| | |
|--------------------------------|---|
| Sample Number | 2388772-1 |
| Sampled Date | Sep 25, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Dust Collector Diffusion Furnace Stack No.2 - S8 |
| Date Analysis Commenced | Sep 26, 2023 |
| Condition of Sample | Extracted into two 2-L collection flasks, one filter paper placed in plastic petri dish, one plastic bottle, one 10-L air sampling bag and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|--------------------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.49 | m | Oxygen | 12.7 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 4.9 | % |
| Type of Process | Combustion (Open System) | | Stack Temperature | 472 | °C | Gas Velocity | 9.5 | m/s |
| Type of Fuel | Natural Gas | | Moisture | 7.93 | % | Flow Rate (Actual O2) | 2351 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Carbon Monoxide * | 10:00 AM - 10:10 AM | g/s | - | - | 0.002 | - | - | Calculated | Rayong |
| Oxides of Nitrogen * | 10:00 AM - 10:10 AM | g/s | - | - | 0.017 | - | 0.0406 | Calculated | Rayong |
| Sulfur dioxide * | 10:00 AM - 10:30 AM | g/s | - | - | <0.003 | - | 0.0226 | Calculated | Rayong |
| Total Suspended Particulate * | 10:00 AM - 10:48 AM | g/s | - | - | 0.001 | - | 0.0216 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388760
Date Received : Oct 12, 2023
Date Reported : Oct 20, 2023
Report Number: 2731778-1

Page 1 of 2

Sample Number 2388760-1
Sampled Date Oct 12, 2023
Sample Description Emission from Stationary Source
Location DD_Dry Drawing Process Stack No.1-S9 (Dust Collector)
Date Analysis Commenced Oct 13, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 752 | mmHg | Diameter | 0.55 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 50.0 | °C | Gas Velocity | 13.0 | m/s |
| Type of Fuel | - | | Moisture | 2.76 | % | Flow Rate (Actual O2) | 9879 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate | 10:52 AM - 11:45 AM | mg/m3 | - | 0.5 | 4.9 | 120 | 20 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388760
Date Received : Oct 12, 2023
Date Reported : Oct 20, 2023
Report Number: 2731778-1

Page 2 of 2

Sample Number 2388760-1
Sampled Date Oct 12, 2023
Sample Description Emission from Stationary Source
Location DD_Dry Drawing Process Stack No.1-S9 (Dust Collector)
Date Analysis Commenced Oct 13, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure | 752 | mmHg | Diameter | 0.55 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 50.0 | °C | Gas Velocity | 13.0 | m/s |
| Type of Fuel | - | | Moisture | 2.76 | % | Flow Rate (Actual O2) | 9879 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate * | 10:52 AM - 11:45 AM | g/s | - | - | 0.013 | - | 0.0805 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Apichart Wilars

Remark :

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Approved by

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388762
Date Received : Oct 12, 2023
Date Reported : Oct 20, 2023
Report Number: 2731781-1

Page 1 of 2

Sample Number 2388762-1
Sampled Date Oct 12, 2023
Sample Description Emission from Stationary Source
Location DD_Dry Drawing Process Stack No.2-S10 (Dust Collector)
Date Analysis Commenced Oct 13, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 752 | mmHg | Diameter | 0.55 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 45.0 | °C | Gas Velocity | 16.4 | m/s |
| Type of Fuel | - | | Moisture | 2.60 | % | Flow Rate (Actual O2) | 12671 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate | 10:04 AM - 10:44 AM | mg/m3 | - | 0.5 | 10.0 | 120 | 20 | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
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Technical Management

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388762
Date Received : Oct 12, 2023
Date Reported : Oct 20, 2023
Report Number: 2731781-1

Page 2 of 2

Sample Number 2388762-1
Sampled Date Oct 12, 2023
Sample Description Emission from Stationary Source
Location DD_Dry Drawing Process Stack No.2-S10 (Dust Collector)
Date Analysis Commenced Oct 13, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 752 | mmHg | Diameter | 0.55 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 45.0 | °C | Gas Velocity | 16.4 | m/s |
| Type of Fuel | - | | Moisture | 2.60 | % | Flow Rate (Actual O2) | 12671 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate * | 10:04 AM - 10:44 AM | g/s | - | - | 0.035 | - | 0.0984 | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Science Technology and Environment dated March 9, B.E. 2544 (2001), published in the Royal Government Gazette, Vol. 118 Special Part 37 dated May 8, B.E.2544 (2001) : New Source
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Apichart Wilars

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Approved by

D. Khunon.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388752
Date Received : Sep 27, 2023
Date Reported : Oct 09, 2023
Report Number: 2731771-1

Page 1 of 2

Sample Number 2388752-1
Sampled Date Sep 27, 2023
Sample Description Emission from Stationary Source
Location PK_Pickling Line Stack No.1-S11 (Wet Scrubber 1)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 1.25 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 39.0 | °C | Gas Velocity | 4.5 | m/s |
| Type of Fuel | - | | Moisture | 3.22 | % | Flow Rate (Actual O2) | 18117 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate | 10:30 AM - 11:18 AM | mg/m3 | - | 0.5 | <0.5 | 400 | - | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

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Approved by

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388752
Date Received : Sep 27, 2023
Date Reported : Oct 09, 2023
Report Number: 2731771-1

Page 2 of 2

Sample Number 2388752-1
Sampled Date Sep 27, 2023
Sample Description Emission from Stationary Source
Location PK_Pickling Line Stack No.1-S11 (Wet Scrubber 1)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 1.25 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 39.0 | °C | Gas Velocity | 4.5 | m/s |
| Type of Fuel | - | | Moisture | 3.22 | % | Flow Rate (Actual O2) | 18117 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate * | 10:30 AM - 11:18 AM | g/s | - | - | <0.003 | - | - | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda , Thitima Boonpeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

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Approved by

D. Chanchon.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388752

Date Received : Sep 27, 2023

Date Reported : Oct 09, 2023

Report Number: 2731771-2

Page 1 of 2

| | |
|-------------------------|---|
| Sample Number | 2388752-1 |
| Sampled Date | Sep 27, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PK_Pickling Line Stack No.1-S11 (Wet Scrubber 1) |
| Date Analysis Commenced | Sep 28, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 1.25 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 39.0 | °C | Gas Velocity | 4.5 | m/s |
| Type of Fuel | - | | Moisture | 3.22 | % | Flow Rate (Actual O2) | 18117 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Hydrogen Chloride | 10:30 AM - 11:18 AM | mg/m3 | - | 0.01 | 0.01 | 200 | 3 | United States Environmental Protection Agency, EPA Method 26 | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Tanyatorm Mongkonjirawut

Tanyatorm Mongkonjirawut
Supervisor

ทะเบียนเลขที่ ว-204-จ-4719

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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10731-22/ EMAIL

S:\Reports_Air Stack_2GL.rpt (10:28AM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388752

Date Received : Sep 27, 2023

Date Reported : Oct 09, 2023

Report Number: 2731771-2

Page 2 of 2

| | |
|-------------------------|---|
| Sample Number | 2388752-1 |
| Sampled Date | Sep 27, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PK_Pickling Line Stack No.1-S11 (Wet Scrubber 1) |
| Date Analysis Commenced | Sep 28, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 1.25 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 39.0 | °C | Gas Velocity | 4.5 | m/s |
| Type of Fuel | - | | Moisture | 3.22 | % | Flow Rate (Actual O2) | 18117 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|--------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Hydrogen Chloride | 10:30 AM - 11:18 AM | g/s | - | - | 0.00007 | - | 0.0796 | Calculated | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda , Thitima Boonpeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Technical Management

Tanyatorm Mongkonjirawut

Tanyatorm Mongkonjirawut
Supervisor

ทะเบียนเลขที่ ว-204-จ-4719

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388755
Date Received : Sep 27, 2023
Date Reported : Oct 09, 2023
Report Number: 2731775-1

Page 1 of 2

Sample Number 2388755-1
Sampled Date Sep 27, 2023
Sample Description Emission from Stationary Source
Location PK_Pickling Line Stack No.2-S12 (Wet Scrubber 2)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.80 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 13.9 | m/s |
| Type of Fuel | - | | Moisture | 3.50 | % | Flow Rate (Actual O2) | 23306 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate | 09:30 AM - 10:18 AM | mg/m3 | - | 0.5 | 0.9 | 400 | - | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Khunon.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388755
Date Received : Sep 27, 2023
Date Reported : Oct 09, 2023
Report Number: 2731775-1

Page 2 of 2

Sample Number 2388755-1
Sampled Date Sep 27, 2023
Sample Description Emission from Stationary Source
Location PK_Pickling Line Stack No.2-S12 (Wet Scrubber 2)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.80 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 13.9 | m/s |
| Type of Fuel | - | | Moisture | 3.50 | % | Flow Rate (Actual O2) | 23306 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate * | 09:30 AM - 10:18 AM | g/s | - | - | 0.006 | - | - | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda , Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Khunon.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388755

Date Received : Sep 27, 2023

Date Reported : Oct 09, 2023

Report Number: 2731775-2

Page 1 of 2

| | |
|-------------------------|---|
| Sample Number | 2388755-1 |
| Sampled Date | Sep 27, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PK_Pickling Line Stack No.2-S12 (Wet Scrubber 2) |
| Date Analysis Commenced | Sep 28, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.80 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 13.9 | m/s |
| Type of Fuel | - | | Moisture | 3.50 | % | Flow Rate (Actual O2) | 23306 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Air Testing | | | | | | | | | |
| Hydrogen Chloride | 09:30 AM - 10:18 AM | mg/m3 | - | 0.01 | 0.06 | 200 | 3 | United States Environmental Protection Agency, EPA Method 26 | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Tanyatorm Mongkonjirawut
Supervisor

ทะเบียนเลขที่ ว-204-จ-4719

Approved by

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388755

Date Received : Sep 27, 2023

Date Reported : Oct 09, 2023

Report Number: 2731775-2

Page 2 of 2

| | |
|-------------------------|---|
| Sample Number | 2388755-1 |
| Sampled Date | Sep 27, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PK_Pickling Line Stack No.2-S12 (Wet Scrubber 2) |
| Date Analysis Commenced | Sep 28, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.80 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 13.9 | m/s |
| Type of Fuel | - | | Moisture | 3.50 | % | Flow Rate (Actual O2) | 23306 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|--------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Hydrogen Chloride | 09:30 AM - 10:18 AM | g/s | - | - | 0.0004 | - | 0.0377 | Calculated | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Tarin Octjinda , Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Technical Management

Tanyatorm Mongkonjirawut
Supervisor

ทะเบียนเลขที่ ว-204-จ-4719

Approved by

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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S:\Reports_Air Stack_2GL_rpt (10:29AM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2389007
Date Received : Sep 28, 2023
Date Reported : Oct 05, 2023
Report Number: 2732322-1

Page 1 of 2

Sample Number 2389007-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.1 - S13 (Wet Scrubber 1)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.60 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 12.2 | m/s |
| Type of Fuel | - | | Moisture | 3.67 | % | Flow Rate (Actual O2) | 11482 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Sulfuric acid * | 11:30 AM - 12:18 PM | ppm | - | 0.01 | 0.15 | 25 | 3.5 | United States Environmental Protection Agency, EPA Method 8 | Rayong |
| Total Suspended Particulate | 10:35 AM - 11:23 AM | mg/m3 | - | 0.5 | <0.5 | 400 | - | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2389007
Date Received : Sep 28, 2023
Date Reported : Oct 05, 2023
Report Number: 2732322-1

Page 2 of 2

Sample Number 2389007-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.1 - S13 (Wet Scrubber 1)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.60 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 12.2 | m/s |
| Type of Fuel | - | | Moisture | 3.67 | % | Flow Rate (Actual O2) | 11482 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Sulfuric acid * | 11:30 AM - 12:18 PM | g/s | - | - | 0.002 | - | 0.0376 | Calculated | Rayong |
| Total Suspended Particulate * | 10:35 AM - 11:23 AM | g/s | - | - | <0.002 | - | - | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Saknarin Jaraskay

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389006
Date Received : Sep 28, 2023
Date Reported : Oct 10, 2023
Report Number: 2732321-1

Page 1 of 2

Sample Number 2389006-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2)
Date Analysis Commenced Sep 29, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate | 09:30 AM - 10:26 AM | mg/m3 | - | 0.5 | 0.7 | 400 | - | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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10731-22/ EMAIL

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389006
Date Received : Sep 28, 2023
Date Reported : Oct 10, 2023
Report Number: 2732321-1

Page 2 of 2

Sample Number 2389006-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2)
Date Analysis Commenced Sep 29, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate * | 09:30 AM - 10:26 AM | g/s | - | - | 0.005 | - | - | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Saknarin Jaraskay, Saksit Phaisanphisit

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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S:\Reports_Air Stack_2GL.rpt (8:24AM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2389007
Date Received : Sep 28, 2023
Date Reported : Oct 05, 2023
Report Number: 2732322-1

Page 1 of 2

Sample Number 2389007-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.1 - S13 (Wet Scrubber 1)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.60 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 12.2 | m/s |
| Type of Fuel | - | | Moisture | 3.67 | % | Flow Rate (Actual O2) | 11482 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Sulfuric acid * | 11:30 AM - 12:18 PM | ppm | - | 0.01 | 0.15 | 25 | 3.5 | United States Environmental Protection Agency, EPA Method 8 | Rayong |
| Total Suspended Particulate | 10:35 AM - 11:23 AM | mg/m3 | - | 0.5 | <0.5 | 400 | - | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2389007
Date Received : Sep 28, 2023
Date Reported : Oct 05, 2023
Report Number: 2732322-1

Page 2 of 2

Sample Number 2389007-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.1 - S13 (Wet Scrubber 1)
Date Analysis Commenced Sep 28, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one amber plastic bottle, refrigerated

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.60 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 12.2 | m/s |
| Type of Fuel | - | | Moisture | 3.67 | % | Flow Rate (Actual O2) | 11482 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Sulfuric acid * | 11:30 AM - 12:18 PM | g/s | - | - | 0.002 | - | 0.0376 | Calculated | Rayong |
| Total Suspended Particulate * | 10:35 AM - 11:23 AM | g/s | - | - | <0.002 | - | - | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Saknarin Jaraskay

Remark :

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- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389006
Date Received : Sep 28, 2023
Date Reported : Jan 04, 2024
Report Number: 2732321-1

Page 1 of 2

Sample Number 2389006-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2)
Date Analysis Commenced Sep 29, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|---|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate | 09:30 AM - 10:26 AM | mg/m3 | - | 0.5 | 0.7 | 400 | - | United States Environmental Protection Agency, EPA Method 5 | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report



TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389006
Date Received : Sep 28, 2023
Date Reported : Jan 04, 2024
Report Number: 2732321-1

Page 2 of 2

Sample Number 2389006-1
Sampled Date Sep 28, 2023
Sample Description Emission from Stationary Source
Location PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2)
Date Analysis Commenced Sep 29, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-------------------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Air Testing | | | | | | | | | |
| Total Suspended Particulate * | 09:30 AM - 10:26 AM | g/s | - | - | 0.005 | - | - | Calculated | Rayong |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Saknarin Jaraskay , Saksit Phaisanphisit

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389006

Date Received : Sep 28, 2023

Date Reported : Jan 04, 2024

Report Number: 2732321-2

Page 1 of 2

| | |
|-------------------------|---|
| Sample Number | 2389006-1 |
| Sampled Date | Sep 28, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2) |
| Date Analysis Commenced | Oct 02, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish and one plastic bottle |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Metals Testing | | | | | | | | | |
| Copper | 09:30 AM - 10:26 AM | mg/m3 | - | 0.04 | <0.04 | 30 | 1 | United States Environmental Protection Agency, EPA Method 29 | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Technical Management

Savitree N.
Savitree Noisangiam
Manager
ทะเบียนเลขที่ ว-204-จ-4709

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389006

Date Received : Sep 28, 2023

Date Reported : Jan 04, 2024

Report Number: 2732321-2

Page 2 of 2

| | |
|-------------------------|---|
| Sample Number | 2389006-1 |
| Sampled Date | Sep 28, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2) |
| Date Analysis Commenced | Oct 02, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish and one plastic bottle |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Metals Testing | | | | | | | | | |
| Copper | 09:30 AM - 10:26 AM | g/s | - | - | <0.0001 | - | 0.0068 | Calculated | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)
Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Saknarin Jaraskay , Saksit Phaisanphisut

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Technical Management

Savitree N.
Savitree Noisangiam
Manager
ทะเบียนเลขที่ ว-204-จ-4709

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389006

Date Received : Sep 28, 2023

Date Reported : Jan 04, 2024

Report Number: 2732321-3

Page 1 of 2

| | |
|-------------------------|---|
| Sample Number | 2389006-1 |
| Sampled Date | Sep 28, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2) |
| Date Analysis Commenced | Sep 29, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish and one plastic bottle |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|---------------|---------------|--|------------------|
| Metals Testing | | | | | | | | | |
| Zinc | 09:30 AM - 10:26 AM | mg/m3 | - | 0.03 | 0.08 | - | 1 | United States Environmental Protection Agency, EPA Method 29 | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Approved by

Savitree N.

Savitree Noisangiam
Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389006

Date Received : Sep 28, 2023

Date Reported : Jan 04, 2024

Report Number: 2732321-3

Page 2 of 2

| | |
|-------------------------|---|
| Sample Number | 2389006-1 |
| Sampled Date | Sep 28, 2023 |
| Sample Description | Emission from Stationary Source |
| Location | PT_Plating Line Stack No.2 - S14 (Wet Scrubber 2) |
| Date Analysis Commenced | Sep 29, 2023 |
| Condition of Sample | Extracted into one filter paper placed in plastic petri dish and one plastic bottle |

Stack Description

| | | | | | | | | |
|---------------------|---------|------|-------------------|--------|----|-----------------------|-------|--------|
| Ambient Pressure | 750 | mmHg | Diameter | 0.90 | m | Oxygen | 20.9 | % |
| Ambient Temperature | 30.0 | °C | Shape | Circle | | Carbon Dioxide | 0.0 | % |
| Type of Process | Process | | Stack Temperature | 34.0 | °C | Gas Velocity | 11.0 | m/s |
| Type of Fuel | - | | Moisture | 3.60 | % | Flow Rate (Actual O2) | 23363 | Nm3/hr |

| Analyte | Sampled Time | Unit | LOD | LOQ (LOR) | Result Emission Rate | Guideline (1) | Guideline (2) | Method | Testing Location |
|-----------------------|---------------------|------|-----|-----------|----------------------|---------------|---------------|------------|------------------|
| Metals Testing | | | | | | | | | |
| Zinc | 09:30 AM - 10:26 AM | g/s | - | - | 0.0006 | - | 0.0068 | Calculated | Bangkok |

Guideline : Guideline (1) Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Guideline (2) Environmental Impact Assessment Report of Sumiden Steel Wire (Thailand) Co., Ltd.

Sampled By : Saknarin Jaraskay , Saksit Phaisanphisut

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Savitree N.

Savitree Noisangiam
Manager

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ภาคผนวก ค-2

คุณภาพอากาศในบรรยากาศ



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 1 of 21

Sample Number 2388696-1
Sampled Date Sep 22, 2023
Sample Description Air Quality
Location หมู่ที่ 3 ตำบลมบียงพอน (A1) (GPS 47P 0737742, 1438163)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 22/09/23 - 23/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 22/09/23 - 23/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 22/09/23 - 23/09/23 | mg/m3 | - | 0.00001 | 0.0002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 22/09/23 - 23/09/23 | mg/m3 | - | 0.00001 | 0.0009 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 2 of 21

Sample Number 2388696-2
Sampled Date Sep 23, 2023
Sample Description Air Quality
Location หมู่ที่ 3 ตำบลมบียงพอน (A1) (GPS 47P 0737742, 1438163)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 23/09/23 - 24/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 23/09/23 - 24/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 23/09/23 - 24/09/23 | mg/m3 | - | 0.00001 | 0.0002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 23/09/23 - 24/09/23 | mg/m3 | - | 0.00001 | 0.0009 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388696

Date Received : Sep 29, 2023

Date Reported : Oct 11, 2023

Report Number : 2731723-1

Page 3 of 21

| | |
|-------------------------|---|
| Sample Number | 2388696-3 |
| Sampled Date | Sep 24, 2023 |
| Sample Description | Air Quality |
| Location | หมู่ที่ 3 ตำบลมบียงพอน (A1) (GPS 47P 0737742, 1438163) |
| Date Analysis Commenced | Oct 02, 2023 |
| Condition of Sample | Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated |
| Barometric Pressure | 755 mmHg |
| Atmospheric Temperature | 30.0 °C |

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 24/09/23 - 25/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 24/09/23 - 25/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 24/09/23 - 25/09/23 | mg/m3 | - | 0.00001 | 0.0002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 24/09/23 - 25/09/23 | mg/m3 | - | 0.00001 | 0.0009 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388696

Date Received : Sep 29, 2023

Date Reported : Oct 11, 2023

Report Number : 2731723-1

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| | |
|-------------------------|---|
| Sample Number | 2388696-4 |
| Sampled Date | Sep 25, 2023 |
| Sample Description | Air Quality |
| Location | หมู่ที่ 3 ตำบลมบียงพอน (A1) (GPS 47P 0737742, 1438163) |
| Date Analysis Commenced | Oct 02, 2023 |
| Condition of Sample | Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated |
| Barometric Pressure | 755 mmHg |
| Atmospheric Temperature | 31.0 °C |

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 25/09/23 - 26/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 25/09/23 - 26/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 25/09/23 - 26/09/23 | mg/m3 | - | 0.00001 | 0.0001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 25/09/23 - 26/09/23 | mg/m3 | - | 0.00001 | 0.001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

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Sample Number 2388696-5
Sampled Date Sep 26, 2023
Sample Description Air Quality
Location หมู่ที่ 3 ตำบลมบียงพอน (A1) (GPS 47P 0737742, 1438163)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 26/09/23 - 27/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 26/09/23 - 27/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 26/09/23 - 27/09/23 | mg/m3 | - | 0.00001 | 0.00007 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 26/09/23 - 27/09/23 | mg/m3 | - | 0.00001 | 0.00007 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

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Sample Number 2388696-6
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location หมู่ที่ 3 ตำบลมบียงพอน (A1) (GPS 47P 0737742, 1438163)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 27/09/23 - 28/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 27/09/23 - 28/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 27/09/23 - 28/09/23 | mg/m3 | - | 0.00001 | 0.00010 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 27/09/23 - 28/09/23 | mg/m3 | - | 0.00001 | 0.00008 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

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7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 7 of 21

Sample Number 2388696-7
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location หมู่ที่ 3 ตำบลมบายนพร (A1) (GPS 47P 0737742, 1438163)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 28/09/23 - 29/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 28/09/23 - 29/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 28/09/23 - 29/09/23 | mg/m3 | - | 0.00001 | 0.0001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 28/09/23 - 29/09/23 | mg/m3 | - | 0.00001 | 0.001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 8 of 21

Sample Number 2388696-8
Sampled Date Sep 22, 2023
Sample Description Air Quality
Location หมู่ที่ 5 ตำบลโพธิ์ (A2) (GPS 47P 0725750, 1434297)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 22/09/23 - 23/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 22/09/23 - 23/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 22/09/23 - 23/09/23 | mg/m3 | - | 0.00001 | 0.00010 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 22/09/23 - 23/09/23 | mg/m3 | - | 0.00001 | 0.0008 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 9 of 21

Sample Number 2388696-9
Sampled Date Sep 23, 2023
Sample Description Air Quality
Location หมู่ที่ 5 ตำบลบ่อทอง (A2) (GPS 47P 0725750, 1434297)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 23/09/23 - 24/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 23/09/23 - 24/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 23/09/23 - 24/09/23 | mg/m3 | - | 0.00001 | 0.0001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 23/09/23 - 24/09/23 | mg/m3 | - | 0.00001 | 0.001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Sawitree N.

Sawitree Noisangiam
Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 10 of 21

Sample Number 2388696-10
Sampled Date Sep 24, 2023
Sample Description Air Quality
Location หมู่ที่ 5 ตำบลบ่อทอง (A2) (GPS 47P 0725750, 1434297)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 24/09/23 - 25/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 24/09/23 - 25/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 24/09/23 - 25/09/23 | mg/m3 | - | 0.00001 | 0.0001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 24/09/23 - 25/09/23 | mg/m3 | - | 0.00001 | 0.0009 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
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Analysis / Test Report

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7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388696

Date Received : Sep 29, 2023

Date Reported : Oct 11, 2023

Report Number : 2731723-1

Page 11 of 21

| | |
|-------------------------|---|
| Sample Number | 2388696-11 |
| Sampled Date | Sep 25, 2023 |
| Sample Description | Air Quality |
| Location | หมู่ที่ 5 ตำบลโพธิ์ (A2) (GPS 47P 0725750, 1434297) |
| Date Analysis Commenced | Oct 02, 2023 |
| Condition of Sample | Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated |
| Barometric Pressure | 755 mmHg |
| Atmospheric Temperature | 31.0 °C |

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 25/09/23 - 26/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 25/09/23 - 26/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 25/09/23 - 26/09/23 | mg/m3 | - | 0.00001 | 0.00002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 25/09/23 - 26/09/23 | mg/m3 | - | 0.00001 | 0.00008 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388696

Date Received : Sep 29, 2023

Date Reported : Oct 11, 2023

Report Number : 2731723-1

Page 12 of 21

| | |
|-------------------------|---|
| Sample Number | 2388696-12 |
| Sampled Date | Sep 26, 2023 |
| Sample Description | Air Quality |
| Location | หมู่ที่ 5 ตำบลโพธิ์ (A2) (GPS 47P 0725750, 1434297) |
| Date Analysis Commenced | Oct 02, 2023 |
| Condition of Sample | Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated |
| Barometric Pressure | 755 mmHg |
| Atmospheric Temperature | 31.0 °C |

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 26/09/23 - 27/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 26/09/23 - 27/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 26/09/23 - 27/09/23 | mg/m3 | - | 0.00001 | 0.00003 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 26/09/23 - 27/09/23 | mg/m3 | - | 0.00001 | 0.00007 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 13 of 21

Sample Number 2388696-13
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location หมู่ที่ 5 ตำบลโพธิ์ (A2) (GPS 47P 0725750, 1434297)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 27/09/23 - 28/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 27/09/23 - 28/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 27/09/23 - 28/09/23 | mg/m3 | - | 0.00001 | 0.00003 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 27/09/23 - 28/09/23 | mg/m3 | - | 0.00001 | 0.00001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 14 of 21

Sample Number 2388696-14
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location หมู่ที่ 5 ตำบลโพธิ์ (A2) (GPS 47P 0725750, 1434297)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 28/09/23 - 29/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 28/09/23 - 29/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 28/09/23 - 29/09/23 | mg/m3 | - | 0.00001 | 0.00002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 28/09/23 - 29/09/23 | mg/m3 | - | 0.00001 | 0.00008 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 15 of 21

Sample Number 2388696-15
Sampled Date Sep 22, 2023
Sample Description Air Quality
Location รัดพนานิคม (A3) (GPS 47P 0728650, 1428893)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 22/09/23 - 23/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 22/09/23 - 23/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 22/09/23 - 23/09/23 | mg/m3 | - | 0.00001 | 0.0002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 22/09/23 - 23/09/23 | mg/m3 | - | 0.00001 | 0.002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 16 of 21

Sample Number 2388696-16
Sampled Date Sep 23, 2023
Sample Description Air Quality
Location รัดพนานิคม (A3) (GPS 47P 0728650, 1428893)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 23/09/23 - 24/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 23/09/23 - 24/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 23/09/23 - 24/09/23 | mg/m3 | - | 0.00001 | 0.0001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 23/09/23 - 24/09/23 | mg/m3 | - | 0.00001 | 0.002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 17 of 21

Sample Number 2388696-17
Sampled Date Sep 24, 2023
Sample Description Air Quality
Location รัดพนานิคม (A3) (GPS 47P 0728650, 1428893)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 24/09/23 - 25/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 24/09/23 - 25/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 24/09/23 - 25/09/23 | mg/m3 | - | 0.00001 | 0.0002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 24/09/23 - 25/09/23 | mg/m3 | - | 0.00001 | 0.002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Sawitree N.

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Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 18 of 21

Sample Number 2388696-18
Sampled Date Sep 25, 2023
Sample Description Air Quality
Location รัดพนานิคม (A3) (GPS 47P 0728650, 1428893)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 25/09/23 - 26/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 25/09/23 - 26/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 25/09/23 - 26/09/23 | mg/m3 | - | 0.00001 | 0.00004 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 25/09/23 - 26/09/23 | mg/m3 | - | 0.00001 | 0.001 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Sawitree N.

Sawitree Noisangiam
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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 19 of 21

Sample Number 2388696-19
Sampled Date Sep 26, 2023
Sample Description Air Quality
Location รัดพนาดม (A3) (GPS 47P 0728650, 1428893)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 26/09/23 - 27/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 26/09/23 - 27/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 26/09/23 - 27/09/23 | mg/m3 | - | 0.00001 | 0.00005 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 26/09/23 - 27/09/23 | mg/m3 | - | 0.00001 | 0.00004 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Sawitree N.

Sawitree Noisangiam
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Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388696
Date Received : Sep 29, 2023
Date Reported : Oct 11, 2023
Report Number : 2731723-1

Page 20 of 21

Sample Number 2388696-20
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location รัดพนาดม (A3) (GPS 47P 0728650, 1428893)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 27/09/23 - 28/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 27/09/23 - 28/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 27/09/23 - 28/09/23 | mg/m3 | - | 0.00001 | 0.00005 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 27/09/23 - 28/09/23 | mg/m3 | - | 0.00001 | 0.00007 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388696

Date Received : Sep 29, 2023

Date Reported : Oct 11, 2023

Report Number : 2731723-1

Page 21 of 21

Sample Number 2388696-21
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location วัดพนาธิคม (A3) (GPS 47P 0728650, 1428893)
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and two sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Method | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|---------|--|------------------|
| Air Testing | | | | | | | |
| Hydrogen chloride | 28/09/23 - 29/09/23 | ppm | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Sulfuric acid | 28/09/23 - 29/09/23 | mg/m3 | - | 0.05 | <0.05 | Based on OSHA, ID-174-SG | Bangkok |
| Metals Testing | | | | | | | |
| Copper | 28/09/23 - 29/09/23 | mg/m3 | - | 0.00001 | 0.00005 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |
| Zinc | 28/09/23 - 29/09/23 | mg/m3 | - | 0.00001 | 0.00002 | United States Environmental Protection Agency, EPA IO Compendium Method IO-3.4 | Bangkok |

Sampled By : Thitipong Buadaeng

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Approved by

Sawitree N.

Sawitree Noisangiam
Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
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ภาคผนวก ค-3

ระดับเสียง



Analysis / Test Report

TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388749

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2795866-1

Page 1 of 1

Sample Number 2388749-1
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วโครงการทางทิศตะวันออก (N1) (GPS 47P 729205, 1433615)
Measurement Date Sep 22 - Sep 23, 2023
Measurement by Apichart Wilars
Sound Level meter Serial No. 734225

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 59.4 | 73.9 | 53.2 |
| 10:00 AM - 11:00 AM | 58.8 | 72.5 | 53.6 |
| 11:00 AM - 12:00 PM | 58.3 | 72.9 | 52.5 |
| 12:00 PM - 01:00 PM | 60.3 | 79.6 | 52.0 |
| 01:00 PM - 02:00 PM | 63.1 | 74.6 | 54.6 |
| 02:00 PM - 03:00 PM | 59.4 | 72.9 | 53.8 |
| 03:00 PM - 04:00 PM | 58.4 | 70.4 | 52.9 |
| 04:00 PM - 05:00 PM | 60.2 | 73.8 | 55.8 |
| 05:00 PM - 06:00 PM | 59.8 | 77.2 | 55.0 |
| 06:00 PM - 07:00 PM | 62.5 | 77.7 | 56.9 |
| 07:00 PM - 08:00 PM | 62.7 | 79.2 | 57.6 |
| 08:00 PM - 09:00 PM | 59.9 | 72.8 | 56.8 |
| 09:00 PM - 10:00 PM | 58.1 | 71.8 | 55.1 |
| 10:00 PM - 11:00 PM | 56.4 | 66.8 | 53.9 |
| 11:00 PM - 12:00 AM | 56.3 | 69.0 | 52.2 |
| 12:00 AM - 01:00 AM | 55.2 | 74.7 | 51.2 |
| 01:00 AM - 02:00 AM | 54.6 | 70.4 | 51.6 |
| 02:00 AM - 03:00 AM | 54.0 | 66.9 | 52.0 |
| 03:00 AM - 04:00 AM | 54.4 | 68.0 | 51.5 |
| 04:00 AM - 05:00 AM | 58.3 | 79.7 | 51.9 |
| 05:00 AM - 06:00 AM | 57.2 | 72.5 | 52.4 |
| 06:00 AM - 07:00 AM | 63.4 | 79.6 | 57.6 |
| 07:00 AM - 08:00 AM | 64.9 | 80.5 | 58.3 |
| 08:00 AM - 09:00 AM | 59.9 | 75.7 | 51.7 |

Leq Average 24 hrs. (dB(A)) 59.9
Lmax (dB(A)) 80.5
L90 (dB(A)) 53.2
Ldn (dB(A)) 64.8
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388749

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2795867-1

Page 1 of 1

Sample Number 2388749-2
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วโครงการทางทิศตะวันออก (N1) (GPS 47P 729205, 1433615)
Measurement Date Sep 23 - Sep 24, 2023
Measurement by Apichart Wilars
Sound Level meter Serial No. 734225

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 57.8 | 68.7 | 51.6 |
| 10:00 AM - 11:00 AM | 57.1 | 70.7 | 51.1 |
| 11:00 AM - 12:00 PM | 56.9 | 73.1 | 50.1 |
| 12:00 PM - 01:00 PM | 59.6 | 73.2 | 49.9 |
| 01:00 PM - 02:00 PM | 66.7 | 90.1 | 55.0 |
| 02:00 PM - 03:00 PM | 66.8 | 93.6 | 56.5 |
| 03:00 PM - 04:00 PM | 58.3 | 70.3 | 53.8 |
| 04:00 PM - 05:00 PM | 61.2 | 80.6 | 55.1 |
| 05:00 PM - 06:00 PM | 59.9 | 77.3 | 53.7 |
| 06:00 PM - 07:00 PM | 62.8 | 80.6 | 56.7 |
| 07:00 PM - 08:00 PM | 63.3 | 80.8 | 58.1 |
| 08:00 PM - 09:00 PM | 58.9 | 77.2 | 53.1 |
| 09:00 PM - 10:00 PM | 56.8 | 79.2 | 52.3 |
| 10:00 PM - 11:00 PM | 55.6 | 70.8 | 51.5 |
| 11:00 PM - 12:00 AM | 54.2 | 74.6 | 50.3 |
| 12:00 AM - 01:00 AM | 53.8 | 73.5 | 50.5 |
| 01:00 AM - 02:00 AM | 54.2 | 76.2 | 49.8 |
| 02:00 AM - 03:00 AM | 53.9 | 76.4 | 50.1 |
| 03:00 AM - 04:00 AM | 51.8 | 62.8 | 49.7 |
| 04:00 AM - 05:00 AM | 55.7 | 77.2 | 50.2 |
| 05:00 AM - 06:00 AM | 56.0 | 73.6 | 50.5 |
| 06:00 AM - 07:00 AM | 62.7 | 80.9 | 55.4 |
| 07:00 AM - 08:00 AM | 62.1 | 77.1 | 55.3 |
| 08:00 AM - 09:00 AM | 58.6 | 80.5 | 50.9 |

Leq Average 24 hrs. (dB(A)) 60.5
Lmax (dB(A)) 93.6
L90 (dB(A)) 51.5
Ldn (dB(A)) 64.3
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388749

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2795868-1

Page 1 of 1

Sample Number 2388749-3
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วโครงการทางทิศตะวันออก (N1) (GPS 47P 729205, 1433615)
Measurement Date Sep 24 - Sep 25, 2023
Measurement by Apichart Wilars
Sound Level meter Serial No. 734225

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 57.4 | 78.0 | 49.3 |
| 10:00 AM - 11:00 AM | 55.9 | 70.0 | 49.8 |
| 11:00 AM - 12:00 PM | 55.0 | 68.5 | 49.0 |
| 12:00 PM - 01:00 PM | 66.8 | 97.1 | 49.6 |
| 01:00 PM - 02:00 PM | 58.4 | 67.4 | 51.5 |
| 02:00 PM - 03:00 PM | 60.0 | 79.0 | 53.0 |
| 03:00 PM - 04:00 PM | 57.8 | 73.4 | 51.8 |
| 04:00 PM - 05:00 PM | 59.3 | 73.2 | 54.1 |
| 05:00 PM - 06:00 PM | 58.2 | 75.0 | 53.0 |
| 06:00 PM - 07:00 PM | 60.2 | 77.9 | 54.9 |
| 07:00 PM - 08:00 PM | 61.7 | 76.1 | 56.4 |
| 08:00 PM - 09:00 PM | 57.8 | 76.5 | 53.7 |
| 09:00 PM - 10:00 PM | 56.0 | 71.7 | 51.9 |
| 10:00 PM - 11:00 PM | 59.7 | 77.8 | 51.7 |
| 11:00 PM - 12:00 AM | 58.8 | 79.1 | 52.5 |
| 12:00 AM - 01:00 AM | 54.9 | 74.0 | 50.2 |
| 01:00 AM - 02:00 AM | 51.6 | 62.4 | 49.8 |
| 02:00 AM - 03:00 AM | 52.1 | 64.9 | 50.0 |
| 03:00 AM - 04:00 AM | 53.6 | 71.2 | 50.4 |
| 04:00 AM - 05:00 AM | 57.5 | 80.4 | 50.4 |
| 05:00 AM - 06:00 AM | 58.5 | 75.6 | 52.4 |
| 06:00 AM - 07:00 AM | 64.0 | 80.6 | 58.6 |
| 07:00 AM - 08:00 AM | 64.2 | 78.2 | 58.4 |
| 08:00 AM - 09:00 AM | 60.2 | 77.9 | 55.0 |

Leq Average 24 hrs. (dB(A)) 59.9
Lmax (dB(A)) 97.1
L90 (dB(A)) 51.8
Ldn (dB(A)) 65.2
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388749

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2795869-1

Page 1 of 1

Sample Number 2388749-4
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วโครงการทางทิศตะวันออก (N1) (GPS 47P 729205, 1433615)
Measurement Date Sep 25 - Sep 26, 2023
Measurement by Apichart Wilars
Sound Level meter Serial No. 734225

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 59.2 | 71.1 | 54.0 |
| 10:00 AM - 11:00 AM | 59.6 | 71.1 | 54.4 |
| 11:00 AM - 12:00 PM | 60.5 | 75.5 | 54.7 |
| 12:00 PM - 01:00 PM | 59.8 | 75.0 | 55.2 |
| 01:00 PM - 02:00 PM | 59.8 | 72.2 | 54.5 |
| 02:00 PM - 03:00 PM | 61.0 | 76.6 | 55.7 |
| 03:00 PM - 04:00 PM | 59.9 | 75.2 | 54.9 |
| 04:00 PM - 05:00 PM | 61.4 | 75.8 | 57.0 |
| 05:00 PM - 06:00 PM | 61.0 | 76.7 | 56.5 |
| 06:00 PM - 07:00 PM | 63.3 | 77.2 | 58.3 |
| 07:00 PM - 08:00 PM | 64.1 | 80.1 | 58.8 |
| 08:00 PM - 09:00 PM | 60.1 | 80.4 | 54.7 |
| 09:00 PM - 10:00 PM | 56.7 | 68.5 | 54.4 |
| 10:00 PM - 11:00 PM | 57.1 | 75.6 | 53.9 |
| 11:00 PM - 12:00 AM | 57.3 | 79.2 | 53.3 |
| 12:00 AM - 01:00 AM | 55.7 | 71.4 | 53.3 |
| 01:00 AM - 02:00 AM | 55.0 | 64.8 | 53.5 |
| 02:00 AM - 03:00 AM | 56.2 | 80.9 | 52.7 |
| 03:00 AM - 04:00 AM | 55.0 | 67.1 | 52.8 |
| 04:00 AM - 05:00 AM | 57.0 | 75.4 | 54.2 |
| 05:00 AM - 06:00 AM | 58.4 | 70.5 | 54.0 |
| 06:00 AM - 07:00 AM | 64.5 | 78.2 | 59.3 |
| 07:00 AM - 08:00 AM | 69.6 | 92.6 | 61.5 |
| 08:00 AM - 09:00 AM | 62.0 | 80.2 | 57.2 |

Leq Average 24 hrs. (dB(A)) 61.4
Lmax (dB(A)) 92.6
L90 (dB(A)) 54.5
Ldn (dB(A)) 65.8
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2388749

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2795870-1

Page 1 of 1

Sample Number 2388749-5
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วโครงการทางทิศตะวันออก (N1) (GPS 47P 729205, 1433615)
Measurement Date Sep 26 - Sep 27, 2023
Measurement by Apichart Wilars
Sound Level meter Serial No. 734225

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 60.3 | 72.5 | 55.7 |
| 10:00 AM - 11:00 AM | 59.0 | 71.2 | 54.0 |
| 11:00 AM - 12:00 PM | 57.8 | 71.4 | 52.7 |
| 12:00 PM - 01:00 PM | 58.0 | 71.4 | 52.3 |
| 01:00 PM - 02:00 PM | 59.0 | 76.2 | 53.7 |
| 02:00 PM - 03:00 PM | 58.6 | 70.8 | 54.3 |
| 03:00 PM - 04:00 PM | 58.5 | 74.5 | 53.2 |
| 04:00 PM - 05:00 PM | 59.9 | 70.3 | 55.3 |
| 05:00 PM - 06:00 PM | 60.0 | 73.8 | 55.7 |
| 06:00 PM - 07:00 PM | 62.7 | 79.4 | 57.1 |
| 07:00 PM - 08:00 PM | 62.9 | 76.6 | 57.7 |
| 08:00 PM - 09:00 PM | 59.6 | 79.2 | 55.3 |
| 09:00 PM - 10:00 PM | 56.1 | 73.0 | 52.7 |
| 10:00 PM - 11:00 PM | 55.5 | 77.1 | 51.9 |
| 11:00 PM - 12:00 AM | 54.4 | 68.6 | 52.1 |
| 12:00 AM - 01:00 AM | 53.9 | 66.8 | 52.0 |
| 01:00 AM - 02:00 AM | 54.0 | 70.7 | 51.8 |
| 02:00 AM - 03:00 AM | 54.9 | 68.3 | 52.6 |
| 03:00 AM - 04:00 AM | 55.2 | 66.5 | 53.3 |
| 04:00 AM - 05:00 AM | 56.9 | 75.4 | 53.9 |
| 05:00 AM - 06:00 AM | 59.6 | 76.9 | 54.6 |
| 06:00 AM - 07:00 AM | 63.8 | 76.9 | 59.5 |
| 07:00 AM - 08:00 AM | 65.0 | 82.5 | 59.2 |
| 08:00 AM - 09:00 AM | 62.0 | 80.1 | 56.8 |

Leq Average 24 hrs. (dB(A)) 59.8
Lmax (dB(A)) 82.5
L90 (dB(A)) 53.9
Ldn (dB(A)) 64.8
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388749

Date Received : Sep 29, 2023
Date Reported : Oct 05, 2023
Report Number: 2795871-1

Page 1 of 1

Sample Number 2388749-6
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วโครงการทางทิศตะวันออก (N1) (GPS 47P 729205, 1433615)
Measurement Date Sep 27 - Sep 28, 2023
Measurement by Apichart Wilars
Sound Level meter Serial No. 734225

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 59.4 | 71.2 | 54.2 |
| 10:00 AM - 11:00 AM | 60.0 | 80.5 | 54.7 |
| 11:00 AM - 12:00 PM | 59.0 | 77.6 | 53.7 |
| 12:00 PM - 01:00 PM | 58.0 | 74.7 | 53.4 |
| 01:00 PM - 02:00 PM | 59.5 | 76.9 | 54.8 |
| 02:00 PM - 03:00 PM | 59.5 | 75.8 | 55.4 |
| 03:00 PM - 04:00 PM | 59.1 | 71.2 | 55.1 |
| 04:00 PM - 05:00 PM | 60.3 | 73.7 | 56.4 |
| 05:00 PM - 06:00 PM | 61.1 | 77.2 | 56.9 |
| 06:00 PM - 07:00 PM | 61.7 | 78.0 | 55.9 |
| 07:00 PM - 08:00 PM | 63.0 | 81.5 | 56.7 |
| 08:00 PM - 09:00 PM | 59.8 | 77.4 | 54.2 |
| 09:00 PM - 10:00 PM | 56.7 | 74.3 | 52.9 |
| 10:00 PM - 11:00 PM | 56.7 | 77.5 | 52.7 |
| 11:00 PM - 12:00 AM | 54.9 | 71.9 | 52.1 |
| 12:00 AM - 01:00 AM | 54.9 | 71.6 | 52.4 |
| 01:00 AM - 02:00 AM | 56.7 | 81.7 | 53.3 |
| 02:00 AM - 03:00 AM | 54.2 | 69.6 | 52.6 |
| 03:00 AM - 04:00 AM | 54.9 | 73.3 | 52.5 |
| 04:00 AM - 05:00 AM | 55.9 | 72.3 | 53.2 |
| 05:00 AM - 06:00 AM | 58.1 | 76.1 | 53.4 |
| 06:00 AM - 07:00 AM | 62.7 | 77.4 | 56.8 |
| 07:00 AM - 08:00 AM | 65.3 | 84.8 | 60.2 |
| 08:00 AM - 09:00 AM | 61.6 | 76.8 | 56.9 |

Leq Average 24 hrs. (dB(A)) 59.8
Lmax (dB(A)) 84.8
L90 (dB(A)) 54.2
Ldn (dB(A)) 64.5
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2388749

Date Received : Sep 29, 2023
Date Reported : Oct 05, 2023
Report Number: 2795872-1

Page 1 of 1

Sample Number 2388749-7
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วโครงการทางทิศตะวันออก (N1) (GPS 47P 729205, 1433615)
Measurement Date Sep 28 - Sep 29, 2023
Measurement by Apichart Wilars
Sound Level meter Serial No. 734225

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 59.6 | 76.3 | 55.2 |
| 10:00 AM - 11:00 AM | 60.1 | 78.2 | 55.2 |
| 11:00 AM - 12:00 PM | 58.9 | 75.5 | 54.5 |
| 12:00 PM - 01:00 PM | 58.5 | 76.0 | 53.8 |
| 01:00 PM - 02:00 PM | 59.4 | 74.6 | 54.8 |
| 02:00 PM - 03:00 PM | 61.4 | 78.7 | 55.7 |
| 03:00 PM - 04:00 PM | 59.6 | 73.2 | 54.9 |
| 04:00 PM - 05:00 PM | 61.1 | 76.1 | 56.5 |
| 05:00 PM - 06:00 PM | 61.1 | 75.5 | 56.6 |
| 06:00 PM - 07:00 PM | 60.9 | 79.3 | 55.9 |
| 07:00 PM - 08:00 PM | 62.8 | 79.9 | 57.6 |
| 08:00 PM - 09:00 PM | 59.9 | 76.1 | 56.5 |
| 09:00 PM - 10:00 PM | 58.5 | 78.7 | 55.7 |
| 10:00 PM - 11:00 PM | 59.5 | 76.6 | 55.4 |
| 11:00 PM - 12:00 AM | 57.4 | 73.2 | 54.7 |
| 12:00 AM - 01:00 AM | 59.4 | 79.2 | 54.7 |
| 01:00 AM - 02:00 AM | 57.4 | 80.5 | 54.0 |
| 02:00 AM - 03:00 AM | 56.2 | 70.7 | 54.5 |
| 03:00 AM - 04:00 AM | 55.6 | 69.5 | 54.1 |
| 04:00 AM - 05:00 AM | 57.3 | 75.2 | 54.2 |
| 05:00 AM - 06:00 AM | 58.5 | 77.6 | 54.3 |
| 06:00 AM - 07:00 AM | 63.3 | 83.0 | 57.9 |
| 07:00 AM - 08:00 AM | 65.2 | 81.3 | 60.1 |
| 08:00 AM - 09:00 AM | 62.1 | 76.4 | 57.4 |

Leq Average 24 hrs. (dB(A)) 60.3
Lmax (dB(A)) 83.0
L90 (dB(A)) 55.2
Ldn (dB(A)) 65.7
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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ภาคผนวก ค-4

คุณภาพน้ำทิ้ง



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 2363329
Date Received : Jul 07, 2023
Date Reported : Jul 14, 2023
Report Number : 2718094-1

Page 1 of 2

| | |
|--------------------------------|---|
| Sample Number | 2363329-2 |
| Sampled Date | Jul 07, 2023 2:05 PM |
| Sample Description | Wastewater |
| Location | Effluent WWTP |
| Date Analysis Commenced | Jul 07, 2023 |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| Water Testing | | | | | | | |
| BOD (5 days at 20 Degree C) | mg/L | - | 2.0 | <2.0 | ≤500 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong |
| COD | mg/L | 1.5 | 25 | <25 | ≤750 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D | Rayong |
| Color (at Original pH) | ADMI | - | 5 | <5 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Color (at pH 7.0) | ADMI | - | 5 | <5 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Oil & Grease * | mg/L | - | 3 | <3 | ≤10 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B | Rayong |
| pH at 25 degree C * | | - | - | 7.8 | 5.5-9.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B) | Rayong |
| Temperature * | Degree C | - | - | 36.2 | ≤45 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B | Rayong |
| Total Dissolved Solids Dried at 180 degree C | mg/L | - | 5 | 2490 | ≤3000 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C | Rayong |
| Total Kjeldahl Nitrogen as N | mg/L | - | 1.0 | 1.4 | ≤100 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D) | Rayong |

Technical Management

N. Banachkit

Narumon Banachkit
Supervisor
ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 2363329
Date Received : Jul 07, 2023
Date Reported : Jul 14, 2023
Report Number : 2718094-1

Page 2 of 2

| | |
|--------------------------------|---|
| Sample Number | 2363329-2 |
| Sampled Date | Jul 07, 2023 2:05 PM |
| Sample Description | Wastewater |
| Location | Effluent WWTP |
| Date Analysis Commenced | Jul 07, 2023 |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|------|-----|-----------|--------|---------------------------|---|------------------|
| Water Testing | | | | | | | |
| Total Suspended Solids Dried at 103-105 degree C | mg/L | - | 5 | <5 | ≤200 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narapong ทะเบียนเลขที่ ว-323-จ-0011 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banachkit

Narumon Banachkit
Supervisor
ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 2363329
Date Received : Jul 07, 2023
Date Reported : Jul 14, 2023
Report Number : 2718094-2

Page 1 of 1

| | |
|--------------------------------|---|
| Sample Number | 2363329-2 |
| Sampled Date | Jul 07, 2023 2:05 PM |
| Sample Description | Wastewater |
| Location | Effluent WWTP |
| Date Analysis Commenced | Jul 10, 2023 |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|--------|-----------|--------------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Copper | mg/L | 0.0003 | 0.0005 | 0.008 | ≤2.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Lead | mg/L | 0.0003 | 0.0005 | Not Detected | ≤0.2 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Zinc | mg/L | 0.003 | 0.005 | 1.92 | ≤5.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narapong ทะเบียนเลขที่ 7-323-3-0011 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-3-0002

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Sawitree N.

Sawitree Noisangiam

Manager

ทะเบียนเลขที่ 7-204-3-4709

Approved by

Kanokorn Anek

Kanokorn Anek

Senior Manager

ทะเบียนเลขที่ 7-204-3-6111

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 2363329
Date Received : Jul 07, 2023
Date Reported : Jul 14, 2023
Report Number : 2718094-3

Page 1 of 1

| | |
|--------------------------------|---|
| Sample Number | 2363329-2 |
| Sampled Date | Jul 07, 2023 2:05 PM |
| Sample Description | Wastewater |
| Location | Effluent WWTP |
| Date Analysis Commenced | Jul 08, 2023 |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|-------|-----------|-----------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Iron | mg/L | 0.003 | 0.005 | 0.07 | ≤10.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Water Testing | | | | | | | |
| Chloride as Cl * | mg/L | 0.5 | 1 | 500 | No Standard | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B) | Rayong |
| Odour * | - | - | - | Odourless | Non Objectionable | TIS, 257-2549 | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narapong , Pattarapol Sawangjaitam

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

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Analysis / Test Report

TESTING
No.0042

Lot ID: 2384494

Date Received : Aug 04, 2023

Date Reported : Aug 11, 2023

Report Number : 2743868-1

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location:

| | | | | | | | |
|-------------------------|---|--|--|--|--|--|--|
| Sample Number | 2384494-2 | | | | | | |
| Sampled Date | Aug 04, 2023 1:56 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Aug 04, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| Water Testing | | | | | | | |
| BOD (5 days at 20 Degree C) | mg/L | - | 2.0 | <2.0 | ≤500 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong |
| COD | mg/L | 1.5 | 25 | <25 | ≤750 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D | Rayong |
| Color (at Original pH) | ADMI | - | 5 | 6 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Color (at pH 7.0) | ADMI | - | 5 | 5 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Oil & Grease * | mg/L | - | 3 | <3 | ≤10 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B | Rayong |
| pH at 25 degree C * | | - | - | 7.7 | 5.5-9.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B) | Rayong |
| Temperature * | Degree C | - | - | 31.5 | ≤45 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B | Rayong |
| Total Dissolved Solids Dried at 180 degree C | mg/L | - | 5 | 2250 | ≤3000 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C | Rayong |
| Total Kjeldahl Nitrogen as N | mg/L | - | 1.0 | <1.0 | ≤100 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D) | Rayong |

Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor

ทะเบียนเลขที่ 2-323-2-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ 2-323-2-9442

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Analysis / Test Report

TESTING
No.0042

Lot ID: 2384494

Date Received : Aug 04, 2023

Date Reported : Aug 11, 2023

Report Number : 2743868-1

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location:

| | | | | | | | |
|-------------------------|---|--|--|--|--|--|--|
| Sample Number | 2384494-2 | | | | | | |
| Sampled Date | Aug 04, 2023 1:56 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Aug 04, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|------|-----|-----------|--------|---------------------------|---|------------------|
| Water Testing | | | | | | | |
| Total Suspended Solids Dried at 103-105 degree C | mg/L | - | 5 | <5 | ≤200 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 2-323-2-9460 , Samart Khumplee ทะเบียนเลขที่ 2-204-2-7830

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor

ทะเบียนเลขที่ 2-323-2-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ 2-323-2-9442

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S:\Reports_All_GL-rpt (10:04AM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 2384494
Date Received : Aug 04, 2023
Date Reported : Aug 15, 2023
Report Number : 2743868-2

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2384494-2 | | | | | | |
| Sampled Date | Aug 04, 2023 1:56 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Aug 07, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|--------|-----------|--------------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Copper | mg/L | 0.0003 | 0.0005 | 0.007 | ≤2.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Lead | mg/L | 0.0003 | 0.0005 | Not Detected | ≤0.2 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Zinc | mg/L | 0.003 | 0.005 | 3.75 | ≤5.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-จ-9460 , Samart Khumphlee ทะเบียนเลขที่ ว-204-จ-7830

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-4709

Approved by

Kanok Korn Anek

Kanok Korn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 2384494
Date Received : Aug 04, 2023
Date Reported : Aug 11, 2023
Report Number : 2743868-3

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2384494-2 | | | | | | |
| Sampled Date | Aug 04, 2023 1:56 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Aug 05, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|-------|-----------|-----------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Iron | mg/L | 0.003 | 0.005 | 0.18 | ≤10.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Water Testing | | | | | | | |
| Chloride as Cl * | mg/L | 0.5 | 1 | 561 | No Standard | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B) | Rayong |
| Odour * | - | - | - | Odourless | Non Objectionable | TIS, 257-2549 | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Samart Khumphlee

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Analysis / Test Report

TESTING
No.0042

Lot ID: **2392367**

Date Received : Sep 01, 2023

Date Reported : Sep 08, 2023

Report Number : 2770724-1

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location:

| | | | | | | | |
|-------------------------|---|--|--|--|--|--|--|
| Sample Number | 2392367-2 | | | | | | |
| Sampled Date | Sep 01, 2023 1:49 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Sep 01, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| Water Testing | | | | | | | |
| BOD (5 days at 20 Degree C) | mg/L | - | 2.0 | <2.0 | ≤500 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong |
| COD | mg/L | 1.5 | 25 | <25 | ≤750 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D | Rayong |
| Color (at Original pH) | ADMI | - | 5 | 5 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Color (at pH 7.0) | ADMI | - | 5 | <5 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Oil & Grease * | mg/L | - | 3 | <3 | ≤10 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B | Rayong |
| pH at 25 degree C * | | - | - | 7.8 | 5.5-9.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B) | Rayong |
| Temperature * | Degree C | - | - | 32.6 | ≤45 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B | Rayong |
| Total Dissolved Solids Dried at 180 degree C | mg/L | - | 5 | 2600 | ≤3000 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C | Rayong |
| Total Kjeldahl Nitrogen as N | mg/L | - | 1.0 | 1.5 | ≤100 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D) | Rayong |

Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor

ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Chongchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

TESTING
No.0042

Lot ID: **2392367**

Date Received : Sep 01, 2023

Date Reported : Sep 08, 2023

Report Number : 2770724-1

Client : Sumiden Steel Wire (Thailand) Co., Ltd.

7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140

P/O : SmfC223470

Project Name :

Project Location:

| | | | | | | | |
|-------------------------|---|--|--|--|--|--|--|
| Sample Number | 2392367-2 | | | | | | |
| Sampled Date | Sep 01, 2023 1:49 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Sep 01, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|------|-----|-----------|--------|---------------------------|---|------------------|
| Water Testing | | | | | | | |
| Total Suspended Solids Dried at 103-105 degree C | mg/L | - | 5 | 7 | ≤200 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Nattawut Athompramarat ทะเบียนเลขที่ ว-323-จ-0006 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor

ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Chongchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 2392367
Date Received : Sep 01, 2023
Date Reported : Sep 08, 2023
Report Number : 2770724-2

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2392367-2 | | | | | | |
| Sampled Date | Sep 01, 2023 1:49 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Sep 04, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|--------|-----------|--------------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Copper | mg/L | 0.0003 | 0.0005 | 0.05 | ≤2.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Lead | mg/L | 0.0003 | 0.0005 | Not Detected | ≤0.2 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Zinc | mg/L | 0.003 | 0.005 | 1.54 | ≤5.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Nattawut Athomprommarat ทะเบียนเลขที่ ว-323-จ-0006 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

Remark :

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Technical Management

Sawitree N.

Sawitree Noisangiam

Manager

ทะเบียนเลขที่ ว-204-จ-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ก-6111

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 2392367
Date Received : Sep 01, 2023
Date Reported : Sep 08, 2023
Report Number : 2770724-3

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 2392367-2 | | | | | | |
| Sampled Date | Sep 01, 2023 1:49 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Sep 02, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|-------|-----------|--------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Iron | mg/L | 0.003 | 0.005 | 0.08 | ≤10.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Water Testing | | | | | | | |
| Chloride as Cl * | mg/L | 0.5 | 1 | 479 | No Standard | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B) | Rayong |
| Odour * | - | - | - | Odour | Non Objectionable | TIS, 257-2549 | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Nattawut Athomprommarat , Pattarapol Sawangjaitam

Remark :

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmlC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 23111230
Date Received : Oct 06, 2023
Date Reported : Oct 13, 2023
Report Number : 2806690-1

Page 1 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23111230-2 | | | | | | |
| Sampled Date | Oct 06, 2023 9:50 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Oct 06, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| Water Testing | | | | | | | |
| BOD (5 days at 20 Degree C) | mg/L | - | 2.0 | <2.0 | ≤500 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong |
| COD | mg/L | 1.5 | 25 | <25 | ≤750 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D | Rayong |
| Color (at Original pH) | ADMI | - | 5 | 7 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Color (at pH 7.0) | ADMI | - | 5 | 5 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Oil & Grease * | mg/L | - | 3 | <3 | ≤10 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B | Rayong |
| pH at 25 degree C * | | - | - | 7.7 | 5.5-9.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B) | Rayong |
| Temperature * | Degree C | - | - | 30.3 | ≤45 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B | Rayong |
| Total Dissolved Solids Dried at 180 degree C | mg/L | - | 5 | 2880 | ≤3000 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C | Rayong |
| Total Kjeldahl Nitrogen as N | mg/L | - | 1.0 | 1.1 | ≤100 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D) | Rayong |

Technical Management

N. Banachkit

Narumon Banachkit
Supervisor
ทะเบียนเลขที่ 7-323-9-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmlC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 23111230
Date Received : Oct 06, 2023
Date Reported : Oct 13, 2023
Report Number : 2806690-1

Page 2 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23111230-2 | | | | | | |
| Sampled Date | Oct 06, 2023 9:50 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Oct 06, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|------|-----|-----------|--------|---------------------------|---|------------------|
| Water Testing | | | | | | | |
| Total Suspended Solids Dried at 103-105 degree C | mg/L | - | 5 | <5 | ≤200 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 7-323-9-9460 , Nantawat Sarin ทะเบียนเลขที่ 7-204-9-8596

Remark :

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Technical Management

N. Banachkit

Narumon Banachkit
Supervisor
ทะเบียนเลขที่ 7-323-9-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 23111230
Date Received : Oct 06, 2023
Date Reported : Oct 14, 2023
Report Number : 2806690-2

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23111230-2 | | | | | | |
| Sampled Date | Oct 06, 2023 9:50 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Oct 07, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|--------|-----------|--------------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Copper | mg/L | 0.0003 | 0.0005 | 0.01 | ≤2.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Lead | mg/L | 0.0003 | 0.0005 | Not Detected | ≤0.2 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Zinc | mg/L | 0.003 | 0.005 | 1.46 | ≤5.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-จ-9460 , Nantawat Sarin ทะเบียนเลขที่ ว-204-จ-8596

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
ทะเบียนเลขที่ ว-204-จ-4710

Approved by

Kanok Korn Anek

Kanok Korn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-จ-6111

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 23111230
Date Received : Oct 06, 2023
Date Reported : Oct 14, 2023
Report Number : 2806690-3

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23111230-2 | | | | | | |
| Sampled Date | Oct 06, 2023 9:50 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Oct 07, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|-------|-----------|-----------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Iron | mg/L | 0.003 | 0.005 | 0.09 | ≤10.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Water Testing | | | | | | | |
| Chloride as Cl * | mg/L | 0.5 | 1 | 631 | No Standard | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B) | Rayong |
| Odour * | - | - | - | Odourless | Non Objectionable | TIS, 257-2549 | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Nantawat Sarin

Remark :

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 23123451
Date Received : Nov 03, 2023
Date Reported : Nov 10, 2023
Report Number : 2832149-1

Page 1 of 2

| | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|
| Sample Number | 23123451-2 | | | | | | |
| Sampled Date | Nov 03, 2023 2:20 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Nov 03, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| Water Testing | | | | | | | |
| BOD (5 days at 20 Degree C) | mg/L | - | 2.0 | <2.0 | ≤500 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong |
| COD | mg/L | 1.5 | 25 | <25 | ≤750 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D | Rayong |
| Color (at Original pH) | ADMI | - | 5 | 6 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Color (at pH 7.0) | ADMI | - | 5 | 5 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Oil & Grease * | mg/L | - | 3 | <3 | ≤10 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B | Rayong |
| pH at 25 degree C * | | - | - | 7.8 | 5.5-9.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B) | Rayong |
| Temperature * | Degree C | - | - | 32.9 | ≤45 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B | Rayong |
| Total Dissolved Solids Dried at 180 degree C | mg/L | - | 5 | 2880 | ≤3000 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C | Rayong |
| Total Kjeldahl Nitrogen as N | mg/L | - | 1.0 | <1.0 | ≤100 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D) | Rayong |

Technical Management

N. Banachit

Narumon Banachonkit
Supervisor
ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

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7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 23123451
Date Received : Nov 03, 2023
Date Reported : Nov 10, 2023
Report Number : 2832149-1

Page 2 of 2

| | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|
| Sample Number | 23123451-2 | | | | | | |
| Sampled Date | Nov 03, 2023 2:20 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Nov 03, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|------|-----|-----------|--------|---------------------------|---|------------------|
| Water Testing | | | | | | | |
| Total Suspended Solids Dried at 103-105 degree C | mg/L | - | 5 | <5 | ≤200 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-จ-9460 , Panupong Manit ทะเบียนเลขที่ ว-204-จ-8600

Remark :

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Technical Management

N. Banachit

Narumon Banachonkit
Supervisor
ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 23123451
Date Received : Nov 03, 2023
Date Reported : Nov 10, 2023
Report Number : 2832149-2

Page 1 of 1

| | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|
| Sample Number | 23123451-2 | | | | | | |
| Sampled Date | Nov 03, 2023 2:20 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Nov 06, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|--------|-----------|--------------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Copper | mg/L | 0.0003 | 0.0005 | 0.01 | ≤2.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Lead | mg/L | 0.0003 | 0.0005 | Not Detected | ≤0.2 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Zinc | mg/L | 0.003 | 0.005 | 0.26 | ≤5.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-จ-9460 , Panupong Manit ทะเบียนเลขที่ ว-204-จ-8600

Remark :

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Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-จ-6111

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Analysis / Test Report

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7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 23123451
Date Received : Nov 03, 2023
Date Reported : Nov 10, 2023
Report Number : 2832149-3

Page 1 of 1

| | | | | | | | |
|--------------------------------|--|--|--|--|--|--|--|
| Sample Number | 23123451-2 | | | | | | |
| Sampled Date | Nov 03, 2023 2:20 PM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Nov 04, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|-------|-----------|-----------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Iron | mg/L | 0.003 | 0.005 | 0.11 | ≤10.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Water Testing | | | | | | | |
| Chloride as Cl * | mg/L | 0.5 | 1 | 748 | No Standard | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B) | Rayong |
| Odour * | - | - | - | Odourless | Non Objectionable | TIS, 257-2549 | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Panupong Manit

Remark :

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Analysis / Test Report

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7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 23134766
Date Received : Dec 01, 2023
Date Reported : Dec 08, 2023
Report Number : 2858372-1

Page 1 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23134766-2 | | | | | | |
| Sampled Date | Dec 01, 2023 10:43 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Dec 01, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| Water Testing | | | | | | | |
| BOD (5 days at 20 Degree C) | mg/L | - | 2.0 | <2.0 | ≤500 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong |
| COD | mg/L | 1.5 | 25 | <25 | ≤750 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D | Rayong |
| Color (at Original pH) | ADMI | - | 5 | 8 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Color (at pH 7.0) | ADMI | - | 5 | 6 | ≤600 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F | Rayong |
| Oil & Grease * | mg/L | - | 3 | <3 | ≤10 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B | Rayong |
| pH at 25 degree C * | | - | - | 7.6 | 5.5-9.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B) | Rayong |
| Temperature * | Degree C | - | - | 28.6 | ≤45 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B | Rayong |
| Total Dissolved Solids Dried at 180 degree C | mg/L | - | 5 | 2640 | ≤3000 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C | Rayong |
| Total Kjeldahl Nitrogen as N | mg/L | - | 1.0 | <1.0 | ≤100 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D) | Rayong |

Technical Management

N. Banachit

Narumon Banachonkit
Supervisor
ทะเบียนเลขที่ 7-323-9-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Analysis / Test Report

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P/O : SmfC223470
Project Name :
Project Location:

TESTING
No.0042
Lot ID: 23134766
Date Received : Dec 01, 2023
Date Reported : Dec 08, 2023
Report Number : 2858372-1

Page 2 of 2

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23134766-2 | | | | | | |
| Sampled Date | Dec 01, 2023 10:43 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Dec 01, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|--|------|-----|-----------|--------|---------------------------|---|------------------|
| Water Testing | | | | | | | |
| Total Suspended Solids Dried at 103-105 degree C | mg/L | - | 5 | <5 | ≤200 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Wanlop Hunchainarow ทะเบียนเลขที่ 7-323-9-9457 , Kardbundi Kitisupavanit ทะเบียนเลขที่ 7-204-9-0001

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Technical Management

N. Banachit

Narumon Banachonkit
Supervisor
ทะเบียนเลขที่ 7-323-9-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Analysis / Test Report

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7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 23134766
Date Received : Dec 01, 2023
Date Reported : Dec 09, 2023
Report Number : 2858372-2

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23134766-2 | | | | | | |
| Sampled Date | Dec 01, 2023 10:43 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Dec 04, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|--------|-----------|--------------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Copper | mg/L | 0.0003 | 0.0005 | 0.04 | ≤2.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Lead | mg/L | 0.0003 | 0.0005 | Not Detected | ≤0.2 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Zinc | mg/L | 0.003 | 0.005 | 0.71 | ≤5.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Wanlop Hunchainaw พระเมธีนเลขที่ ๖-323-๙-9457 , Kardbundit Kitupavanit พระเมธีนเลขที่ ๖-204-๙-0001

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
พระเมธีนเลขที่ ๖-204-๙-4710

Approved by

Kanok Korn Anek

Kanokkorn Anek
Senior Manager
พระเมธีนเลขที่ ๖-204-๙-6111

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S:\Reports\All_GL.rpt (10:46AM)



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location:



TESTING
No.0009
Lot ID: 23134766
Date Received : Dec 01, 2023
Date Reported : Dec 09, 2023
Report Number : 2858372-3

Page 1 of 1

| | | | | | | | |
|--------------------------------|---|--|--|--|--|--|--|
| Sample Number | 23134766-2 | | | | | | |
| Sampled Date | Dec 01, 2023 10:43 AM | | | | | | |
| Sample Description | Wastewater | | | | | | |
| Location | Effluent WWTP | | | | | | |
| Date Analysis Commenced | Dec 04, 2023 | | | | | | |
| Condition of Sample | Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) | | | | | | |

| Analyte | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method | Testing Location |
|-----------------------|------|-------|-----------|-----------|---------------------------|---|------------------|
| Metals Testing | | | | | | | |
| Iron | mg/L | 0.003 | 0.005 | 0.13 | ≤10.0 | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F | Bangkok |
| Water Testing | | | | | | | |
| Chloride as Cl * | mg/L | 0.5 | 1 | 554 | No Standard | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B) | Rayong |
| Odour * | - | - | - | Odourless | Non Objectionable | TIS, 257-2549 | Rayong |

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Wanlop Hunchainaw , Kardbundit Kitupavanit

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

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ภาคผนวก ค-5

ความร้อนในสถานที่ทำงาน



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand
21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389015

Date Received : Sep 29, 2023

Date Reported : Oct 03, 2023

Report Number: 2732333-1

Page 1 of 3

Sample Number 2389015-1
Parameter Heat Stress (Sampling Time : 09.00 AM - 11.00 AM)
Measurement Date Sep 29, 2023
Measurement by Nattakarn Vonginyoo
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

| Location | Duration (min) | WBGT (°C) | NWB (°C) | GT (°C) | DB (°C) |
|---------------------|----------------|-----------|----------|---------|---------|
| PK_Picking Line-H1 | 120 | 28.7 | 26.6 | 33.6 | 33.3 |
| Average (WBGT) | | 28.7 | | | |
| Guideline WBGT (°C) | | 34.0 | | | |

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand
21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389015

Date Received : Sep 29, 2023

Date Reported : Oct 03, 2023

Report Number: 2732333-1

Page 2 of 3

Sample Number 2389015-2
Parameter Heat Stress (Sampling Time : 09.00 AM - 11.00 AM)
Measurement Date Sep 29, 2023
Measurement by Nattakarn Vonginyoo
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

| Location | Duration (min) | WBGT (°C) | NWB (°C) | GT (°C) | DB (°C) |
|----------------------------|----------------|-----------|----------|---------|---------|
| PT_Heating Furnace Line-H2 | 120 | 31.9 | 27.6 | 41.9 | 41.2 |
| Average (WBGT) | | 31.9 | | | |
| Guideline WBGT (°C) | | 34.0 | | | |

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389015

Date Received : Sep 29, 2023

Date Reported : Oct 03, 2023

Report Number: 2732333-1

Page 3 of 3

Sample Number 2389015-3
Parameter Heat Stress (Sampling Time : 09.00 AM - 11.00 AM)
Measurement Date Sep 29, 2023
Measurement by Nattakarn Vonginyoo
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

| Location | Duration (min) | WBGT (°C) | NWB (°C) | GT (°C) | DB (°C) |
|--------------------------------------|----------------|-----------|----------|---------|---------|
| PT_Heating Diffusion Furnace Line-H3 | 120 | 30.8 | 27.4 | 38.8 | 38.3 |
| Average (WBGT) | | 30.8 | | | |
| Guideline WBGT (°C) | | 34.0 | | | |

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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ภาคผนวก ค-6

คุณภาพอากาศในสถานประกอบการ



Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 23119568
Date Received : Oct 12, 2023
Date Reported : Oct 18, 2023
Report Number : 2804472-1

Page 1 of 2

Sample Number 23119568-1
Sampled Date Oct 12, 2023
Sample Description Air Quality
Location DD_Dry Drawing Line-T1
Date Analysis Commenced Oct 16, 2023
Barometric Pressure 752 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|-----------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Total Dust | 09:00 AM - 11:00 AM | mg/m3 | - | 0.15 | 1.01 | 15 | Based on NIOSH (1994), 0500 | OSHA | Rayong |

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 23119568
Date Received : Oct 12, 2023
Date Reported : Oct 18, 2023
Report Number : 2804472-1

Page 2 of 2

Sample Number 23119568-2
Sampled Date Oct 12, 2023
Sample Description Air Quality
Location DD_Dry Drawing Line-T1
Personal Sampling คุณล้อมพงศ์ สีนประจ
Date Analysis Commenced Oct 16, 2023
Barometric Pressure 752 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|-----------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Respirable Dust | 09:00 AM - 11:00 AM | mg/m3 | - | 0.15 | 0.17 | 5 | Based on NIOSH (1998), 0600 | OSHA | Rayong |

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 3 of 34

Sample Number 2389013-4
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location PT_Diffusion Furnace-T2
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|-----------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Total Dust | 10:00 AM - 12:00 PM | mg/m3 | - | 0.15 | <0.15 | 15 | Based on NIOSH (1994), 0500 | OSHA | Rayong |

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 7 of 34

Sample Number 2389013-9
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location PT_Diffusion Furnace-T2
Personal Sampling คนเก็บพล 5 ล้า
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|-----------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Respirable Dust | 10:00 AM - 12:00 PM | mg/m3 | - | 0.15 | <0.15 | 5 | Based on NIOSH (1998), 0600 | OSHA | Rayong |

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 4 of 34

Sample Number 2389013-5
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location PT_Heating Furnace-T3
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|-----------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Total Dust | 10:00 AM - 12:00 PM | mg/m3 | - | 0.15 | 0.21 | 15 | Based on NIOSH (1994), 0500 | OSHA | Rayong |

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 4 of 34

Sample Number 2389013-5
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location PT_Heating Furnace-T3
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|-----------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Total Dust | 10:00 AM - 12:00 PM | mg/m3 | - | 0.15 | 0.21 | 15 | Based on NIOSH (1994), 0500 | OSHA | Rayong |

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 8 of 34

Sample Number 2389013-10
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location PT_Heating Furnace-T3
Personal Sampling คุณสมคิด ชื่นทะนันทน์
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|-----------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Respirable Dust | 10:00 AM - 12:00 PM | mg/m3 | - | 0.15 | <0.15 | 5 | Based on NIOSH (1998), 0600 | OSHA | Rayong |

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 11 of 34

Sample Number 2389013-13
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location PT_Diffusion Furnace - T4
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|-----------------|--------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Silica (Cristobalite) | 10:00 AM - 01:00 PM | mg/m3 | - | 0.02 | <0.020 | 0.025(R) | NIOSH (2003), 7500 | MOL | Bangkok |
| Silica (Quartz) | 10:00 AM - 01:00 PM | mg/m3 | - | 0.02 | <0.020 | 0.025(R) | NIOSH (2003), 7500 | MOL | Bangkok |
| Silica (Tridymite) | 10:00 AM - 01:00 PM | mg/m3 | - | 0.08 | <0.080 | No Standard | NIOSH (2003), 7500 | - | Bangkok |

Guideline :
MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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Analysis / Test Report

Client : Sumiden Steel Wire (Thailand) Co., Ltd.
7/325 Moo 6, Tambol Mabyangporn, Amphur Pluakdaeng, Rayong Thailand 21140
P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 1 of 34

Sample Number 2389013-1
Sampled Date Sep 27, 2023
Sample Description Air Quality
Location PK_Pickling line - T5
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|------|-----|-----------|--------|-----------------|--------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Hydrogen chloride | 10:00 AM - 12:00 PM | ppm | - | 0.05 | <0.05 | 5(C) | Based on OSHA, ID-174-SG | MOL | Bangkok |

Guideline :
MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)
Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 12 of 34

Sample Number 2389013-14
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location PT_Plating Line 1 - T6 จุดที่ 1
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------------|---------------------|-------|-----|-----------|--------|-----------------|--------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Sodium hydroxide as NaOH | 09:00 AM - 11:00 AM | mg/m3 | - | 0.05 | <0.05 | 2 | NIOSH (1994), 7401 | MOL | Rayong |

Guideline :
MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)
Sampled By : Apichart Wilars

Remark :
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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 13 of 34

Sample Number 2389013-15
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location PT_Plating Line 1 - T6 3rd 2
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|-----------------------|---------------------|-------|-----|-----------|--------|-----------------|--------------------|-----------|------------------|
| Metals Testing | | | | | | | | | |
| Copper (Fume) | 09:00 AM - 11:00 AM | mg/m3 | - | 0.001 | 0.14 | 0.2 | NIOSH (2003), 7301 | ACGIH | Bangkok |

Guideline :
ACGIH : The American Conference of Governmental Industrial Hygiene, The 6th edition of the Documentation of the Threshold Limit Values and Biological Exposure Indices (2022).

Sampled By : Apichart Wilars

Remark :
- LOD : Limit of Detection
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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 14 of 34

Sample Number 2389013-16
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location PT_Plating Line 1 - T6 3rd 3
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|------|-----|-----------|--------|-----------------|--------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Nitric acid | 09:00 AM - 11:00 AM | ppm | - | 0.05 | <0.05 | 2 | Based on OSHA, ID-174-SG | MOL | Bangkok |

Guideline :
MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)
Sampled By : Apichart Wilars

Remark :
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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 15 of 34

Sample Number 2389013-17
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location PT_Plating Line 1 - T6 3๓๗ 4
Date Analysis Commenced Oct 03, 2023
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|--------------------|---------------------|-------|-----|-----------|--------|-----------------|--------------------------|-----------|------------------|
| Air Testing | | | | | | | | | |
| Sulfuric acid | 09:00 AM - 11:00 AM | mg/m3 | - | 0.05 | <0.05 | 1 | Based on OSHA, ID-174-SG | MOL | Bangkok |

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Apichart Wilars

Remark :

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P/O : SmfC223470
Project Name :
Project Location :

Lot ID: 2389013
Date Received : Sep 29, 2023
Date Reported : Oct 25, 2023
Report Number : 2732329-1

Page 16 of 34

Sample Number 2389013-18
Sampled Date Sep 28, 2023
Sample Description Air Quality
Location PT_Plating Line 1 - T6 3๓๗ 5
Date Analysis Commenced Oct 02, 2023
Condition of Sample Drawn into one filter paper placed in plastic cassette
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.0 °C

| Analyte | Sampled Date/time | Unit | LOD | LOQ (LOR) | Result | Guideline Limit | Method | Guideline | Testing Location |
|------------------------------------|---------------------|-------|-----|-----------|--------|-----------------|--------------------|-----------|------------------|
| Metals Testing | | | | | | | | | |
| Zinc Oxide (Inhalable dust) (Fume) | 09:00 AM - 11:00 AM | mg/m3 | - | 0.002 | 0.40 | 5 | NIOSH (2003), 7301 | MOL | Bangkok |

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Apichart Wilars

Remark :

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P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389018

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2796536-1

Page 1 of 1

Sample Number 2389018-1
Parameter Noise (Leq 8 hrs.)
Location PK_Pickling Line_C1 (Center Area Operating working)
Measurement Date Sep 27, 2023
Measurement by Apichart Wilars

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:24 AM - 10:24 AM | 83.9 | 91.4 | 83.4 |
| 10:24 AM - 11:24 AM | 84.1 | 91.7 | 83.4 |
| 11:24 AM - 12:24 PM | 79.4 | 89.9 | 74.0 |
| 12:24 PM - 01:24 PM | 77.9 | 89.7 | 73.9 |
| 01:24 PM - 02:24 PM | 84.2 | 94.9 | 83.5 |
| 02:24 PM - 03:24 PM | 84.4 | 90.9 | 83.8 |
| 03:24 PM - 04:24 PM | 85.1 | 99.2 | 84.1 |
| 04:24 PM - 05:24 PM | 84.4 | 92.0 | 83.7 |

Leq Average 8 hrs. (dB(A))

83.5

Lmax (dB(A))

99.2

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

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Supot Salamteh
Section Head

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P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 23119570

Date Received : Oct 12, 2023

Date Reported : Oct 18, 2023

Report Number: 2804496-1

Page 1 of 1

Sample Number 23119570-1
Parameter Noise (Leq 8 hrs.)
Location DD_Dry Drawing Line-C2 (DDM no.04)
Measurement Date Oct 12, 2023
Measurement by Apichart Wilars

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 08:48 AM - 09:48 AM | 85.6 | 87.7 | 81.2 |
| 09:48 AM - 10:48 AM | 84.6 | 87.5 | 83.9 |
| 10:48 AM - 11:48 AM | 84.3 | 92.1 | 83.9 |
| 11:48 AM - 12:48 PM | 83.8 | 86.9 | 82.8 |
| 12:48 PM - 01:48 PM | 81.5 | 88.0 | 79.3 |
| 01:48 PM - 02:48 PM | 82.1 | 87.7 | 80.5 |
| 02:48 PM - 03:48 PM | 83.3 | 87.0 | 82.0 |
| 03:48 PM - 04:48 PM | 81.9 | 88.4 | 79.7 |

Leq Average 8 hrs. (dB(A))

83.6

Lmax (dB(A))

92.1

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389018

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2796539-1

Page 1 of 1

Sample Number 2389018-4
Parameter Noise (Leq 8 hrs.)
Location WD_Wet Drawing line - C3 (WDM no.237)
Measurement Date Sep 28, 2023
Measurement by Apichart Wilars

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 08:38 PM - 09:38 PM | 90.6 | 100.9 | 90.2 |
| 09:38 PM - 10:38 PM | 91.0 | 97.7 | 90.9 |
| 10:38 PM - 11:38 PM | 91.0 | 109.5 | 90.7 |
| 11:38 PM - 12:38 AM | 90.8 | 97.7 | 90.6 |
| 12:38 AM - 01:38 AM | 90.6 | 98.9 | 90.3 |
| 01:38 AM - 02:38 AM | 91.0 | 93.8 | 90.8 |
| 02:38 AM - 03:38 AM | 90.8 | 97.0 | 90.6 |
| 03:38 AM - 04:38 AM | 90.6 | 99.7 | 90.3 |

Leq Average 8 hrs. (dB(A))

90.8

Lmax (dB(A))

109.5

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389018

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2796540-1

Page 1 of 1

Sample Number 2389018-5
Parameter Noise (Leq 8 hrs.)
Location ST_Stranding line - C4 (RHA no.131)
Measurement Date Sep 27, 2023
Measurement by Apichart Wilars

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:01 AM - 10:01 AM | 87.8 | 96.8 | 86.5 |
| 10:01 AM - 11:01 AM | 87.9 | 91.5 | 87.1 |
| 11:01 AM - 12:01 PM | 86.7 | 95.1 | 84.9 |
| 12:01 PM - 01:01 PM | 88.2 | 95.0 | 87.7 |
| 01:01 PM - 02:01 PM | 88.2 | 93.9 | 88.0 |
| 02:01 PM - 03:01 PM | 88.1 | 95.2 | 87.8 |
| 03:01 PM - 04:01 PM | 88.1 | 91.4 | 87.8 |
| 04:01 PM - 05:01 PM | 87.1 | 95.5 | 85.3 |

Leq Average 8 hrs. (dB(A))

87.8

Lmax (dB(A))

96.8

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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P/O : SmfC223470

Project Name :

Project Location :

Lot ID: 2389018

Date Received : Sep 29, 2023

Date Reported : Oct 05, 2023

Report Number: 2796538-1

Page 1 of 1

Sample Number 2389018-3
Parameter Noise (Leq 8 hrs.)
Location PT_Plating Line-C5
Measurement Date Sep 28, 2023
Measurement by Apichart Wilars

| Time | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 87.9 | 89.0 | 87.8 |
| 10:00 AM - 11:00 AM | 88.0 | 99.8 | 87.7 |
| 11:00 AM - 12:00 PM | 86.4 | 88.1 | 86.2 |
| 12:00 PM - 01:00 PM | 86.4 | 97.5 | 86.1 |
| 01:00 PM - 02:00 PM | 86.3 | 97.4 | 86.1 |
| 02:00 PM - 03:00 PM | 86.1 | 87.0 | 86.1 |
| 03:00 PM - 04:00 PM | 86.4 | 97.7 | 86.1 |
| 04:00 PM - 05:00 PM | 86.5 | 97.6 | 86.3 |

Leq Average 8 hrs. (dB(A))

86.8

Lmax (dB(A))

99.8

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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