

### ภาคผนวกที่ 3

ใบรายงานผลการวิเคราะห์จากห้องปฏิบัติการ

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Sampling Source** : Ambient Air Quality  
**Sampling Point** : โรงเรียนบ้านเขานิน (นิคมราษฎร์บำรุง) ตำบลบ่อวิน อำเภอศรีราชา จังหวัดชลบุรี  
 (เดิมชื่อโรงเรียนบ้านเขานินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727650 E, 1444232 N  
**Quotation No.** : 2023-00188  
**Sampling Date** : March 7-14, 2023  
**Analysis No.** : 2023-AA847  
**Sampling Time** : 12:10  
**Received Date** : March 16, 2023  
**Sampling Method** : U.S. EPA 40 CFR Part 50  
**Analytical Date** : March 16-21, 2023  
**Sampling By** : Mr.Akarawat Kochobog  
**Report No.** : 2023-RAAE665  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Report Date** : March 21, 2023

Parameter	Unit	Method of Analysis	Result							Standard <sup>1'</sup>
			Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
Total Suspended Particulate (TSP) 24 Hours Average	mg/m <sup>3</sup>	High-Volume, Gravimetric	0.183	0.171	0.170	0.133	0.114	0.126	0.164	0.330

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

(Ms.Natnicha Sermmawong)  
Laboratory Reviewer

(Ms.Ramita Taengthai)  
Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Sampling Source** : Ambient Air Quality  
**Sampling Point** : โรงเรียนบ้านปอวิน (ลขิตราษฎร์บำรุง) ตำบลปอวิน อำเภอสรรพยา จังหวัดชัยภูมิ  
**GPS. Coordinate** : UTM (WGS84) 47P 0723965 E, 1443535 N  
**Sampling Date** : March 7-14, 2023  
**Sampling Time** : 13:15  
**Sampling Method** : U.S. EPA 40 CFR Part 50  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847  
**Received Date** : March 16, 2023  
**Analytical Date** : March 16-21, 2023  
**Report No.** : 2023-RAAE666  
**Report Date** : March 21, 2023

Parameter	Unit	Method of Analysis	Result							Standard <sup>1'</sup>
			Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
Total Suspended Particulate (TSP) 24 Hours Average	mg/m <sup>3</sup>	High-Volume, Gravimetric	0.181	0.196	0.197	0.120	0.105	0.149	0.192	0.330

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms.Natnicha Sermmatiwong)  
Laboratory Reviewer




(Ms.Ramita Taengthai)  
Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Sampling Source** : Ambient Air Quality  
**Sampling Point** : วัดพื้นเสด็จนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0729649 E, 1447518 N  
**Sampling Date** : March 7-14, 2023  
**Sampling Time** : 11:19  
**Sampling Method** : U.S. EPA 40 CFR Part 50  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847  
**Received Date** : March 16, 2023  
**Analytical Date** : March 16-21, 2023  
**Report No.** : 2023-RAAE667  
**Report Date** : March 21, 2023

Parameter	Unit	Method of Analysis	Result							Standard <sup>1'</sup>
			Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
Total Suspended Particulate (TSP) 24 Hours Average	mg/m <sup>3</sup>	High-Volume, Gravimetric	0.143	0.125	0.157	0.126	0.120	0.100	0.130	0.330

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

(Ms.Natnicha Sermmatiwong)  
Laboratory Reviewer



(Ms.Ramita Taengthai)  
Laboratory Supervisor




## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Sampling Source** : Ambient Air Quality  
**Sampling Point** : พื้นที่โครงการ (สำนักงานนิคม)  
**GPS. Coordinate** : UTM (WGS84) 47P 0726887 E, 1443658 N  
**Sampling Date** : March 7-14, 2023  
**Sampling Time** : 14:20  
**Sampling Method** : U.S. EPA 40 CFR Part 50  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

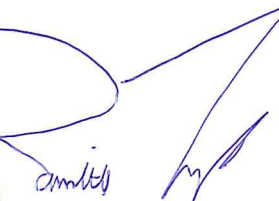
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847  
**Received Date** : March 16, 2023  
**Analytical Date** : March 16-21, 2023  
**Report No.** : 2023-RAAE668  
**Report Date** : March 21, 2023

Parameter	Unit	Method of Analysis	Result							Standard <sup>1'</sup>
			Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
Total Suspended Particulate (TSP) 24 Hours Average	mg/m <sup>3</sup>	High-Volume, Gravimetric	0.173	0.159	0.150	0.126	0.111	0.112	0.137	0.330

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Natnicha Sermmatiwong)  
 Laboratory Reviewer



  
 (Ms.Ramita Taengthai)  
 Laboratory Supervisor


## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านเขาหิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
 (เดิมชื่อโรงเรียนบ้านเขาหินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727650 E, 1444232 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : SO<sub>2</sub> UV-Fluorescence Analyzer Horiba Model APSA-370 Serial Number X7L602W6


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-001  
**Report No.** : 2023-RAAF443  
**Report Date** : April 3, 2023

Interval Time	Result SO <sub>2</sub> (ppm)							Standard
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
12:00-13:00	0.0015	0.0020	0.0021	0.0021	0.0021	0.0021	0.0020	
13:00-14:00	0.0019	0.0020	0.0022	0.0021	0.0021	0.0020	0.0020	
14:00-15:00	0.0019	0.0022	0.0021	0.0021	0.0020	0.0019	0.0020	
15:00-16:00	0.0019	0.0024	0.0020	0.0020	0.0019	0.0019	0.0018	
16:00-17:00	0.0018	0.0021	0.0019	0.0020	0.0018	0.0019	0.0018	
17:00-18:00	0.0018	0.0019	0.0018	0.0020	0.0017	0.0018	0.0018	
18:00-19:00	0.0017	0.0018	0.0017	0.0018	0.0016	0.0016	0.0017	
19:00-20:00	0.0017	0.0018	0.0016	0.0017	0.0016	0.0015	0.0016	
20:00-21:00	0.0016	0.0017	0.0017	0.0017	0.0016	0.0015	0.0016	
21:00-22:00	0.0016	0.0017	0.0016	0.0017	0.0016	0.0015	0.0016	
22:00-23:00	0.0016	0.0016	0.0016	0.0018	0.0015	0.0016	0.0015	
23:00-00:00	0.0016	0.0016	0.0016	0.0017	0.0015	0.0016	0.0016	
00:00-01:00	0.0017	0.0017	0.0016	0.0017	0.0016	0.0016	0.0016	
01:00-02:00	0.0016	0.0017	0.0016	0.0018	0.0016	0.0016	0.0016	
02:00-03:00	0.0016	0.0017	0.0016	0.0019	0.0016	0.0015	0.0016	
03:00-04:00	0.0016	0.0017	0.0017	0.0016	0.0016	0.0016	0.0016	
04:00-05:00	0.0017	0.0018	0.0017	0.0015	0.0016	0.0016	0.0016	
05:00-06:00	0.0018	0.0017	0.0019	0.0015	0.0016	0.0015	0.0016	
06:00-07:00	0.0019	0.0017	0.0022	0.0016	0.0016	0.0015	0.0016	
07:00-08:00	0.0020	0.0017	0.0022	0.0016	0.0015	0.0016	0.0016	
08:00-09:00	0.0019	0.0021	0.0019	0.0019	0.0016	0.0016	0.0017	
09:00-10:00	0.0019	0.0021	0.0020	0.0020	0.0018	0.0017	0.0019	
10:00-11:00	0.0020	0.0021	0.0021	0.0021	0.0020	0.0019	0.0020	
11:00-12:00	0.0020	0.0022	0.0022	0.0022	0.0021	0.0019	0.0019	
<b>24 Hours Average</b>	<b>0.0018</b>	<b>0.0019</b>	<b>0.0019</b>	<b>0.0018</b>	<b>0.0017</b>	<b>0.0017</b>	<b>0.0017</b>	<b>0.12<sup>1'</sup></b>
<b>1 Hour Maximum</b>	<b>0.0020</b>	<b>0.0024</b>	<b>0.0022</b>	<b>0.0022</b>	<b>0.0021</b>	<b>0.0021</b>	<b>0.0020</b>	<b>0.30<sup>2'</sup></b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.12, B.E.2538 (1995), published in the Royal Government Gazette No.112 Special Part 27D dated July 13, B.E.2538 (1995) and Notification No.21, B.E.2544 (2001), published in the Royal Government Gazette No.118 Special Part 39D dated April 30, B.E.2544 (2001), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).  
<sup>2'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor

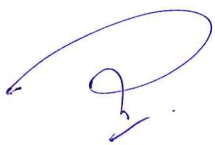


## ANALYSIS REPORT

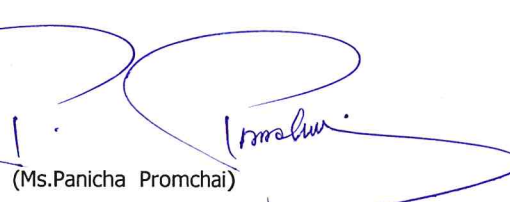
**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านเขานิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
 (เดิมชื่อโรงเรียนบ้านเขานินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727650 E, 1444232 N  
**Quotation No.** : 2023-00188  
**Measured Date** : March 7-14, 2023  
**Analysis No.** : 2023-AA847-001  
**Measured By** : Mr.Akarawat Kochobog  
**Report No.** : 2023-RAAF442  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Report Date** : April 3, 2023  
**Measured Instrument** : NOx Chemiluminescence Analyzer Horiba Model APNA-370 Serial Number M4286P23

Interval Time	Result NO <sub>2</sub> (ppm)							Standard <sup>1'</sup>
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
12:00-13:00	0.0065	0.0118	0.0107	0.0119	0.0113	0.0128	0.0075	
13:00-14:00	0.0090	0.0065	0.0252	0.0112	0.0286	0.0297	0.0082	
14:00-15:00	0.0103	0.0531	0.0460	0.0151	0.0381	0.0311	0.0079	
15:00-16:00	0.0261	0.0543	0.0454	0.0443	0.0211	0.0293	0.0133	
16:00-17:00	0.0213	0.0588	0.0443	0.0526	0.0274	0.0296	0.0094	
17:00-18:00	0.0218	0.0599	0.0455	0.0511	0.0134	0.0319	0.0077	
18:00-19:00	0.0221	0.0438	0.0364	0.0401	0.0096	0.0208	0.0290	
19:00-20:00	0.0158	0.0151	0.0293	0.0318	0.0098	0.0104	0.0526	
20:00-21:00	0.0140	0.0180	0.0154	0.0135	0.0092	0.0088	0.0499	
21:00-22:00	0.0171	0.0161	0.0118	0.0131	0.0083	0.0079	0.0291	
22:00-23:00	0.0277	0.0149	0.0108	0.0110	0.0084	0.0086	0.0165	
23:00-00:00	0.0311	0.0126	0.0137	0.0093	0.0067	0.0068	0.0129	
00:00-01:00	0.0216	0.0120	0.0121	0.0099	0.0059	0.0064	0.0130	
01:00-02:00	0.0175	0.0208	0.0145	0.0122	0.0057	0.0061	0.0212	
02:00-03:00	0.0160	0.0246	0.0245	0.0109	0.0055	0.0059	0.0292	
03:00-04:00	0.0258	0.0244	0.0236	0.0089	0.0055	0.0116	0.0285	
04:00-05:00	0.0278	0.0136	0.0237	0.0108	0.0054	0.0117	0.0193	
05:00-06:00	0.0327	0.0124	0.0254	0.0088	0.0062	0.0227	0.0131	
06:00-07:00	0.0319	0.0221	0.0225	0.0100	0.0065	0.0221	0.0217	
07:00-08:00	0.0301	0.0230	0.0279	0.0177	0.0095	0.0202	0.0253	
08:00-09:00	0.0323	0.0217	0.0283	0.0211	0.0088	0.0108	0.0168	
09:00-10:00	0.0224	0.0180	0.0217	0.0140	0.0082	0.0087	0.0142	
10:00-11:00	0.0154	0.0164	0.0163	0.0102	0.0095	0.0072	0.0103	
11:00-12:00	0.0120	0.0134	0.0194	0.0111	0.0125	0.0074	0.0088	
<b>24 Hours Average</b>	<b>0.0212</b>	<b>0.0245</b>	<b>0.0248</b>	<b>0.0188</b>	<b>0.0117</b>	<b>0.0154</b>	<b>0.0194</b>	-
<b>1 Hour Maximum</b>	<b>0.0327</b>	<b>0.0599</b>	<b>0.0460</b>	<b>0.0526</b>	<b>0.0381</b>	<b>0.0319</b>	<b>0.0526</b>	<b>0.17</b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007) and Notification No.33, B.E.2552 (2009), published in the Royal Government Gazette No.126 Special Part 114D dated August 14, B.E.2552 (2009), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านเขาหิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอสรีราชา จังหวัดชลบุรี  
 (เดิมชื่อโรงเรียนบ้านเขาหินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727650 E, 1444232 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Thermo Model 48C Serial Number 0508011071

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-001  
**Report No.** : 2023-RAAF444  
**Report Date** : April 3, 2023

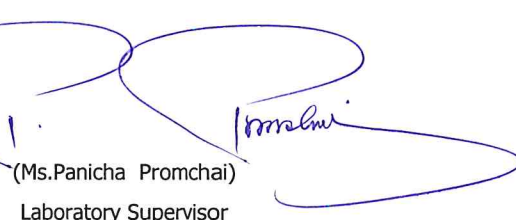
Interval Time	Result CO (ppm)							
	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23	
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg
12:00-13:00	0.9	-	0.6	0.6	0.5	0.7	0.6	0.7
13:00-14:00	0.9	-	0.8	0.6	0.6	0.7	0.5	0.7
14:00-15:00	0.8	-	1.0	0.6	0.8	0.7	0.5	0.6
15:00-16:00	0.8	-	1.0	0.7	0.8	0.6	0.6	0.6
16:00-17:00	0.8	-	1.0	0.8	0.8	0.6	0.6	0.6
17:00-18:00	0.9	-	1.0	0.8	0.9	0.7	0.6	0.6
18:00-19:00	0.9	-	1.0	0.9	0.8	0.7	0.6	0.6
19:00-20:00	0.9	0.9	0.9	0.9	0.7	0.7	0.6	0.6
20:00-21:00	1.0	0.9	1.0	1.0	0.7	0.8	0.5	0.6
21:00-22:00	0.9	0.9	1.0	1.0	0.7	0.8	0.5	0.6
22:00-23:00	0.7	0.9	1.0	1.0	0.7	0.8	0.5	0.6
23:00-00:00	0.7	0.8	1.0	1.0	0.7	0.8	0.5	0.6
00:00-01:00	0.6	0.8	1.0	1.0	0.7	0.7	0.5	0.5
01:00-02:00	0.6	0.8	1.1	1.0	0.7	0.7	0.5	0.5
02:00-03:00	0.6	0.8	1.1	1.0	0.8	0.7	0.5	0.5
03:00-04:00	0.5	0.7	1.1	1.0	0.8	0.7	0.4	0.5
04:00-05:00	0.5	0.6	1.0	1.0	0.8	0.7	0.4	0.5
05:00-06:00	0.6	0.6	0.9	1.0	0.8	0.8	0.4	0.5
06:00-07:00	0.6	0.6	0.9	1.0	0.9	0.8	0.4	0.4
07:00-08:00	0.7	0.6	1.0	1.0	0.9	0.8	0.5	0.4
08:00-09:00	0.4	0.6	0.8	1.0	0.7	0.8	0.5	0.4
09:00-10:00	0.5	0.6	0.6	0.9	0.6	0.8	0.4	0.4
10:00-11:00	0.6	0.6	0.5	0.8	0.5	0.8	0.4	0.4
11:00-12:00	0.5	0.6	0.5	0.8	0.6	0.7	0.5	0.4
<b>24 Hours Average</b>	<b>0.7</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>0.7</b>	<b>-</b>	<b>0.5</b>	<b>-</b>
<b>1 Hour Maximum</b>	<b>1.0</b>	<b>-</b>	<b>1.1</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>0.6</b>	<b>-</b>
<b>8 Hours Maximum</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>1.0</b>	<b>-</b>	<b>0.8</b>	<b>-</b>	<b>0.7</b>

**Remark :** <sup>1/</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms.Piyatida Pradangkho)

Laboratory Reviewer

(Ms.Panicha Promchai)

Laboratory Supervisor




## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านเขานิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
(เดิมชื่อโรงเรียนบ้านเขานินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727650 E, 1444232 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Thermo Model 48C Serial Number 0508011071

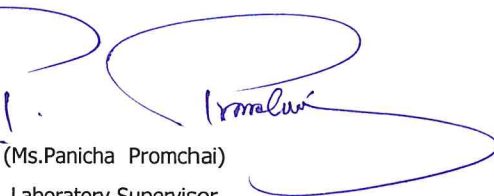
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-001  
**Report No.** : 2023-RAAF444  
**Report Date** : April 3, 2023

Interval Time	Result CO (ppm)						Standard <sup>1/</sup>
	Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23		
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	
12:00-13:00	0.5	0.4	0.4	0.5	0.8	0.9	
13:00-14:00	0.6	0.5	0.4	0.5	0.7	0.9	
14:00-15:00	0.5	0.5	0.4	0.5	0.7	0.8	
15:00-16:00	0.5	0.5	0.4	0.4	0.7	0.8	
16:00-17:00	0.6	0.5	0.4	0.4	0.7	0.8	
17:00-18:00	0.6	0.5	0.5	0.4	0.7	0.8	
18:00-19:00	0.6	0.6	0.4	0.4	0.9	0.8	
19:00-20:00	0.5	0.6	0.4	0.4	0.9	0.8	
20:00-21:00	0.6	0.6	0.4	0.4	0.9	0.8	
21:00-22:00	0.6	0.6	0.4	0.4	0.9	0.8	
22:00-23:00	0.6	0.6	0.4	0.4	0.9	0.8	
23:00-00:00	0.5	0.6	0.4	0.4	0.9	0.8	
00:00-01:00	0.5	0.6	0.4	0.4	0.9	0.9	
01:00-02:00	0.5	0.6	0.3	0.4	0.9	0.9	
02:00-03:00	0.5	0.5	0.8	0.4	0.9	0.9	
03:00-04:00	0.5	0.5	0.8	0.5	0.8	0.9	
04:00-05:00	0.5	0.5	0.9	0.6	0.8	0.9	
05:00-06:00	0.5	0.5	0.9	0.6	0.8	0.9	
06:00-07:00	0.5	0.5	1.0	0.7	0.8	0.8	
07:00-08:00	0.5	0.5	1.0	0.8	0.8	0.8	
08:00-09:00	0.5	0.5	0.9	0.8	0.7	0.8	
09:00-10:00	0.5	0.5	0.9	0.9	0.7	0.8	
10:00-11:00	0.5	0.5	0.9	0.9	0.7	0.8	
11:00-12:00	0.5	0.5	0.9	0.9	0.7	0.8	
24 Hours Average	0.5	-	0.6	-	0.8	-	-
1 Hour Maximum	0.6	-	1.0	-	0.9	-	30
8 Hours Maximum	-	0.6	-	0.9	-	0.9	9

Remark : <sup>1/</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
(Ms. Piyatida Pradangkho)  
Laboratory Reviewer



  
(Ms. Panicha Promchai)  
Laboratory Supervisor



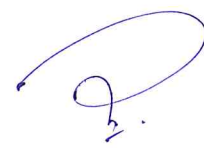
## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านปอวิน (ลิขิตราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0723965 E, 1443535 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : SO<sub>2</sub> UV-Fluorescence Analyzer Horiba Model APSA-370 Serial Number 12E8X34P

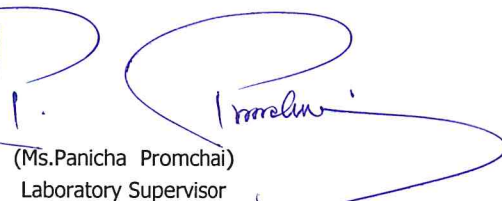
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-008  
**Report No.** : 2023-RAAF447  
**Report Date** : April 3, 2023

Interval Time	Result SO <sub>2</sub> (ppm)							Standard
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
13:00-14:00	0.0017	0.0018	0.0017	0.0017	0.0017	0.0016	0.0017	
14:00-15:00	0.0017	0.0019	0.0016	0.0017	0.0016	0.0016	0.0017	
15:00-16:00	0.0016	0.0019	0.0016	0.0017	0.0017	0.0016	0.0017	
16:00-17:00	0.0017	0.0018	0.0016	0.0016	0.0017	0.0016	0.0017	
17:00-18:00	0.0016	0.0017	0.0016	0.0016	0.0016	0.0016	0.0016	
18:00-19:00	0.0015	0.0016	0.0015	0.0015	0.0015	0.0015	0.0016	
19:00-20:00	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0016	
20:00-21:00	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	
21:00-22:00	0.0015	0.0015	0.0015	0.0014	0.0015	0.0014	0.0015	
22:00-23:00	0.0015	0.0015	0.0015	0.0014	0.0015	0.0014	0.0015	
23:00-00:00	0.0015	0.0015	0.0015	0.0014	0.0014	0.0015	0.0015	
00:00-01:00	0.0015	0.0014	0.0015	0.0014	0.0015	0.0014	0.0015	
01:00-02:00	0.0016	0.0015	0.0015	0.0014	0.0014	0.0014	0.0015	
02:00-03:00	0.0015	0.0014	0.0015	0.0014	0.0015	0.0014	0.0015	
03:00-04:00	0.0015	0.0015	0.0015	0.0014	0.0014	0.0014	0.0015	
04:00-05:00	0.0015	0.0014	0.0014	0.0014	0.0014	0.0014	0.0015	
05:00-06:00	0.0015	0.0015	0.0014	0.0015	0.0015	0.0014	0.0015	
06:00-07:00	0.0018	0.0018	0.0016	0.0016	0.0015	0.0014	0.0015	
07:00-08:00	0.0017	0.0019	0.0016	0.0015	0.0015	0.0015	0.0016	
08:00-09:00	0.0015	0.0015	0.0016	0.0015	0.0015	0.0015	0.0016	
09:00-10:00	0.0019	0.0016	0.0016	0.0016	0.0015	0.0015	0.0016	
10:00-11:00	0.0020	0.0018	0.0017	0.0017	0.0016	0.0016	0.0016	
11:00-12:00	0.0019	0.0018	0.0017	0.0018	0.0016	0.0016	0.0016	
12:00-13:00	0.0018	0.0018	0.0017	0.0017	0.0016	0.0017	0.0017	
<b>24 Hours Average</b>	<b>0.0016</b>	<b>0.0016</b>	<b>0.0016</b>	<b>0.0015</b>	<b>0.0015</b>	<b>0.0015</b>	<b>0.0016</b>	<b>0.12<sup>1</sup></b>
<b>1 Hour Maximum</b>	<b>0.0020</b>	<b>0.0019</b>	<b>0.0017</b>	<b>0.0018</b>	<b>0.0017</b>	<b>0.0017</b>	<b>0.0017</b>	<b>0.30<sup>2</sup></b>

**Remark :** <sup>1</sup> Notification of National Environmental Board, No.12, B.E.2538 (1995), published in the Royal Government Gazette No.112 Special Part 27D dated July 13, B.E.2538 (1995) and Notification No.21, B.E.2544 (2001), published in the Royal Government Gazette No.118 Special Part 39D dated April 30, B.E.2544 (2001), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).  
<sup>2</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor


## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านปอวิน (วัดราษฎร์บำรุง) ตำบลปอวิน อำเภอสรรพยา จังหวัดชัยภูมิ  
**GPS. Coordinate** : UTM (WGS84) 47P 0723965 E, 1443535 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : NOx Chemiluminescence Analyzer Horiba Model APNA-370 Serial Number TNTLC359


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-008  
**Report No.** : 2023-RAAF446  
**Report Date** : April 3, 2023

Interval Time	Result NO <sub>2</sub> (ppm)							Standard <sup>1'</sup>
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
13:00-14:00	0.0079	0.0135	0.0095	0.0096	0.0084	0.0068	0.0083	
14:00-15:00	0.0143	0.0158	0.0078	0.0118	0.0067	0.0056	0.0081	
15:00-16:00	0.0130	0.0132	0.0062	0.0101	0.0074	0.0048	0.0098	
16:00-17:00	0.0106	0.0099	0.0066	0.0079	0.0071	0.0053	0.0127	
17:00-18:00	0.0114	0.0100	0.0079	0.0084	0.0051	0.0064	0.0126	
18:00-19:00	0.0119	0.0086	0.0077	0.0082	0.0058	0.0063	0.0112	
19:00-20:00	0.0113	0.0099	0.0075	0.0079	0.0055	0.0059	0.0113	
20:00-21:00	0.0149	0.0106	0.0075	0.0078	0.0051	0.0056	0.0111	
21:00-22:00	0.0447	0.0237	0.0082	0.0077	0.0048	0.0080	0.0111	
22:00-23:00	0.0409	0.0166	0.0110	0.0066	0.0073	0.0073	0.0104	
23:00-00:00	0.0390	0.0136	0.0114	0.0101	0.0085	0.0068	0.0095	
00:00-01:00	0.0393	0.0140	0.0176	0.0110	0.0068	0.0055	0.0148	
01:00-02:00	0.0333	0.0162	0.0168	0.0078	0.0062	0.0063	0.0243	
02:00-03:00	0.0195	0.0178	0.0156	0.0063	0.0059	0.0072	0.0244	
03:00-04:00	0.0228	0.0204	0.0140	0.0064	0.0059	0.0103	0.0201	
04:00-05:00	0.0282	0.0182	0.0122	0.0127	0.0060	0.0063	0.0251	
05:00-06:00	0.0333	0.0246	0.0205	0.0236	0.0137	0.0107	0.0210	
06:00-07:00	0.0462	0.0401	0.0409	0.0285	0.0238	0.0256	0.0318	
07:00-08:00	0.0572	0.0488	0.0338	0.0222	0.0251	0.0181	0.0263	
08:00-09:00	0.0282	0.0241	0.0108	0.0090	0.0080	0.0133	0.0182	
09:00-10:00	0.0319	0.0160	0.0135	0.0101	0.0062	0.0093	0.0129	
10:00-11:00	0.0157	0.0133	0.0128	0.0117	0.0058	0.0088	0.0116	
11:00-12:00	0.0101	0.0115	0.0115	0.0089	0.0060	0.0082	0.0085	
12:00-13:00	0.0087	0.0088	0.0086	0.0072	0.0058	0.0073	0.0077	
<b>24 Hours Average</b>	<b>0.0248</b>	<b>0.0175</b>	<b>0.0133</b>	<b>0.0109</b>	<b>0.0082</b>	<b>0.0086</b>	<b>0.0151</b>	-
<b>1 Hour Maximum</b>	<b>0.0572</b>	<b>0.0488</b>	<b>0.0409</b>	<b>0.0285</b>	<b>0.0251</b>	<b>0.0256</b>	<b>0.0318</b>	<b>0.17</b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007) and Notification No.33, B.E.2552 (2009), published in the Royal Government Gazette No.126 Special Part 114D dated August 14, B.E.2552 (2009), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านปอวิน (ลิขิตราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0723965 E, 1443535 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Thermo Model 48C Serial Number 73426-373

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-008  
**Report No.** : 2023-RAAF448  
**Report Date** : April 3, 2023

Interval Time	Result CO (ppm)							
	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23	
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg
13:00-14:00	0.6	-	0.6	1.0	0.4	0.8	0.4	0.7
14:00-15:00	0.7	-	0.6	0.8	0.4	0.7	0.4	0.6
15:00-16:00	0.6	-	0.6	0.7	0.4	0.6	0.5	0.5
16:00-17:00	0.6	-	0.5	0.6	0.4	0.5	0.4	0.5
17:00-18:00	0.6	-	0.5	0.6	0.4	0.5	0.4	0.5
18:00-19:00	0.8	-	0.7	0.6	0.6	0.5	0.6	0.5
19:00-20:00	0.9	-	0.7	0.6	0.6	0.5	0.7	0.5
20:00-21:00	0.9	0.7	0.8	0.6	0.7	0.5	0.7	0.5
21:00-22:00	1.1	0.8	1.0	0.7	0.8	0.5	0.7	0.6
22:00-23:00	1.2	0.8	1.0	0.7	0.8	0.6	0.7	0.6
23:00-00:00	1.2	0.9	0.9	0.8	0.8	0.6	0.8	0.6
00:00-01:00	1.2	1.0	1.0	0.8	0.9	0.7	0.8	0.7
01:00-02:00	1.2	1.1	1.0	0.9	0.8	0.8	0.8	0.7
02:00-03:00	1.2	1.1	1.0	0.9	0.8	0.8	0.7	0.7
03:00-04:00	1.2	1.2	1.0	1.0	0.8	0.8	0.7	0.7
04:00-05:00	1.2	1.2	1.0	1.0	0.8	0.8	0.8	0.8
05:00-06:00	1.4	1.2	1.1	1.0	0.8	0.8	1.0	0.8
06:00-07:00	1.7	1.3	1.6	1.1	1.2	0.9	1.2	0.8
07:00-08:00	1.7	1.4	1.6	1.2	1.1	0.9	0.9	0.9
08:00-09:00	1.2	1.4	0.8	1.1	0.7	0.9	0.7	0.8
09:00-10:00	0.9	1.3	0.7	1.1	0.7	0.9	0.7	0.8
10:00-11:00	0.7	1.2	0.6	1.0	0.6	0.8	0.6	0.8
11:00-12:00	0.6	1.2	0.6	1.0	0.5	0.8	0.5	0.8
12:00-13:00	0.5	1.1	0.5	0.9	0.5	0.8	0.4	0.8
<b>24 Hours Average</b>	<b>1.0</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>0.7</b>	<b>-</b>	<b>0.7</b>	<b>-</b>
<b>1 Hour Maximum</b>	<b>1.7</b>	<b>-</b>	<b>1.6</b>	<b>-</b>	<b>1.2</b>	<b>-</b>	<b>1.2</b>	<b>-</b>
<b>8 Hours Maximum</b>	<b>-</b>	<b>1.4</b>	<b>-</b>	<b>1.2</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>0.9</b>

Remark : 1' Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms.Piyatida Pradangkho)

Laboratory Reviewer




(Ms.Panicha Promchai)

Laboratory Supervisor

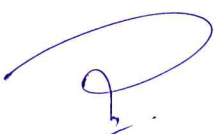
## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านปอวิน (ลิขิตราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0723965 E, 1443535 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Thermo Model 48C Serial Number 73426-373

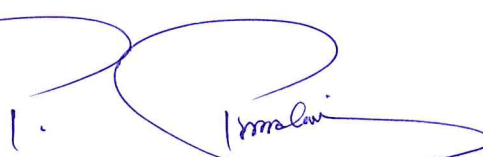
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-008  
**Report No.** : 2023-RAAF448  
**Report Date** : April 3, 2023

Interval Time	Result CO (ppm)						Standard <sup>1'</sup>
	Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23		
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	
13:00-14:00	0.5	0.7	0.3	0.6	0.4	0.7	
14:00-15:00	0.3	0.6	0.3	0.5	0.4	0.6	
15:00-16:00	0.3	0.5	0.3	0.4	0.4	0.6	
16:00-17:00	0.3	0.4	0.3	0.4	0.5	0.5	
17:00-18:00	0.4	0.4	0.4	0.4	0.6	0.5	
18:00-19:00	0.5	0.4	0.5	0.4	0.7	0.5	
19:00-20:00	0.6	0.4	0.6	0.4	0.8	0.5	
20:00-21:00	0.6	0.4	0.6	0.4	0.9	0.6	
21:00-22:00	0.6	0.4	0.7	0.5	0.9	0.6	
22:00-23:00	0.7	0.5	0.7	0.5	1.0	0.7	
23:00-00:00	0.7	0.6	0.7	0.6	1.0	0.8	
00:00-01:00	0.7	0.6	0.7	0.6	1.1	0.9	
01:00-02:00	0.7	0.6	0.7	0.6	1.1	0.9	
02:00-03:00	0.7	0.7	0.7	0.7	1.1	1.0	
03:00-04:00	0.7	0.7	0.8	0.7	1.1	1.0	
04:00-05:00	0.7	0.7	0.8	0.7	1.1	1.0	
05:00-06:00	0.8	0.7	0.9	0.8	1.0	1.1	
06:00-07:00	0.9	0.7	1.1	0.8	1.0	1.1	
07:00-08:00	0.9	0.8	1.0	0.8	1.0	1.1	
08:00-09:00	0.6	0.8	0.8	0.8	0.9	1.0	
09:00-10:00	0.6	0.7	0.7	0.8	0.8	1.0	
10:00-11:00	0.5	0.7	0.7	0.8	0.7	1.0	
11:00-12:00	0.4	0.7	0.6	0.8	0.6	0.9	
12:00-13:00	0.4	0.6	0.5	0.8	0.5	0.8	
24 Hours Average	0.6	-	0.6	-	0.8	-	-
1 Hour Maximum	0.9	-	1.1	-	1.1	-	30
8 Hours Maximum	-	0.8	-	0.8	-	1.1	9

**Remark :** <sup>1/</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor



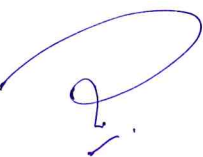
## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวด ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : วัดพื้นเสด็จนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0729649 E, 1447518 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : SO<sub>2</sub> UV-Fluorescence Analyzer Thermo Model 43C Serial Number 64389-343/2

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-015  
**Report No.** : 2023-RAAF434  
**Report Date** : April 3, 2023

Interval Time	Result SO <sub>2</sub> (ppm)							Standard
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
11:00-12:00	0.0016	0.0018	0.0018	0.0019	0.0020	0.0020	0.0019	
12:00-13:00	0.0018	0.0020	0.0018	0.0020	0.0019	0.0021	0.0020	
13:00-14:00	0.0018	0.0019	0.0020	0.0019	0.0018	0.0019	0.0020	
14:00-15:00	0.0017	0.0024	0.0021	0.0020	0.0020	0.0020	0.0020	
15:00-16:00	0.0016	0.0021	0.0020	0.0020	0.0018	0.0019	0.0022	
16:00-17:00	0.0015	0.0022	0.0018	0.0022	0.0020	0.0020	0.0019	
17:00-18:00	0.0015	0.0019	0.0019	0.0019	0.0019	0.0019	0.0021	
18:00-19:00	0.0014	0.0017	0.0016	0.0017	0.0017	0.0016	0.0019	
19:00-20:00	0.0013	0.0017	0.0016	0.0016	0.0018	0.0017	0.0020	
20:00-21:00	0.0015	0.0017	0.0016	0.0016	0.0017	0.0017	0.0019	
21:00-22:00	0.0014	0.0017	0.0015	0.0015	0.0016	0.0018	0.0018	
22:00-23:00	0.0014	0.0017	0.0015	0.0016	0.0016	0.0016	0.0019	
23:00-00:00	0.0015	0.0016	0.0016	0.0016	0.0015	0.0017	0.0018	
00:00-01:00	0.0016	0.0016	0.0017	0.0015	0.0017	0.0018	0.0018	
01:00-02:00	0.0016	0.0016	0.0017	0.0016	0.0016	0.0017	0.0020	
02:00-03:00	0.0017	0.0017	0.0018	0.0016	0.0017	0.0018	0.0019	
03:00-04:00	0.0018	0.0016	0.0016	0.0017	0.0017	0.0017	0.0018	
04:00-05:00	0.0016	0.0015	0.0016	0.0017	0.0018	0.0017	0.0019	
05:00-06:00	0.0015	0.0018	0.0017	0.0016	0.0016	0.0018	0.0020	
06:00-07:00	0.0019	0.0019	0.0018	0.0017	0.0017	0.0018	0.0019	
07:00-08:00	0.0019	0.0019	0.0018	0.0019	0.0018	0.0018	0.0020	
08:00-09:00	0.0017	0.0018	0.0017	0.0018	0.0017	0.0018	0.0021	
09:00-10:00	0.0018	0.0019	0.0018	0.0018	0.0017	0.0017	0.0020	
10:00-11:00	0.0018	0.0017	0.0016	0.0019	0.0018	0.0018	0.0021	
<b>24 Hours Average</b>	<b>0.0016</b>	<b>0.0018</b>	<b>0.0017</b>	<b>0.0018</b>	<b>0.0018</b>	<b>0.0018</b>	<b>0.0020</b>	<b>0.12<sup>1'</sup></b>
<b>1 Hour Maximum</b>	<b>0.0019</b>	<b>0.0024</b>	<b>0.0021</b>	<b>0.0022</b>	<b>0.0020</b>	<b>0.0021</b>	<b>0.0022</b>	<b>0.30<sup>2'</sup></b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.12, B.E.2538 (1995), published in the Royal Government Gazette No.112 Special Part 27D dated July 13, B.E.2538 (1995) and Notification No.21, B.E.2544 (2001), published in the Royal Government Gazette No.118 Special Part 39D dated April 30, B.E.2544 (2001), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).  
<sup>2'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor




## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : วัดพื้นเสด็จนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0729649 E, 1447518 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : NOx Chemiluminescence Analyzer API Model 200A Serial Number 1975

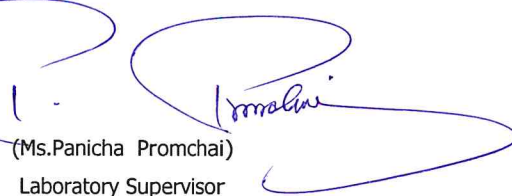
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-015  
**Report No.** : 2023-RAAF432  
**Report Date** : April 3, 2023

Interval Time	Result NO <sub>2</sub> (ppm)							Standard <sup>1'</sup>
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
11:00-12:00	0.0091	0.0089	0.0105	0.0113	0.0100	0.0093	0.0092	
12:00-13:00	0.0079	0.0087	0.0096	0.0087	0.0089	0.0084	0.0091	
13:00-14:00	0.0074	0.0070	0.0074	0.0074	0.0072	0.0089	0.0077	
14:00-15:00	0.0064	0.0115	0.0128	0.0075	0.0067	0.0070	0.0079	
15:00-16:00	0.0092	0.0120	0.0087	0.0113	0.0089	0.0065	0.0113	
16:00-17:00	0.0134	0.0131	0.0078	0.0115	0.0096	0.0073	0.0101	
17:00-18:00	0.0133	0.0096	0.0075	0.0099	0.0092	0.0076	0.0113	
18:00-19:00	0.0104	0.0092	0.0118	0.0090	0.0098	0.0076	0.0218	
19:00-20:00	0.0129	0.0115	0.0071	0.0084	0.0106	0.0088	0.0121	
20:00-21:00	0.0179	0.0124	0.0175	0.0100	0.0086	0.0101	0.0119	
21:00-22:00	0.0394	0.0316	0.0167	0.0094	0.0086	0.0232	0.0170	
22:00-23:00	0.0350	0.0322	0.0178	0.0117	0.0139	0.0137	0.0136	
23:00-00:00	0.0340	0.0297	0.0267	0.0268	0.0109	0.0131	0.0303	
00:00-01:00	0.0376	0.0283	0.0300	0.0231	0.0112	0.0151	0.0338	
01:00-02:00	0.0258	0.0210	0.0254	0.0188	0.0121	0.0178	0.0322	
02:00-03:00	0.0254	0.0196	0.0192	0.0190	0.0114	0.0176	0.0234	
03:00-04:00	0.0220	0.0190	0.0172	0.0193	0.0092	0.0182	0.0228	
04:00-05:00	0.0219	0.0185	0.0163	0.0190	0.0142	0.0074	0.0206	
05:00-06:00	0.0273	0.0186	0.0170	0.0177	0.0111	0.0094	0.0239	
06:00-07:00	0.0273	0.0183	0.0174	0.0170	0.0153	0.0110	0.0315	
07:00-08:00	0.0326	0.0228	0.0223	0.0234	0.0211	0.0176	0.0370	
08:00-09:00	0.0302	0.0280	0.0160	0.0248	0.0129	0.0156	0.0214	
09:00-10:00	0.0223	0.0161	0.0195	0.0170	0.0094	0.0138	0.0144	
10:00-11:00	0.0123	0.0120	0.0131	0.0140	0.0130	0.0106	0.0266	
<b>24 Hours Average</b>	<b>0.0209</b>	<b>0.0175</b>	<b>0.0156</b>	<b>0.0148</b>	<b>0.0110</b>	<b>0.0119</b>	<b>0.0192</b>	-
<b>1 Hour Maximum</b>	<b>0.0394</b>	<b>0.0322</b>	<b>0.0300</b>	<b>0.0268</b>	<b>0.0211</b>	<b>0.0232</b>	<b>0.0370</b>	<b>0.17</b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007) and Notification No.33, B.E.2552 (2009), published in the Royal Government Gazette No.126 Special Part 114D dated August 14, B.E.2552 (2009), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : วัดพื้นเสด็จนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0729649 E, 1447518 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Horiba Model APMA-360CE Serial Number 577274012

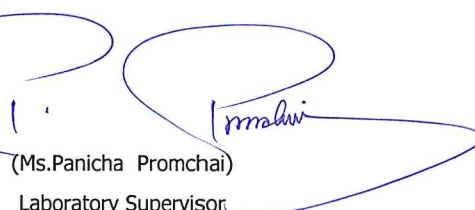
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-015  
**Report No.** : 2023-RAAF436  
**Report Date** : April 3, 2023

Interval Time	Result CO (ppm)							
	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23	
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg
11:00-12:00	0.7	-	0.7	0.8	0.6	0.7	0.6	0.6
12:00-13:00	0.8	-	0.7	0.8	0.7	0.7	0.6	0.6
13:00-14:00	0.7	-	0.7	0.8	0.7	0.7	0.7	0.6
14:00-15:00	0.7	-	0.7	0.8	0.7	0.7	0.7	0.6
15:00-16:00	0.7	-	0.7	0.7	0.6	0.6	0.6	0.6
16:00-17:00	0.7	-	0.7	0.7	0.5	0.6	0.6	0.6
17:00-18:00	0.7	-	0.7	0.7	0.5	0.6	0.5	0.6
18:00-19:00	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.6
19:00-20:00	0.7	0.7	0.7	0.7	0.5	0.6	0.6	0.6
20:00-21:00	0.9	0.7	0.7	0.7	0.7	0.6	0.5	0.6
21:00-22:00	1.0	0.8	0.9	0.7	0.7	0.6	0.5	0.6
22:00-23:00	0.9	0.8	0.8	0.7	0.6	0.6	0.5	0.5
23:00-00:00	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.5
00:00-01:00	0.9	0.8	0.8	0.8	0.7	0.6	0.6	0.5
01:00-02:00	0.8	0.8	0.7	0.8	0.7	0.6	0.7	0.6
02:00-03:00	0.9	0.9	0.7	0.8	0.7	0.7	0.6	0.6
03:00-04:00	0.8	0.9	0.7	0.8	0.7	0.7	0.6	0.6
04:00-05:00	0.8	0.9	0.7	0.8	0.7	0.7	0.6	0.6
05:00-06:00	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6
06:00-07:00	0.9	0.8	0.8	0.7	0.6	0.7	0.6	0.6
07:00-08:00	1.0	0.9	0.9	0.8	0.6	0.7	0.7	0.6
08:00-09:00	0.8	0.9	0.7	0.7	0.6	0.7	0.6	0.6
09:00-10:00	0.7	0.8	0.6	0.7	0.6	0.6	0.6	0.6
10:00-11:00	0.7	0.8	0.6	0.7	0.6	0.6	0.6	0.6
<b>24 Hours Average</b>	<b>0.8</b>	<b>-</b>	<b>0.7</b>	<b>-</b>	<b>0.6</b>	<b>-</b>	<b>0.6</b>	<b>-</b>
<b>1 Hour Maximum</b>	<b>1.0</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>0.7</b>	<b>-</b>	<b>0.7</b>	<b>-</b>
<b>8 Hours Maximum</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>0.8</b>	<b>-</b>	<b>0.7</b>	<b>-</b>	<b>0.6</b>

**Remark :** <sup>1</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms.Piyatida Pradangkho)  
Laboratory Reviewer

(Ms.Panicha Promchai)  
Laboratory Supervisor




## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : วัดพื้นเสด็จนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0729649 E, 1447518 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Horiba Model APMA-360CE Serial Number 577274012

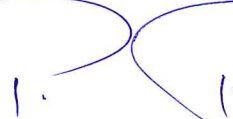
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-015  
**Report No.** : 2023-RAAF436  
**Report Date** : April 3, 2023

Interval Time	Result CO (ppm)						Standard <sup>1/</sup>
	Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23		
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	
11:00-12:00	0.6	0.6	0.6	0.5	0.6	0.6	
12:00-13:00	0.6	0.6	0.6	0.6	0.6	0.6	
13:00-14:00	0.5	0.6	0.5	0.6	0.6	0.6	
14:00-15:00	0.5	0.6	0.5	0.6	0.6	0.6	
15:00-16:00	0.5	0.6	0.5	0.5	0.6	0.6	
16:00-17:00	0.5	0.6	0.4	0.5	0.6	0.6	
17:00-18:00	0.5	0.5	0.5	0.5	0.6	0.6	
18:00-19:00	0.5	0.5	0.5	0.5	0.6	0.6	
19:00-20:00	0.5	0.5	0.5	0.5	0.6	0.6	
20:00-21:00	0.5	0.5	0.4	0.5	0.7	0.6	
21:00-22:00	0.5	0.5	0.5	0.5	0.7	0.6	
22:00-23:00	0.5	0.5	0.5	0.5	0.7	0.6	
23:00-00:00	0.5	0.5	0.5	0.5	0.7	0.6	
00:00-01:00	0.4	0.5	0.5	0.5	0.7	0.7	
01:00-02:00	0.4	0.5	0.5	0.5	0.7	0.7	
02:00-03:00	0.4	0.5	0.5	0.5	0.6	0.7	
03:00-04:00	0.4	0.4	0.5	0.5	0.6	0.7	
04:00-05:00	0.4	0.4	0.5	0.5	0.5	0.6	
05:00-06:00	0.5	0.4	0.5	0.5	0.5	0.6	
06:00-07:00	0.5	0.4	0.6	0.5	0.5	0.6	
07:00-08:00	0.6	0.4	0.6	0.5	0.6	0.6	
08:00-09:00	0.5	0.5	0.6	0.5	0.5	0.6	
09:00-10:00	0.5	0.5	0.6	0.6	0.5	0.5	
10:00-11:00	0.6	0.5	0.6	0.6	0.5	0.5	
24 Hours Average	0.5	-	0.5	-	0.6	-	-
1 Hour Maximum	0.6	-	0.6	-	0.7	-	30
8 Hours Maximum	-	0.6	-	0.6	-	0.7	9

**Remark :** <sup>1/</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor

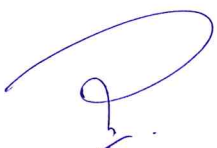
## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวด ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : พื้นที่โครงการ (สำนักงานนิคม)  
**GPS. Coordinate** : UTM (WGS84) 47P 0726887 E, 1443658 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : SO<sub>2</sub> UV-Fluorescence Analyzer Horiba Model APSA-370 Serial Number J000EMWB

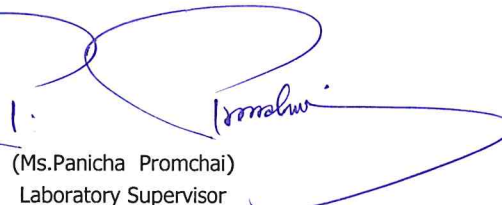
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-022  
**Report No.** : 2023-RAAF440  
**Report Date** : April 3, 2023

Interval Time	Result SO <sub>2</sub> (ppm)							Standard
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
15:00-16:00	0.0012	0.0025	0.0019	0.0018	0.0019	0.0017	0.0018	
16:00-17:00	0.0019	0.0026	0.0017	0.0019	0.0019	0.0017	0.0017	
17:00-18:00	0.0018	0.0024	0.0015	0.0019	0.0018	0.0017	0.0017	
18:00-19:00	0.0017	0.0020	0.0015	0.0018	0.0017	0.0016	0.0017	
19:00-20:00	0.0016	0.0017	0.0014	0.0018	0.0017	0.0016	0.0017	
20:00-21:00	0.0016	0.0016	0.0015	0.0017	0.0017	0.0016	0.0017	
21:00-22:00	0.0016	0.0017	0.0016	0.0017	0.0014	0.0016	0.0018	
22:00-23:00	0.0016	0.0017	0.0016	0.0016	0.0014	0.0016	0.0018	
23:00-00:00	0.0016	0.0017	0.0015	0.0017	0.0016	0.0015	0.0018	
00:00-01:00	0.0016	0.0016	0.0016	0.0017	0.0015	0.0015	0.0017	
01:00-02:00	0.0016	0.0016	0.0016	0.0016	0.0015	0.0015	0.0017	
02:00-03:00	0.0016	0.0016	0.0016	0.0016	0.0015	0.0016	0.0018	
03:00-04:00	0.0016	0.0015	0.0016	0.0016	0.0016	0.0016	0.0016	
04:00-05:00	0.0016	0.0014	0.0015	0.0017	0.0016	0.0017	0.0017	
05:00-06:00	0.0016	0.0015	0.0017	0.0017	0.0016	0.0017	0.0017	
06:00-07:00	0.0016	0.0016	0.0016	0.0017	0.0016	0.0016	0.0018	
07:00-08:00	0.0019	0.0020	0.0016	0.0021	0.0018	0.0017	0.0021	
08:00-09:00	0.0018	0.0021	0.0016	0.0022	0.0018	0.0017	0.0020	
09:00-10:00	0.0017	0.0019	0.0017	0.0021	0.0018	0.0017	0.0019	
10:00-11:00	0.0019	0.0020	0.0017	0.0021	0.0017	0.0017	0.0019	
11:00-12:00	0.0019	0.0019	0.0018	0.0021	0.0018	0.0018	0.0019	
12:00-13:00	0.0019	0.0017	0.0017	0.0020	0.0019	0.0017	0.0019	
13:00-14:00	0.0018	0.0018	0.0017	0.0019	0.0018	0.0017	0.0020	
14:00-15:00	0.0020	0.0018	0.0018	0.0018	0.0017	0.0017	0.0019	
<b>24 Hours Average</b>	<b>0.0017</b>	<b>0.0018</b>	<b>0.0016</b>	<b>0.0018</b>	<b>0.0017</b>	<b>0.0016</b>	<b>0.0018</b>	<b>0.12<sup>1/</sup></b>
<b>1 Hour Maximum</b>	<b>0.0020</b>	<b>0.0026</b>	<b>0.0019</b>	<b>0.0022</b>	<b>0.0019</b>	<b>0.0018</b>	<b>0.0021</b>	<b>0.30<sup>2/</sup></b>

**Remark :** <sup>1/</sup> Notification of National Environmental Board, No.12, B.E.2538 (1995), published in the Royal Government Gazette No.112 Special Part 27D dated July 13, B.E.2538 (1995) and Notification No.21, B.E.2544 (2001), published in the Royal Government Gazette No.118 Special Part 39D dated April 30, B.E.2544 (2001), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).  
<sup>2/</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor




## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : พื้นที่โครงการ (สำนักงานนิคม)  
**GPS. Coordinate** : UTM (WGS84) 47P 0726887 E, 1443658 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : NOx Chemiluminescence Analyzer Horiba Model APNA-370 Serial Number KPACV8NA

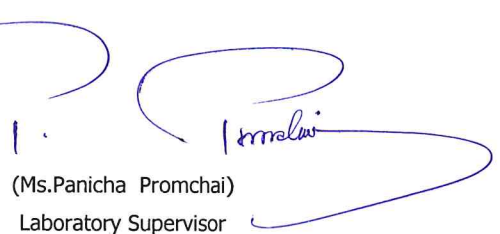
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-022  
**Report No.** : 2023-RAAF439  
**Report Date** : April 3, 2023

Interval Time	Result NO <sub>2</sub> (ppm)							Standard <sup>1'</sup>
	Mar 7-8, 23	Mar 8-9, 23	Mar 9-10, 23	Mar 10-11, 23	Mar 11-12, 23	Mar 12-13, 23	Mar 13-14, 23	
15:00-16:00	0.0068	0.0263	0.0197	0.0219	0.0199	0.0147	0.0172	
16:00-17:00	0.0185	0.0220	0.0143	0.0200	0.0251	0.0133	0.0299	
17:00-18:00	0.0227	0.0197	0.0158	0.0167	0.0261	0.0110	0.0252	
18:00-19:00	0.0235	0.0207	0.0167	0.0196	0.0254	0.0109	0.0397	
19:00-20:00	0.0237	0.0273	0.0164	0.0158	0.0248	0.0120	0.0218	
20:00-21:00	0.0360	0.0304	0.0163	0.0183	0.0212	0.0203	0.0219	
21:00-22:00	0.0358	0.0336	0.0260	0.0195	0.0188	0.0249	0.0187	
22:00-23:00	0.0481	0.0468	0.0361	0.0143	0.0211	0.0215	0.0142	
23:00-00:00	0.0363	0.0363	0.0259	0.0301	0.0239	0.0185	0.0201	
00:00-01:00	0.0423	0.0303	0.0289	0.0264	0.0132	0.0146	0.0254	
01:00-02:00	0.0406	0.0294	0.0242	0.0183	0.0133	0.0138	0.0259	
02:00-03:00	0.0352	0.0223	0.0187	0.0131	0.0114	0.0085	0.0202	
03:00-04:00	0.0260	0.0289	0.0223	0.0129	0.0094	0.0113	0.0313	
04:00-05:00	0.0231	0.0316	0.0259	0.0251	0.0118	0.0147	0.0332	
05:00-06:00	0.0205	0.0333	0.0280	0.0250	0.0107	0.0089	0.0286	
06:00-07:00	0.0199	0.0321	0.0250	0.0263	0.0186	0.0086	0.0308	
07:00-08:00	0.0356	0.0325	0.0232	0.0338	0.0325	0.0349	0.0480	
08:00-09:00	0.0446	0.0392	0.0217	0.0342	0.0365	0.0297	0.0430	
09:00-10:00	0.0380	0.0428	0.0293	0.0339	0.0233	0.0198	0.0383	
10:00-11:00	0.0411	0.0432	0.0315	0.0321	0.0203	0.0217	0.0261	
11:00-12:00	0.0363	0.0315	0.0267	0.0366	0.0216	0.0197	0.0247	
12:00-13:00	0.0354	0.0294	0.0482	0.0348	0.0303	0.0196	0.0275	
13:00-14:00	0.0285	0.0234	0.0366	0.0387	0.0185	0.0180	0.0129	
14:00-15:00	0.0278	0.0224	0.0252	0.0171	0.0132	0.0195	0.0198	
<b>24 Hours Average</b>	<b>0.0311</b>	<b>0.0306</b>	<b>0.0251</b>	<b>0.0244</b>	<b>0.0205</b>	<b>0.0171</b>	<b>0.0269</b>	-
<b>1 Hour Maximum</b>	<b>0.0481</b>	<b>0.0468</b>	<b>0.0482</b>	<b>0.0387</b>	<b>0.0365</b>	<b>0.0349</b>	<b>0.0480</b>	<b>0.17</b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007) and Notification No.33, B.E.2552 (2009), published in the Royal Government Gazette No.126 Special Part 114D dated August 14, B.E.2552 (2009), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลว ะย ะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : พื้นที่โครงการ (สำนักงานนิคม)  
**GPS. Coordinate** : UTM (WGS84) 47P 0726887 E, 1443658 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Horiba Model APMA-370 Serial Number RBBRW0L3

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-022  
**Report No.** : 2023-RAAF441  
**Report Date** : April 3, 2023

Interval Time	Result CO (ppm)							
	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23	
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg
15:00-16:00	0.5	-	0.6	0.6	0.4	0.6	0.5	0.5
16:00-17:00	0.6	-	0.6	0.6	0.4	0.5	0.5	0.5
17:00-18:00	0.6	-	0.6	0.6	0.4	0.5	0.4	0.5
18:00-19:00	0.6	-	0.6	0.6	0.4	0.4	0.4	0.5
19:00-20:00	0.6	-	0.6	0.6	0.5	0.4	0.4	0.5
20:00-21:00	0.7	-	0.6	0.6	0.5	0.4	0.5	0.5
21:00-22:00	0.6	-	0.6	0.6	0.5	0.4	0.4	0.5
22:00-23:00	0.7	0.6	0.6	0.6	0.5	0.4	0.4	0.4
23:00-00:00	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4
00:00-01:00	0.7	0.6	0.5	0.6	0.5	0.5	0.4	0.4
01:00-02:00	0.7	0.7	0.5	0.6	0.5	0.5	0.4	0.4
02:00-03:00	0.7	0.7	0.5	0.6	0.5	0.5	0.4	0.4
03:00-04:00	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.4
04:00-05:00	0.7	0.7	0.5	0.6	0.5	0.5	0.4	0.4
05:00-06:00	0.6	0.7	0.5	0.5	0.5	0.5	0.4	0.4
06:00-07:00	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.4
07:00-08:00	0.7	0.7	0.7	0.6	0.5	0.5	0.6	0.4
08:00-09:00	0.8	0.7	0.9	0.6	0.4	0.5	0.7	0.5
09:00-10:00	0.6	0.7	0.6	0.6	0.5	0.5	0.5	0.5
10:00-11:00	0.6	0.7	0.5	0.6	0.5	0.5	0.4	0.5
11:00-12:00	0.6	0.7	0.5	0.6	0.5	0.5	0.5	0.5
12:00-13:00	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5
13:00-14:00	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5
14:00-15:00	0.6	0.6	0.5	0.6	0.6	0.5	0.4	0.5
<b>24 Hours Average</b>	<b>0.6</b>	<b>-</b>	<b>0.6</b>	<b>-</b>	<b>0.5</b>	<b>-</b>	<b>0.5</b>	<b>-</b>
<b>1 Hour Maximum</b>	<b>0.8</b>	<b>-</b>	<b>0.9</b>	<b>-</b>	<b>0.6</b>	<b>-</b>	<b>0.7</b>	<b>-</b>
<b>8 Hours Maximum</b>	<b>-</b>	<b>0.7</b>	<b>-</b>	<b>0.6</b>	<b>-</b>	<b>0.6</b>	<b>-</b>	<b>0.5</b>

Remark : 1' Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms.Piyatida Pradangkho)  
Laboratory Reviewer




(Ms.Panicha Promchai)  
Laboratory Supervisor


## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลว ะยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : พื้นที่โครงการ (สำนักงานนิคม)  
**GPS. Coordinate** : UTM (WGS84) 47P 0726887 E, 1443658 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Horiba Model APMA-370 Serial Number RBBRW0L3

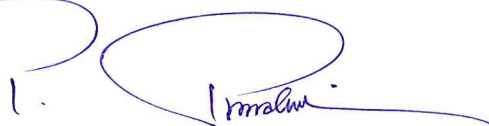
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-022  
**Report No.** : 2023-RAAF441  
**Report Date** : April 3, 2023

Interval Time	Result CO (ppm)						Standard <sup>1'</sup>
	Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23		
	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	1 hr Avg	8 hr Avg	
15:00-16:00	0.4	0.5	0.4	0.4	0.5	0.5	
16:00-17:00	0.4	0.4	0.3	0.4	0.5	0.5	
17:00-18:00	0.4	0.4	0.3	0.4	0.5	0.5	
18:00-19:00	0.4	0.4	0.4	0.4	0.5	0.5	
19:00-20:00	0.4	0.4	0.4	0.4	0.5	0.5	
20:00-21:00	0.4	0.4	0.4	0.4	0.6	0.5	
21:00-22:00	0.4	0.4	0.4	0.4	0.5	0.5	
22:00-23:00	0.4	0.4	0.4	0.4	0.5	0.5	
23:00-00:00	0.4	0.4	0.4	0.4	0.5	0.5	
00:00-01:00	0.3	0.4	0.4	0.4	0.5	0.5	
01:00-02:00	0.3	0.4	0.3	0.4	0.5	0.5	
02:00-03:00	0.3	0.4	0.3	0.4	0.5	0.5	
03:00-04:00	0.3	0.4	0.3	0.4	0.5	0.5	
04:00-05:00	0.3	0.3	0.3	0.4	0.5	0.5	
05:00-06:00	0.3	0.3	0.4	0.4	0.4	0.5	
06:00-07:00	0.4	0.3	0.4	0.4	0.4	0.5	
07:00-08:00	0.5	0.3	0.5	0.4	0.5	0.5	
08:00-09:00	0.5	0.4	0.5	0.4	0.5	0.5	
09:00-10:00	0.4	0.4	0.4	0.4	0.4	0.5	
10:00-11:00	0.4	0.4	0.4	0.4	0.4	0.4	
11:00-12:00	0.4	0.4	0.5	0.4	0.4	0.4	
12:00-13:00	0.5	0.4	0.5	0.4	0.4	0.4	
13:00-14:00	0.4	0.4	0.5	0.5	0.4	0.4	
14:00-15:00	0.4	0.4	0.5	0.5	0.4	0.4	
24 Hours Average	0.4	-	0.4	-	0.5	-	-
1 Hour Maximum	0.5	-	0.5	-	0.6	-	30
8 Hours Maximum	-	0.5	-	0.5	-	0.5	9

Remark : <sup>1/</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).

  
 (Ms.Piyatida Pradangkho)  
 Laboratory Reviewer



  
 (Ms.Panicha Promchai)  
 Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านเขาหิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
 (เดิมชื่อโรงเรียนบ้านเขาหินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727656 E, 1444208 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-001 - 007  
**Report No.** : 2023-RAAE979  
**Report Date** : March 29, 2023

Date/Time	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23		Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23	
	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD
13:00-14:00	<0.4	Calm	<0.4	Calm	1.3	E	0.9	E	0.9	SSE	0.4	SW	2.2	NE
14:00-15:00	<0.4	Calm	0.4	SSE	0.9	NW	0.9	E	0.4	SW	0.4	NNW	1.8	NE
15:00-16:00	<0.4	Calm	0.4	S	0.4	NW	0.4	ENE	0.4	NW	0.4	NW	1.8	E
16:00-17:00	<0.4	Calm	0.4	S	0.4	NW	0.4	WNW	<0.4	Calm	0.4	NW	1.8	E
17:00-18:00	<0.4	Calm	0.4	SSW	0.4	NW	<0.4	Calm	<0.4	Calm	0.4	NW	1.3	ENE
18:00-19:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SW	<0.4	Calm	0.4	E
19:00-20:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SSW	<0.4	Calm	<0.4	Calm
20:00-21:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	WSW	<0.4	Calm	<0.4	Calm
21:00-22:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SW	<0.4	Calm	<0.4	Calm
22:00-23:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
23:00-00:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
00:00-01:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
01:00-02:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
02:00-03:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
03:00-04:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
04:00-05:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
05:00-06:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
06:00-07:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	1.8	NE	0.4	ENE
07:00-08:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	ENE
08:00-09:00	<0.4	Calm	0.4	S	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.9	NE	0.4	E
09:00-10:00	<0.4	Calm	0.4	S	0.4	NE	0.4	SSE	0.4	S	2.7	ENE	1.8	ENE
10:00-11:00	0.4	SE	0.9	SSE	0.9	ENE	0.4	SSE	0.4	S	2.7	NE	2.2	NE
11:00-12:00	<0.4	Calm	0.9	SSE	1.3	ENE	0.9	E	0.4	SSW	2.7	ENE	2.2	E
12:00-13:00	<0.4	Calm	0.9	SSE	1.3	ENE	0.4	SE	0.4	SSW	2.2	NE	1.8	ENE

Remark : WS = Wind Speed (m/s)  
 WD = Wind Direction  
 Height of wind vane and anemometer above ground 10 meters.

(Ms.Piyatida Pradangkho)  
Laboratory Reviewer



(Ms.Panicha Promchai)  
Laboratory Supervisor

## ANALYSIS REPORT

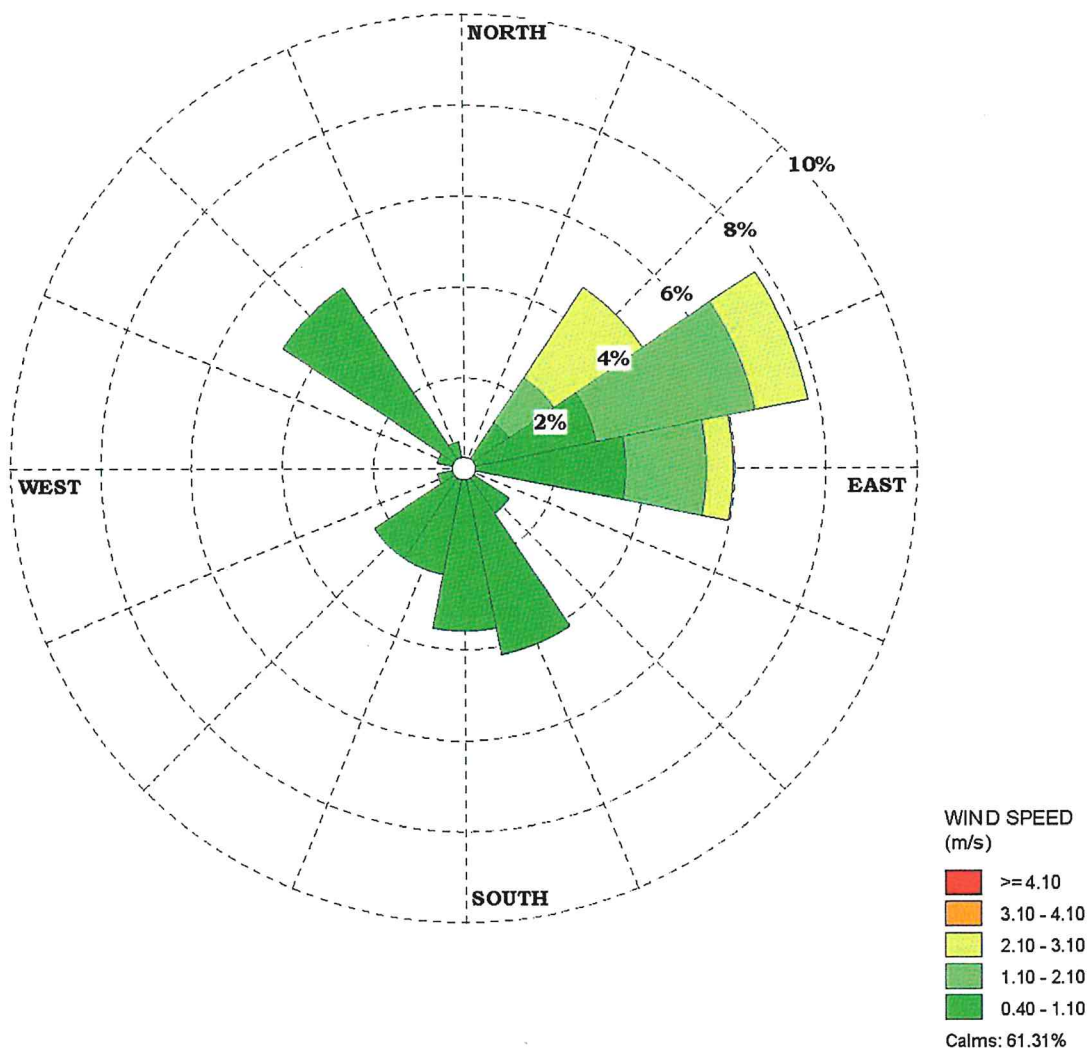
**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านเขานิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
 (เดิมชื่อโรงเรียนบ้านเขานินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727656 E, 1444208 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-001 - 007  
**Report No.** : 2023-RAAE979  
**Report Date** : March 29, 2023

Wind Direction	Percentage frequency of wind in each speed and direction					Total
	0.4-1.1	1.1-2.1	2.1-3.1	3.1-4.1	≥4.1	
N	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NNE	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NE	1.19048	1.19048	2.38095	0.00000	0.00000	4.76191
ENE	2.97619	3.57143	1.19048	0.00000	0.00000	7.73810
E	3.57143	1.78571	0.59524	0.00000	0.00000	5.95238
ESE	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
SE	1.19048	0.00000	0.00000	0.00000	0.00000	1.19048
SSE	4.16667	0.00000	0.00000	0.00000	0.00000	4.16667
S	3.57143	0.00000	0.00000	0.00000	0.00000	3.57143
SSW	2.38095	0.00000	0.00000	0.00000	0.00000	2.38095
SW	2.38095	0.00000	0.00000	0.00000	0.00000	2.38095
WSW	0.59524	0.00000	0.00000	0.00000	0.00000	0.59524
W	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
WNW	0.59524	0.00000	0.00000	0.00000	0.00000	0.59524
NW	4.76190	0.00000	0.00000	0.00000	0.00000	4.76190
NNW	0.59524	0.00000	0.00000	0.00000	0.00000	0.59524
Calm	61.30950					

## ANALYSIS REPORT

Customer Name : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
Project Name : โครงการขยายกำลังการผลิตเหล็กกลวุด ระยะที่ 2  
Measured Point : โรงเรียนบ้านเขานหิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
(เดิมชื่อโรงเรียนบ้านเขานหินนิคมราษฎร์บำรุง)  
Measured Date : March 7-14, 2023  
Report No. : 2023-RAAE979






## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านปอวิน (ลี้ขิดราษฎร์บำรุง) ตำบลปอวิน อำเภอสรรพยา จังหวัดชัยภูมิ  
**GPS. Coordinate** : UTM (WGS84) 47P 0724018 E, 1443612 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-008 - 014  
**Report No.** : 2023-RAAE980  
**Report Date** : March 29, 2023

Date/Time	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23		Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23	
	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD
13:00-14:00	1.3	SSE	1.3	S	1.8	SSE	1.8	SSE	1.3	S	1.3	NNW	1.3	SE
14:00-15:00	1.3	SSE	2.7	S	3.6	S	0.9	SSE	2.7	S	1.3	NNW	1.3	SE
15:00-16:00	1.8	SSE	3.1	SSW	3.6	S	1.3	S	3.1	SSW	2.7	NNW	1.3	SSE
16:00-17:00	2.2	SSE	3.1	S	3.1	SSW	3.1	S	2.2	SSW	2.2	NNW	1.3	SE
17:00-18:00	2.2	SSE	2.7	SSW	3.1	SSW	2.7	S	1.3	SSW	1.8	NNW	0.9	SSE
18:00-19:00	1.8	SSW	1.8	SSW	1.8	SSW	1.3	SSW	1.3	SSW	1.3	NNW	0.4	N
19:00-20:00	0.9	SSW	0.9	SSW	1.3	SSW	0.9	SSW	1.8	SSW	0.4	NNW	0.9	NNW
20:00-21:00	0.4	SSW	<0.4	Calm	0.4	SSW	0.4	SSW	0.9	SSW	<0.4	Calm	0.9	NNW
21:00-22:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.9	SSW	<0.4	Calm	0.4	NNW
22:00-23:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SSW	<0.4	Calm	<0.4	Calm
23:00-00:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
00:00-01:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
01:00-02:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
02:00-03:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
03:00-04:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
04:00-05:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
05:00-06:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.9	E	<0.4	Calm
06:00-07:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
07:00-08:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SE	<0.4	Calm
08:00-09:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SSW	<0.4	Calm	0.9	SE	0.9	SSE
09:00-10:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	1.8	SSW	0.4	NE	1.8	SE	1.3	SE
10:00-11:00	0.4	SSE	0.4	SSE	0.4	SSE	1.3	SSW	0.4	ENE	1.8	SE	1.3	SSE
11:00-12:00	0.9	S	0.4	SSE	1.3	SSE	0.9	SSE	0.9	ENE	1.8	SE	1.3	SE
12:00-13:00	1.8	SSE	1.3	SSE	1.3	SSE	0.9	SSE	0.9	N	1.8	SE	1.3	SSE

**Remark :** WS = Wind Speed (m/s)  
WD = Wind Direction  
Height of wind vane and anemometer above ground 10 meters.

  
(Ms.Piyatida Pradangkho)  
Laboratory Reviewer



  
(Ms.Panicha Promchai)  
Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : โรงเรียนบ้านปอวิน (ลี้ขีดราษฎร์บำรุง) ตำบลปอวิน อำเภอสรรพยา จังหวัดชัยนาท  
**GPS. Coordinate** : UTM (WGS84) 47P 0724018 E, 1443612 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

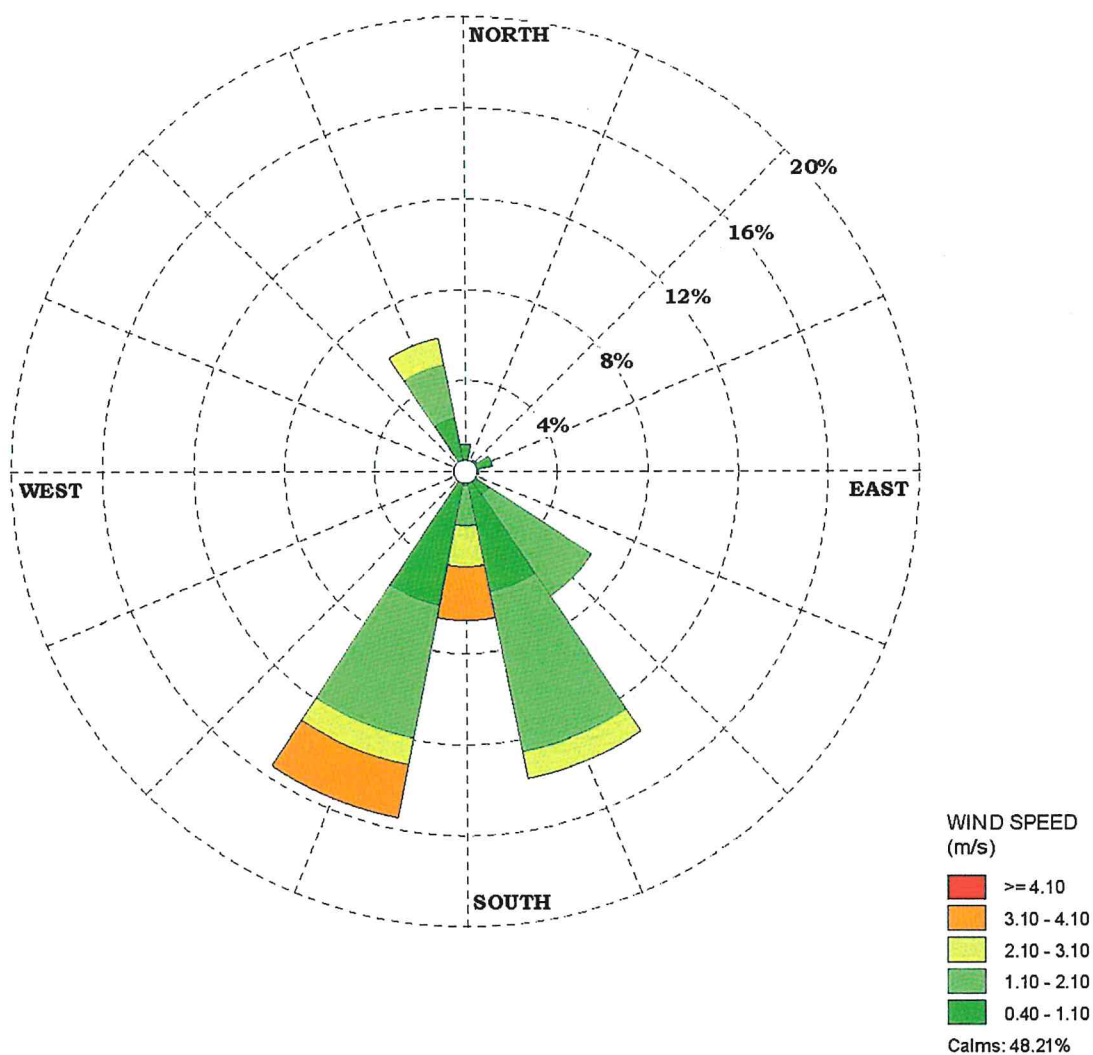
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-008 - 014  
**Report No.** : 2023-RAAE980  
**Report Date** : March 29, 2023

Wind Direction	Percentage frequency of wind in each speed and direction					Total
	0.4-1.1	1.1-2.1	2.1-3.1	3.1-4.1	≥4.1	
N	1.19048	0.00000	0.00000	0.00000	0.00000	1.19048
NNE	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NE	0.59524	0.00000	0.00000	0.00000	0.00000	0.59524
ENE	1.19048	0.00000	0.00000	0.00000	0.00000	1.19048
E	0.59524	0.00000	0.00000	0.00000	0.00000	0.59524
ESE	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
SE	1.19048	5.35714	0.00000	0.00000	0.00000	6.54762
SSE	5.35714	7.14286	1.19048	0.00000	0.00000	13.69048
S	0.59524	1.78571	1.78571	2.38095	0.00000	6.54761
SSW	5.95238	5.95238	1.19048	2.38095	0.00000	15.47619
SW	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
WSW	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
W	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
WNW	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NW	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NNW	2.38095	2.38095	1.19048	0.00000	0.00000	5.95238
Calm	48.21430					



## ANALYSIS REPORT

Customer Name : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
Project Name : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
Measured Point : โรงเรียนบ้านปอวิน (วัดราษฎร์บำรุง) ตำบลปอวิน อำเภอดงขี้เหล็ก จังหวัดชลบุรี  
Measured Date : March 7-14, 2023  
Report No. : 2023-RAAE980




## ANALYSIS REPORT

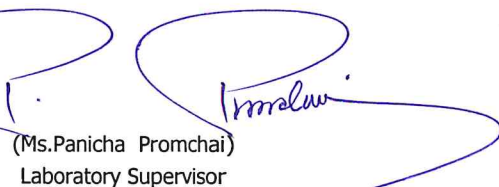
**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : วัดพื้นเสด็จนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0729649 E, 1447518 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-015 - 021  
**Report No.** : 2023-RAAE982  
**Report Date** : March 29, 2023

Date/Time	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23		Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23	
	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD
12:00-13:00	0.4	NE	0.9	SSE	0.9	NE	1.3	NNE	0.9	ESE	0.9	SE	1.8	N
13:00-14:00	1.3	ENE	1.3	NE	1.3	ENE	0.9	SE	0.9	N	0.4	ENE	1.8	NW
14:00-15:00	1.3	NE	0.9	SE	1.3	NE	0.9	SE	1.8	SW	1.3	SSW	1.8	NW
15:00-16:00	0.9	ENE	1.8	W	2.2	W	0.4	ENE	2.2	SW	2.7	SSW	1.3	N
16:00-17:00	0.9	NNE	1.8	W	2.7	W	0.9	WSW	1.3	SSW	2.2	SSW	1.3	NNW
17:00-18:00	1.3	W	1.8	W	2.7	W	2.2	SW	1.8	SSW	2.7	SSW	0.9	NW
18:00-19:00	1.3	W	1.3	W	1.8	WSW	1.8	WSW	1.8	SSW	1.3	SW	0.4	NW
19:00-20:00	0.4	WNW	0.4	W	0.9	WSW	0.4	SW	1.3	SSW	0.4	SSW	0.4	NW
20:00-21:00	<0.4	Calm	<0.4	Calm	0.9	W	0.4	SSW	0.9	SSW	<0.4	Calm	0.4	S
21:00-22:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.9	SSW	0.4	ESE	0.4	SSE
22:00-23:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SSW	<0.4	Calm	<0.4	Calm
23:00-00:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
00:00-01:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
01:00-02:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
02:00-03:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
03:00-04:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm
04:00-05:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	NNW	<0.4	Calm
05:00-06:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	1.3	NNW	0.9	NNW
06:00-07:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.9	NNW
07:00-08:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SSW	1.3	NNW	0.9	NNW
08:00-09:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	SSW	2.2	NNW	1.3	NNW
09:00-10:00	<0.4	Calm	<0.4	Calm	0.4	N	0.4	SE	1.3	SSW	1.3	NNW	1.8	NNW
10:00-11:00	0.4	WNW	0.4	SSE	0.9	NNE	0.4	ESE	1.8	S	2.7	NW	2.7	NW
11:00-12:00	0.4	E	0.4	SSE	1.3	NNE	0.4	SE	1.3	S	2.7	NW	2.7	NW

Remark : WS = Wind Speed (m/s)  
WD = Wind Direction  
Height of wind vane and anemometer above ground 10 meters.

  
(Ms.Piyatida Pradangkho)  
Laboratory Reviewer



  
(Ms.Panicha Promchai)  
Laboratory Supervisor



## ANALYSIS REPORT

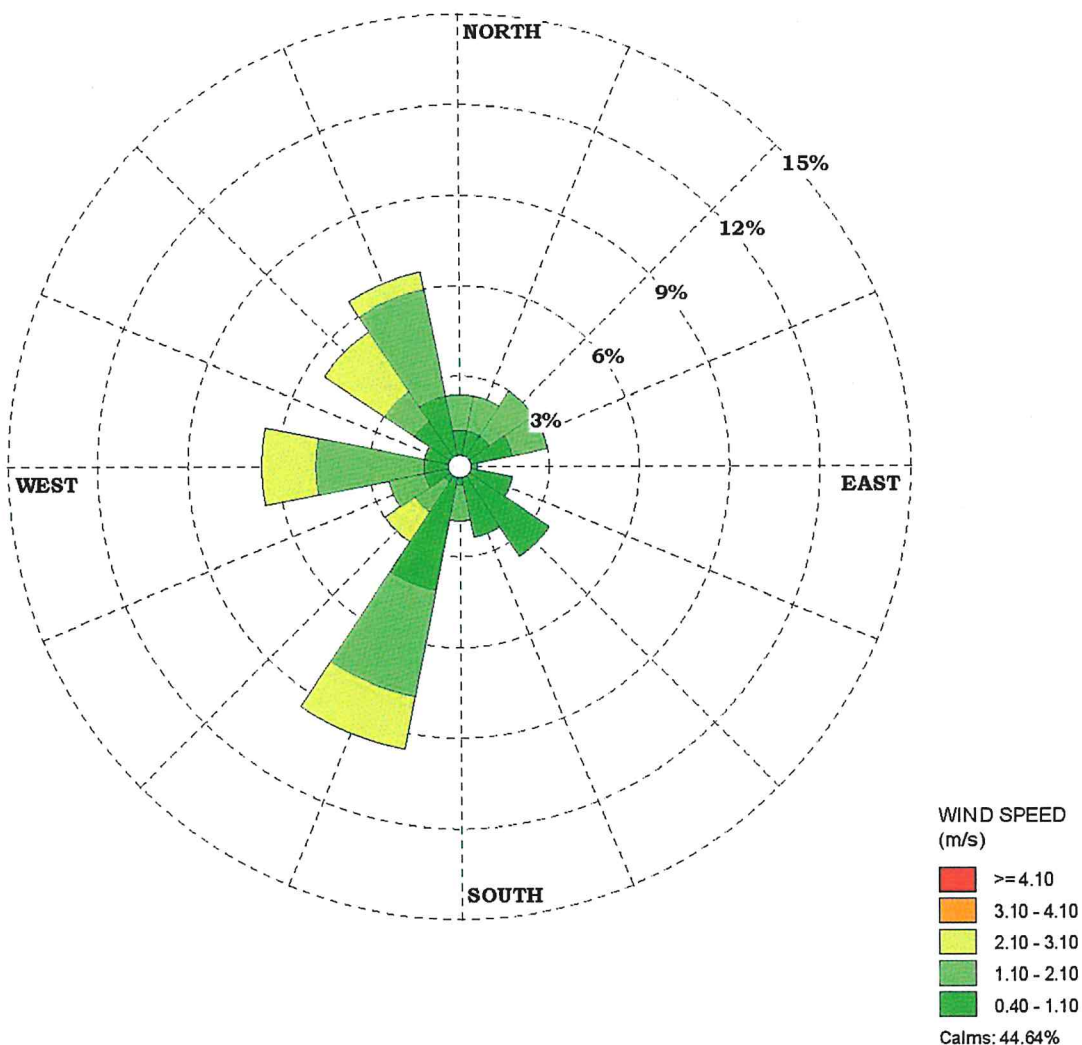
**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถวดย ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : วัดพื้นเสด็จนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
**GPS. Coordinate** : UTM (WGS84) 47P 0729649 E, 1447518 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-015 - 021  
**Report No.** : 2023-RAAE982  
**Report Date** : March 29, 2023

Wind Direction	Percentage frequency of wind in each speed and direction					Total
	0.4-1.1	1.1-2.1	2.1-3.1	3.1-4.1	≥4.1	
N	1.19048	1.19048	0.00000	0.00000	0.00000	2.38096
NNE	1.19048	1.19048	0.00000	0.00000	0.00000	2.38096
NE	1.19048	1.78571	0.00000	0.00000	0.00000	2.97619
ENE	1.78571	1.19048	0.00000	0.00000	0.00000	2.97619
E	0.59524	0.00000	0.00000	0.00000	0.00000	0.59524
ESE	1.78571	0.00000	0.00000	0.00000	0.00000	1.78571
SE	3.57143	0.00000	0.00000	0.00000	0.00000	3.57143
SSE	2.38095	0.00000	0.00000	0.00000	0.00000	2.38095
S	0.59524	1.19048	0.00000	0.00000	0.00000	1.78572
SSW	4.16667	3.57143	1.78571	0.00000	0.00000	9.52381
SW	0.59524	1.19048	1.19048	0.00000	0.00000	2.97620
WSW	1.19048	1.19048	0.00000	0.00000	0.00000	2.38096
W	1.19048	3.57143	1.78571	0.00000	0.00000	6.54762
WNW	1.19048	0.00000	0.00000	0.00000	0.00000	1.19048
NW	1.78571	1.19048	2.38095	0.00000	0.00000	5.35714
NNW	2.38095	3.57143	0.59524	0.00000	0.00000	6.54762
Calm	44.64290					

## ANALYSIS REPORT

Customer Name : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
Project Name : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
Measured Point : วัดพื้นที่ดินนอก ตำบลเขาคันทรง อำเภอศรีราชา จังหวัดชลบุรี  
Measured Date : March 7-14, 2023  
Report No. : 2023-RAAE982



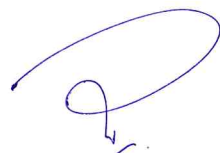


## ANALYSIS REPORT

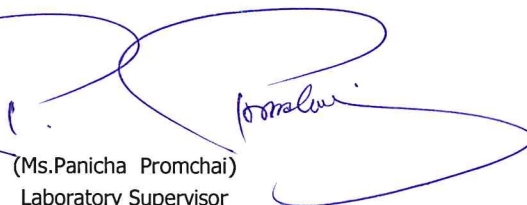
**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวด ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : พื้นที่โครงการ (สำนักงานนิคม)  
**GPS. Coordinate** : UTM (WGS84) 47P 0726913 E, 1443647 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-022 - 028  
**Report No.** : 2023-RAAE983  
**Report Date** : March 29, 2023

Date/Time	Mar 7-8, 23		Mar 8-9, 23		Mar 9-10, 23		Mar 10-11, 23		Mar 11-12, 23		Mar 12-13, 23		Mar 13-14, 23	
	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD	WS	WD
14:00-15:00	0.9	E	2.2	WNW	3.1	WNW	1.3	NW	2.7	ESE	1.8	ESE	3.1	W
15:00-16:00	0.9	E	3.6	WNW	4.0	WNW	0.9	N	2.7	SE	3.6	SE	2.7	W
16:00-17:00	2.7	NW	4.0	WNW	3.6	WNW	2.7	ESE	1.8	ENE	3.6	SE	3.1	WNW
17:00-18:00	2.7	WNW	3.1	WNW	4.0	W	3.1	ESE	1.8	ENE	3.6	SE	2.7	W
18:00-19:00	2.7	WNW	2.7	WNW	2.7	WSW	2.2	ESE	2.2	ENE	2.7	ESE	1.3	WNW
19:00-20:00	1.8	WNW	1.8	WNW	1.8	ESE	1.8	ESE	2.2	ENE	1.3	ESE	1.8	ESE
20:00-21:00	0.9	W	0.9	WNW	1.3	E	1.3	ESE	2.2	ENE	1.3	ENE	2.2	ESE
21:00-22:00	0.4	WSW	0.4	SW	0.4	NE	0.9	E	1.3	ENE	1.8	NE	1.8	ESE
22:00-23:00	<0.4	Calm	0.4	S	0.4	NE	0.4	E	1.3	NE	1.3	NE	1.3	ESE
23:00-00:00	0.4	NE	0.4	SSW	0.4	NE	0.4	NE	0.9	NNE	1.3	NE	0.4	E
00:00-01:00	0.4	NE	0.4	SSW	<0.4	Calm	0.4	NE	1.3	ENE	1.3	NE	0.4	NW
01:00-02:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	ENE	1.3	NE	1.3	NE	<0.4	Calm
02:00-03:00	0.4	SE	<0.4	Calm	<0.4	Calm	<0.4	Calm	1.3	ENE	0.9	ENE	0.4	SW
03:00-04:00	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	ENE	0.9	ENE	<0.4	Calm	0.4	SW
04:00-05:00	0.4	ENE	<0.4	Calm	<0.4	Calm	<0.4	Calm	0.4	ENE	0.4	N	0.9	WNW
05:00-06:00	0.4	NE	<0.4	Calm	<0.4	Calm	<0.4	Calm	<0.4	Calm	3.1	W	0.9	W
06:00-07:00	<0.4	Calm	<0.4	Calm	0.4	NNE	<0.4	Calm	<0.4	Calm	0.4	WSW	1.3	WNW
07:00-08:00	0.4	NE	<0.4	Calm	<0.4	Calm	0.4	NE	<0.4	Calm	1.3	W	1.3	WNW
08:00-09:00	<0.4	Calm	0.4	S	<0.4	Calm	0.4	NNE	0.4	NE	3.1	WNW	2.2	WNW
09:00-10:00	0.4	E	0.4	SSE	0.4	WSW	2.2	ENE	1.3	ENE	4.5	WNW	3.1	WNW
10:00-11:00	0.9	ESE	1.3	ESE	1.3	W	1.3	ENE	1.8	ENE	4.5	W	3.6	W
11:00-12:00	1.3	SSE	1.3	ESE	1.8	W	1.3	NNW	1.3	ENE	4.5	W	3.6	WNW
12:00-13:00	2.2	ESE	1.3	SE	1.8	W	1.3	N	1.3	N	4.0	W	2.2	W
13:00-14:00	1.3	E	2.2	ENE	1.8	WSW	1.8	N	1.8	SE	3.6	W	2.2	WSW

Remark : WS = Wind Speed (m/s)  
WD = Wind Direction  
Height of wind vane and anemometer above ground 10 meters.

  
(Ms.Piyatida Pradangkho)  
Laboratory Reviewer



  
(Ms.Panicha Promchai)  
Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Air Quality  
**Measured Point** : พื้นที่โครงการ (สำนักงานนิคม)  
**GPS. Coordinate** : UTM (WGS84) 47P 0726913 E, 1443647 N  
**Measured Date** : March 7-14, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

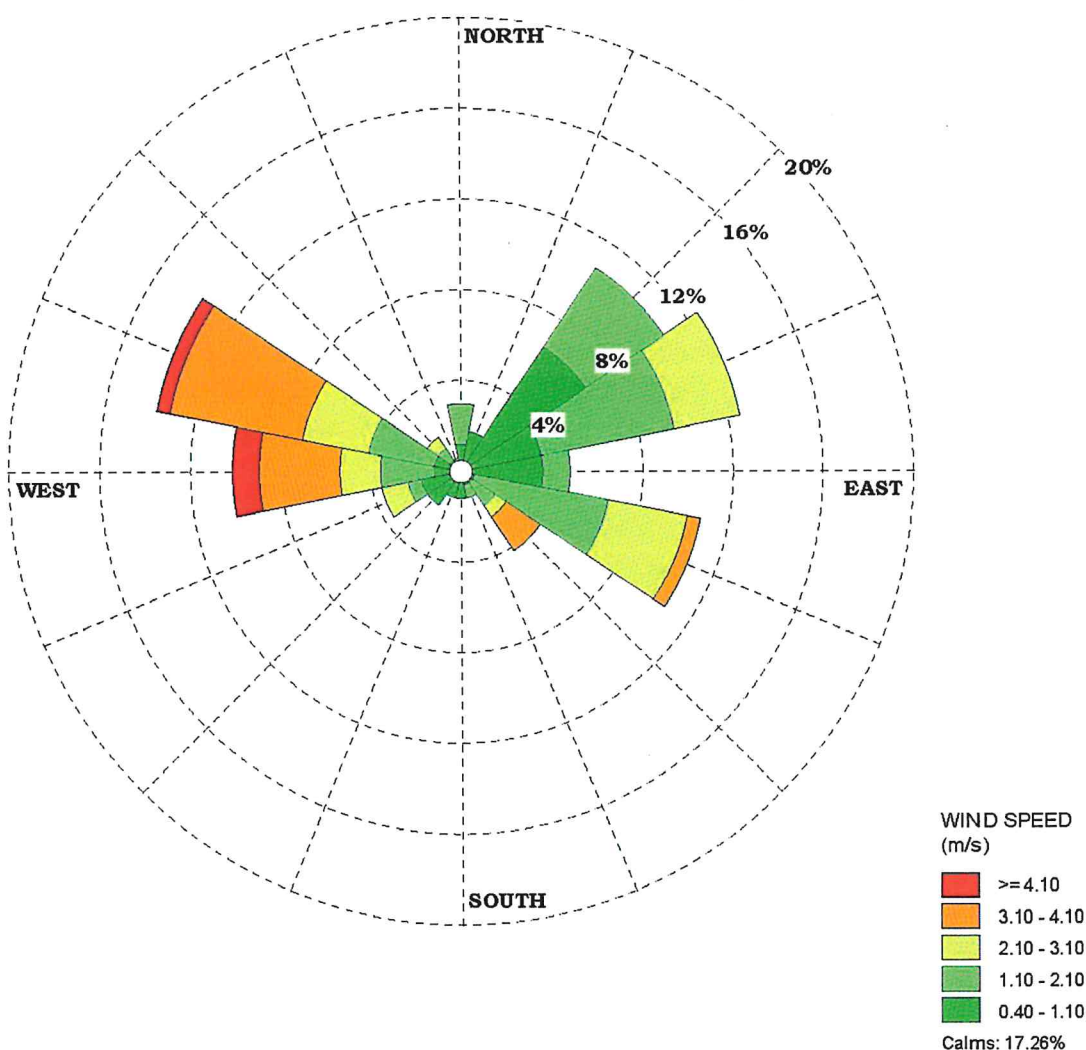
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-022 - 028  
**Report No.** : 2023-RAAE983  
**Report Date** : March 29, 2023

Wind Direction	Percentage frequency of wind in each speed and direction					Total
	0.4-1.1	1.1-2.1	2.1-3.1	3.1-4.1	≥4.1	
N	1.19048	1.78571	0.00000	0.00000	0.00000	2.97619
NNE	1.78571	0.00000	0.00000	0.00000	0.00000	1.78571
NE	6.54762	4.16667	0.00000	0.00000	0.00000	10.71429
ENE	3.57143	5.95238	2.97619	0.00000	0.00000	12.50000
E	3.57143	1.19048	0.00000	0.00000	0.00000	4.76191
ESE	0.59524	5.95238	3.57143	0.59524	0.00000	10.71429
SE	0.59524	1.19048	0.59524	1.78571	0.00000	4.16667
SSE	0.59524	0.59524	0.00000	0.00000	0.00000	1.19048
S	1.19048	0.00000	0.00000	0.00000	0.00000	1.19048
SSW	1.19048	0.00000	0.00000	0.00000	0.00000	1.19048
SW	1.78571	0.00000	0.00000	0.00000	0.00000	1.78571
WSW	1.78571	0.59524	1.19048	0.00000	0.00000	3.57143
W	1.19048	2.38095	1.78571	3.57143	1.19048	10.11905
WNW	1.19048	2.97619	2.97619	5.95238	0.59524	13.69048
NW	0.59524	0.59524	0.59524	0.00000	0.00000	1.78572
NNW	0.00000	0.59524	0.00000	0.00000	0.00000	0.59524
Calm	17.26190					



## ANALYSIS REPORT

Customer Name : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
Project Name : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
Measured Point : พื้นที่โครงการ (สำนักงานนิคม)  
Measured Date : March 7-14, 2023  
Report No. : 2023-RAAE983



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Sampling Source** : Stack Air Quality  
**Sampling Point** : ปล่องระบายอากาศของโรงหลอม  
**GPS. Coordinate** : UTM (WGS84) 47P 0726478 E, 1443801 N  
**Sampling Date** : March 9, 2023  
**Sampling Time** : 10:40-11:40  
**Sampling Method** : US.EPA. Method 1-4, 5, 6C, 7E, 10  
**Sampling By** : Mr.Watcharangkun Kongsang, Registration No. ๖-099-๖-7672  
**Analyzed By** : Environment Research & Technology Co., Ltd. Laboratory  
Registration No.๖-099

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA773-001  
**Received Date** : March 9, 2023  
**Analytical Date** : March 9-17, 2023  
**Report No.** : 2023-RAAE399  
**Report Date** : March 17, 2023

Item	Description	Method of Analysis	Unit	Result	Standard <sup>2'</sup>	Standard <sup>3'</sup>	Standard <sup>4'</sup>
1	Fuel Type	-	-	Electric	-	-	-
2	Combustion System	-	-	Open	-	-	-
3	Stack Height	Measuring Tape	m	35.0	-	-	-
4	Stack Diameter	Measuring Tape	m	4.50	-	-	-
5	Flue Gas Temperature	Thermocouple	°C	112	-	-	-
6	Pressure in Stack	Incline Manometer	mmHg	759	-	-	-
7	Oxygen Rate	Electrochemical Sensor	%	20.1	-	-	-
8	Moisture	Condensation Method	%	4.5	-	-	-
9	Air Velocity	Type S Pitot Tube	m/s	9.4	-	-	-
10	Volume Metric Flow Rate	Calculate	Nm <sup>3</sup> /hr	414,915	-	-	-
11	Volume Metric Flow Rate	Calculate	m <sup>3</sup> /hr	536,873	-	-	-
12	Sulfur Dioxide (SO <sub>2</sub> ) <sup>1'</sup>	Instrumental Analyzer Method	ppm	<1.0	800	-	60
13	Sulfur Dioxide (SO <sub>2</sub> ) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	<2.6	2,096	-	157
14	Oxide of Nitrogen (NOx) <sup>1'</sup>	Instrumental Analyzer Method	ppm	1.4	200	-	200
15	Oxide of Nitrogen (NOx) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	2.6	376	-	376
16	Total Suspended Particulate <sup>1'</sup>	Isokinetic, Gravimetric	mg/m <sup>3</sup>	1.2	240	108	320
17	Carbon Monoxide (CO) <sup>1'</sup>	Instrumental Analyzer Method	ppm	108	-	-	690
18	Carbon Monoxide (CO) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	123	-	-	790

**Remark :** <sup>1'</sup> Reference condition is 25 degree Celsius at 1 Atmosphere and Dry Basis.

<sup>2'</sup> Notification of the Ministry of Science Technology and Environment dated March 9, B.E.2544 (2001), published in the Royal Government Gazette, Vol.118 Part 37D dated May 8, B.E.2544 (2001). (Existing Source)

<sup>3'</sup> Standards as Defined in the Environmental Impact Assessment Report dated October 6, B.E.2548 (2005)

<sup>4'</sup> Notification of the Ministry of Industry B.E.2549 (2006), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 125D dated December 4, B.E.2549 (2006).



(Ms.Natnicha Sermmatiwong)

Laboratory Reviewer No. ๖-099-๖-7666




(Ms.Ramita Taengthai)

Laboratory Supervisor No. ๖-099-๖-7664



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Sampling Source** : Stack Air Quality  
**Sampling Point** : ปล่องระบายอากาศของโรงหลอม  
**GPS. Coordinate** : UTM (WGS84) 47P 0726478 E, 1443801 N  
**Sampling Date** : March 9, 2023  
**Sampling Time** : 10:40-11:40  
**Sampling Method** : US.EPA. Method 1-4, 26, 29  
**Sampling By** : Mr.Watcharangkun Kongsang, Registration No. ว-099-จ-7672  
**Analyzed By** : Environment Research & Technology Co., Ltd. Laboratory  
 Registration No.ว-099

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA773-001  
**Received Date** : March 9, 2023  
**Analytical Date** : March 9-17, 2023  
**Report No.** : 2023-RAAE400  
**Report Date** : March 17, 2023

Item	Description	Method of Analysis	Unit	Result	Standard <sup>2'</sup>	Standard <sup>3'</sup>	Standard <sup>4'</sup>
1	Fuel Type	-	-	Electric	-	-	-
2	Combustion System	-	-	Open	-	-	-
3	Stack Height	Measuring Tape	m	35.0	-	-	-
4	Stack Diameter	Measuring Tape	m	4.50	-	-	-
5	Flue Gas Temperature	Thermocouple	°C	112	-	-	-
6	Pressure in Stack	Incline Manometer	mmHg	759	-	-	-
7	Oxygen Rate	Electrochemical Sensor	%	20.1	-	-	-
8	Moisture	Condensation Method	%	4.5	-	-	-
9	Air Velocity	Type S Pitot Tube	m/s	9.4	-	-	-
10	Volume Metric Flow Rate	Calculate	Nm <sup>3</sup> /hr	414,915	-	-	-
11	Volume Metric Flow Rate	Calculate	m <sup>3</sup> /hr	536,873	-	-	-
12	Antimony <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	-	-	16
13	Arsenic <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	-	-	16
14	Copper <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	0.006	-	-	24
15	Lead <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	-	-	24
16	Mercury <sup>1'</sup>	Isokinetic, Digestion, Cold-Vapor Atomic Absorption Spectrometry	mg/m <sup>3</sup>	<0.005	-	-	2.4
17	Chlorine <sup>1'</sup>	Absorption, Ion Chromatography, Conductivity Detection	mg/m <sup>3</sup>	2.5	-	-	24
18	Hydrogen Chloride <sup>1'</sup>	Absorption, Ion Chromatography, Conductivity Detection	mg/m <sup>3</sup>	1.0	-	-	160

**Remark :** <sup>1'</sup> Reference condition is 25 degree Celsius at 1 Atmosphere and Dry Basis.

<sup>2'</sup> Notification of the Ministry of Science Technology and Environment dated March 9, B.E.2544 (2001), published in the Royal Government Gazette, Vol.118 Part 37D dated May 8, B.E.2544 (2001). (Existing Source)

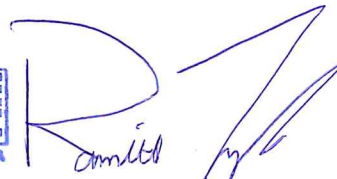
<sup>3'</sup> Standards as Defined in the Environmental Impact Assessment Report dated October 6, B.E.2548 (2005)

<sup>4'</sup> Notification of the Ministry of Industry B.E.2549 (2006), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 125D dated December 4, B.E.2549 (2006).




(Ms.Natnicha Sermmatiwong)

Laboratory Reviewer No. ว-099-ค-7666



(Ms.Ramita Taengthai)

Laboratory Supervisor No. ว-099-ค-7664

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Sampling Source** : Stack Air Quality  
**Sampling Point** : ปล่องระบายอากาศของโรงรีด 1  
**GPS. Coordinate** : UTM (WGS84) 47P 0726366 E, 1443869 N  
**Sampling Date** : March 12, 2023  
**Sampling Time** : 09:30-10:30  
**Sampling Method** : US.EPA. Method 1-4, 5, 6C, 7E, 10  
**Sampling By** : Mr.Wanchana Seehamart, Registration No. ว-099-จ-7050  
**Analyzed By** : Environment Research & Technology Co., Ltd. Laboratory Registration No.ว-099

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA787-001  
**Received Date** : March 12, 2023  
**Analytical Date** : March 12-17, 2023  
**Report No.** : 2023-RAAE401  
**Report Date** : March 21, 2023

Item	Description	Method of Analysis	Unit	Result		Standard <sup>2'</sup>	Standard <sup>3'</sup>	Standard <sup>4'</sup>
				Actual Condition	Convert to Excess Oxygen 7%			
1	Fuel Type	-	-	Natural Gas		-	-	-
2	Combustion System	-	-	Close		-	-	-
3	Stack Height	Measuring Tape	m	25.0		-	-	-
4	Stack Diameter	Measuring Tape	m	1.90		-	-	-
5	Flue Gas Temperature	Thermocouple	°C	283	-	-	-	-
6	Pressure in Stack	Incline Manometer	mmHg	749	-	-	-	-
7	Oxygen Rate	Electrochemical Sensor	%	13.7	-	-	-	-
8	Moisture	Condensation Method	%	8.5	-	-	-	-
9	Air Velocity	Type S Pitot Tube	m/s	13.0	-	-	-	-
10	Volume Metric Flow Rate <sup>1'</sup>	Calculate	Nm <sup>3</sup> /hr	70,025	-	-	-	-
11	Volume Metric Flow Rate	Calculate	m <sup>3</sup> /hr	132,508	-	-	-	-
12	Sulfur Dioxide (SO <sub>2</sub> ) <sup>1'</sup>	Instrumental Analyzer Method	ppm	<1.0	<1.0	800	60	60
13	Sulfur Dioxide (SO <sub>2</sub> ) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	<2.6	<2.6	2,096	157	157
14	Oxide of Nitrogen (NOx) <sup>1'</sup>	Instrumental Analyzer Method	ppm	25	48	200	180	200
15	Oxide of Nitrogen (NOx) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	47	91	376	339	376
16	Total Suspended Particulate <sup>1'</sup>	Isokinetic, Gravimetric	mg/m <sup>3</sup>	27	52	240	216	320
17	Carbon Monoxide (CO) <sup>1'</sup>	Instrumental Analyzer Method	ppm	7.3	14	-	-	690
18	Carbon Monoxide (CO) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	8.4	16	-	-	790

**Remark :** <sup>1'</sup> Reference condition is 25 degree Celsius at 1 Atmosphere and Dry Basis.

<sup>2'</sup> Notification of the Ministry of Science Technology and Environment dated March 9, B.E.2544 (2001), published in the Royal Government Gazette, Vol.118 Part 37D dated May 8, B.E.2544 (2001). (Existing Source)

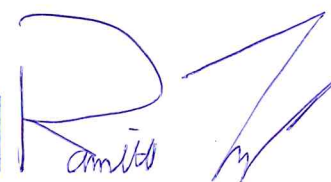
<sup>3'</sup> Standards as Defined in the Environmental Impact Assessment Report dated October 6, B.E.2548 (2005)

<sup>4'</sup> Notification of the Ministry of Industry B.E.2549 (2006), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 125D dated December 4, B.E.2549 (2006).



(Ms.Natnicha Sermmatiwong)

Laboratory Reviewer No. ว-099-ก-7666

(Ms.Ramita Taengthai)

Laboratory Supervisor No. ว-099-ก-7664



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Sampling Source** : Stack Air Quality  
**Sampling Point** : ปล่องระบายอากาศของโรงรีด 1  
**GPS. Coordinate** : UTM (WGS84) 47P 0726366 E, 1443869 N  
**Sampling Date** : March 12, 2023  
**Sampling Time** : 09:30-10:30  
**Sampling Method** : US.EPA. Method 1-4, 26, 29  
**Sampling By** : Mr.Wanchana Seehamart, Registration No. ว-099-จ-7050  
**Analyzed By** : Environment Research & Technology Co., Ltd. Laboratory Registration No.ว-099

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA787-001  
**Received Date** : March 12, 2023  
**Analytical Date** : March 12-17, 2023  
**Report No.** : 2023-RAAE402  
**Report Date** : March 21, 2023


Item	Description	Method of Analysis	Unit	Result		Standard <sup>2'</sup>	Standard <sup>3'</sup>	Standard <sup>4'</sup>
				Actual Condition	Convert to Excess Oxygen 7%			
1	Fuel Type	-	-	Natural Gas		-	-	-
2	Combustion System	-	-	Close		-	-	-
3	Stack Height	Measuring Tape	m	25.0		-	-	-
4	Stack Diameter	Measuring Tape	m	1.90		-	-	-
5	Flue Gas Temperature	Thermocouple	°C	283	-	-	-	-
6	Pressure in Stack	Incline Manometer	mmHg	749	-	-	-	-
7	Oxygen Rate	Electrochemical Sensor	%	13.7	-	-	-	-
8	Moisture	Condensation Method	%	8.5	-	-	-	-
9	Air Velocity	Type S Pitot Tube	m/s	13.0	-	-	-	-
10	Volume Metric Flow Rate <sup>1'</sup>	Calculate	Nm <sup>3</sup> /hr	70,025	-	-	-	-
11	Volume Metric Flow Rate	Calculate	m <sup>3</sup> /hr	132,508	-	-	-	-
12	Antimony <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	<0.005	-	-	16
13	Arsenic <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	<0.005	-	-	16
14	Copper <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	0.135	0.261	-	-	24
15	Lead <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	0.020	0.039	-	-	24
16	Mercury <sup>1'</sup>	Isokinetic, Digestion, Cold-Vapor Atomic Absorption Spectrometry	mg/m <sup>3</sup>	<0.005	<0.005	-	-	2.4
17	Chlorine <sup>1'</sup>	Absorption, Ion Chromatography, Conductivity Detection	mg/m <sup>3</sup>	6.1	12	-	-	24
18	Hydrogen Chloride <sup>1'</sup>	Absorption, Ion Chromatography, Conductivity Detection	mg/m <sup>3</sup>	1.3	2.5	-	-	160

**Remark :** <sup>1'</sup> Reference condition is 25 degree Celsius at 1 Atmosphere and Dry Basis.

<sup>2'</sup> Notification of the Ministry of Science Technology and Environment dated March 9, B.E.2544 (2001), published in the Royal Government Gazette, Vol.118 Part 37D dated May 8, B.E.2544 (2001). (Existing Source)


<sup>3'</sup> Standards as Defined in the Environmental Impact Assessment Report dated October 6, B.E.2548 (2005)

<sup>4'</sup> Notification of the Ministry of Industry B.E.2549 (2006), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 125D dated December 4, B.E.2549 (2006).

  
(Ms.Natnicha Sermmatiwong)

Laboratory Reviewer No. ว-099-ก-7666



  
(Ms.Ramita Taengthai)

Laboratory Supervisor No. ว-099-ก-7664

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวด ระยะที่ 2  
**Sampling Source** : Stack Air Quality  
**Sampling Point** : ปล่องระบายอากาศของโรงรีด 2  
**GPS. Coordinate** : UTM (WGS84) 47P 0726239 E, 1443865 N  
**Sampling Date** : March 11, 2023  
**Sampling Time** : 09:30-10:40  
**Sampling Method** : US.EPA. Method 1-4, 5, 6C, 7E, 10  
**Sampling By** : Mr.Siwawut Thamnita, Registration No. ๖-099-๖-8840  
**Analyzed By** : Environment Research & Technology Co., Ltd. Laboratory Registration No.๖-099

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA786-001  
**Received Date** : March 11, 2023  
**Analytical Date** : March 11-17, 2023  
**Report No.** : 2023-RAAE397  
**Report Date** : March 17, 2023

Item	Description	Method of Analysis	Unit	Result		Standard <sup>2'</sup>	Standard <sup>3'</sup>	Standard <sup>4'</sup>
				Actual Condition	Convert to Excess Oxygen 7%			
1	Fuel Type	-	-	Natural Gas		-	-	-
2	Combustion System	-	-	Close		-	-	-
3	Stack Height	Measuring Tape	m	65.0		-	-	-
4	Stack Diameter	Measuring Tape	m	2.30		-	-	-
5	Flue Gas Temperature	Thermocouple	°C	201	-	-	-	-
6	Pressure in Stack	Incline Manometer	mmHg	759	-	-	-	-
7	Oxygen Rate	Electrochemical Sensor	%	4.8	-	-	-	-
8	Moisture	Condensation Method	%	6.4	-	-	-	-
9	Air Velocity	Type S Pitot Tube	m/s	8.3	-	-	-	-
10	Volume Metric Flow Rate <sup>1'</sup>	Calculate	Nm <sup>3</sup> /hr	78,367	-	-	-	-
11	Volume Metric Flow Rate	Calculate	m <sup>3</sup> /hr	124,793	-	-	-	-
12	Sulfur Dioxide (SO <sub>2</sub> ) <sup>1'</sup>	Instrumental Analyzer Method	ppm	<1.0	<1.0	800	60	60
13	Sulfur Dioxide (SO <sub>2</sub> ) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	<2.6	<2.6	2,096	157	157
14	Oxide of Nitrogen (NOx) <sup>1'</sup>	Instrumental Analyzer Method	ppm	54	47	200	162	200
15	Oxide of Nitrogen (NOx) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	102	88	376	305	376
16	Total Suspended Particulate <sup>1'</sup>	Isokinetic, Gravimetric	mg/m <sup>3</sup>	3.8	3.3	240	108	320
17	Carbon Monoxide (CO) <sup>1'</sup>	Instrumental Analyzer Method	ppm	1.0	<1.0	-	-	690
18	Carbon Monoxide (CO) <sup>1'</sup>	Instrumental Analyzer Method	mg/m <sup>3</sup>	1.1	<1.1	-	-	790

**Remark :** <sup>1'</sup> Reference condition is 25 degree Celsius at 1 Atmosphere and Dry Basis.

<sup>2'</sup> Notification of the Ministry of Science Technology and Environment dated March 9, B.E.2544 (2001), published in the Royal Government Gazette, Vol.118 Part 37D dated May 8, B.E.2544 (2001). (Existing Source)

<sup>3'</sup> Standards as Defined in the Environmental Impact Assessment Report dated October 6, B.E.2548 (2005)

<sup>4'</sup> Notification of the Ministry of Industry B.E.2549 (2006), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 125D dated December 4, B.E.2549 (2006).

Nel

(Ms.Natnicha Sermmatiwong)

Laboratory Reviewer No. ๖-099-๖-7666



Ramita

(Ms.Ramita Taengthai)

Laboratory Supervisor No. ๖-099-๖-7664



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวด ระยะที่ 2  
**Sampling Source** : Stack Air Quality  
**Sampling Point** : ปล่องระบายอากาศของโรงรีด 2  
**GPS. Coordinate** : UTM (WGS84) 47P 0726239 E, 1443865 N  
**Sampling Date** : March 11, 2023  
**Sampling Time** : 09:30-10:40  
**Sampling Method** : US.EPA. Method 1-4, 26, 29  
**Sampling By** : Mr.Siwawut Thamnita, Registration No. ว-099-จ-8840  
**Analyzed By** : Environment Research & Technology Co., Ltd. Laboratory Registration No.ว-099

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA786-001  
**Received Date** : March 11, 2023  
**Analytical Date** : March 11-17, 2023  
**Report No.** : 2023-RAAE398  
**Report Date** : March 17, 2023


Item	Description	Method of Analysis	Unit	Result		Standard <sup>2'</sup>	Standard <sup>3'</sup>	Standard <sup>4'</sup>
				Actual Condition	Convert to Excess Oxygen 7%			
1	Fuel Type	-	-	Natural Gas		-	-	-
2	Combustion System	-	-	Close		-	-	-
3	Stack Height	Measuring Tape	m	65.0		-	-	-
4	Stack Diameter	Measuring Tape	m	2.30		-	-	-
5	Flue Gas Temperature	Thermocouple	°C	201	-	-	-	-
6	Pressure in Stack	Incline Manometer	mmHg	759	-	-	-	-
7	Oxygen Rate	Electrochemical Sensor	%	4.8	-	-	-	-
8	Moisture	Condensation Method	%	6.4	-	-	-	-
9	Air Velocity	Type S Pitot Tube	m/s	8.3	-	-	-	-
10	Volume Metric Flow Rate <sup>1'</sup>	Calculate	Nm <sup>3</sup> /hr	78,367	-	-	-	-
11	Volume Metric Flow Rate	Calculate	m <sup>3</sup> /hr	124,793	-	-	-	-
12	Antimony <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	<0.005	-	-	16
13	Arsenic <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	<0.005	-	-	16
14	Copper <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	0.084	0.073	-	-	24
15	Lead <sup>1'</sup>	Isokinetic, Digestion, Inductively Coupled Plasma (ICP-OES)	mg/m <sup>3</sup>	<0.005	<0.005	-	-	24
16	Mercury <sup>1'</sup>	Isokinetic, Digestion, Cold-Vapor Atomic Absorption Spectrometry	mg/m <sup>3</sup>	<0.005	<0.005	-	-	2.4
17	Chlorine <sup>1'</sup>	Absorption, Ion Chromatography, Conductivity Detection	mg/m <sup>3</sup>	1.0	0.86	-	-	24
18	Hydrogen Chloride <sup>1'</sup>	Absorption, Ion Chromatography, Conductivity Detection	mg/m <sup>3</sup>	1.2	1.0	-	-	160

**Remark :** <sup>1'</sup> Reference condition is 25 degree Celsius at 1 Atmosphere and Dry Basis.

<sup>2'</sup> Notification of the Ministry of Science Technology and Environment dated March 9, B.E.2544 (2001), published in the Royal Government Gazette, Vol.118 Part 37D dated May 8, B.E.2544 (2001). (Existing Source)

<sup>3'</sup> Standards as Defined in the Environmental Impact Assessment Report dated October 6, B.E.2548 (2005)

<sup>4'</sup> Notification of the Ministry of Industry B.E.2549 (2006), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 125D dated December 4, B.E.2549 (2006).

  
 (Ms.Natnicha Sermmatiwong)  
 ENVIRONMENT RESEARCH & TECHNOLOGY CO., LTD.

Laboratory Reviewer No. ว-099-ก-7666

  
 (Ms.Ramita Taengthai)

Laboratory Supervisor No. ว-099-ก-7664

## ANALYSIS REPORT

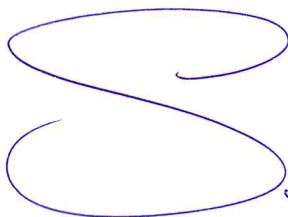
**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวต ระยะที่ 2  
**Sampling Source** : Surface Water Sampling  
**Sampling Point** : อ่างเก็บน้ำของบริษัท  
**GPS. Coordinate** : UTM (WGS84) 47P 0725694 E, 1443947 N  
**Sampling Date** : March 8, 2023  
**Sampling Time** : 10:20  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Turbid, Light Yellow, Sediment, Odor

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA747-001  
**Received Date** : March 9, 2023  
**Analytical Date** : March 9-31, 2023  
**Report No.** : 2023-RAAE230  
**Report Date** : April 1, 2023

Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
pH	-	Electrometric	8.6	5.0-9.0
Dissolved Oxygen	mg/L	Membrane Electrode	5.2	≥2.0
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	1.9	-
Total Dissolved Solids	mg/L	Dried at 180°C	865	-
Total Suspended Solids	mg/L	Dried at 103-105°C	<5.0	-

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 23<sup>rd</sup> Edition, 2017.

<sup>2'</sup> Notification of the National Environment Board, No.8, B.E.2537 (1994), issued under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992), published in the Royal Government Gazette No.111 Part 16, dated February 24, B.E.2537 (1994). (Standard Value of Surface Water for Class 4)



(Ms.Sudarat Khejonrak)  
Laboratory Reviewer




(Mr.Virat Hemvannanukul)  
Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Sampling Source** : Surface Water Sampling  
**Sampling Point** : อ่างเก็บน้ำของบริษัท  
**GPS. Coordinate** : UTM (WGS84) 47P 0725682 E, 1443918 N  
**Sampling Date** : June 12, 2023  
**Sampling Time** : 11:31  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Turbid, Light Yellow, Sediment, Odor

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AC328-001  
**Received Date** : June 13, 2023  
**Analytical Date** : June 13-20, 2023  
**Report No.** : 2023-RAAL600  
**Report Date** : June 23, 2023

Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
pH	-	Electrometric	8.6	5.0-9.0
Dissolved Oxygen	mg/L	Membrane Electrode	7.1	≥2.0
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	<1.0	-
Total Dissolved Solids	mg/L	Dried at 180°C	378	-
Total Suspended Solids	mg/L	Dried at 103-105°C	7.6	-

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 23<sup>rd</sup> Edition, 2017.

<sup>2'</sup> Notification of the National Environment Board, No.8, B.E.2537 (1994), issued under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992), published in the Royal Government Gazette No.111 Part 16, dated February 24, B.E.2537 (1994). (Standard Value of Surface Water for Class 4)



(Ms.Yuwadee Na Ranong)

Laboratory Reviewer




(Mr.Virat Hemvannanukul)

Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : ริมรั้วโรงงานด้านทิศใต้  
**GPS. Coordinate** : UTM (WGS84) 47P 0725728 E, 1443557 N  
**Measured Date** : March 9-10, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820446


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-029  
**Report No.** : 2023-RAAE714  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	50.4	67.5	43.0
12:00-13:00	47.8	65.2	40.8
13:00-14:00	49.0	70.4	43.0
14:00-15:00	47.5	59.4	44.1
15:00-16:00	47.3	63.9	43.5
16:00-17:00	47.5	67.3	43.7
17:00-18:00	45.5	69.5	41.9
18:00-19:00	47.5	67.8	43.0
19:00-20:00	48.6	60.8	43.7
20:00-21:00	44.5	55.8	41.9
21:00-22:00	49.0	72.0	44.1
22:00-23:00	48.0	67.5	44.7
23:00-00:00	47.1	63.4	43.7
00:00-01:00	45.1	57.3	42.4
01:00-02:00	47.9	59.7	44.8
02:00-03:00	47.2	61.5	43.4
03:00-04:00	47.3	58.6	43.4
04:00-05:00	43.6	62.3	40.5
05:00-06:00	46.9	70.3	40.5
06:00-07:00	52.6	73.3	45.8
07:00-08:00	49.7	69.5	45.6
08:00-09:00	49.4	70.9	41.3
09:00-10:00	51.6	76.9	44.1
10:00-11:00	53.8	72.3	44.2
<b>24 Hours Measurement</b>	<b>48.8</b>	<b>76.9</b>	<b>43.4</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>54.6</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).

  
 (Ms.Thidarat Pukkha)  
 Laboratory Reviewer



  
 (Ms.Thanida Bunrungrueang)  
 Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : ร่มรั้วโรงงานด้านทิศใต้  
**GPS. Coordinate** : UTM (WGS84) 47P 0725728 E, 1443557 N  
**Measured Date** : March 10-11, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820446


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-029  
**Report No.** : 2023-RAAE714  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	49.4	70.1	43.4
12:00-13:00	47.1	67.6	39.7
13:00-14:00	47.8	69.2	41.7
14:00-15:00	46.8	62.6	42.5
15:00-16:00	48.8	68.6	42.4
16:00-17:00	46.1	65.5	43.0
17:00-18:00	45.0	66.9	41.6
18:00-19:00	48.3	66.1	44.8
19:00-20:00	49.1	63.7	43.9
20:00-21:00	44.1	57.2	41.8
21:00-22:00	45.7	66.6	43.8
22:00-23:00	45.1	62.5	43.5
23:00-00:00	44.4	67.4	41.8
00:00-01:00	42.0	54.9	40.8
01:00-02:00	41.6	58.9	39.9
02:00-03:00	40.2	58.8	39.0
03:00-04:00	43.8	66.2	40.0
04:00-05:00	44.4	60.2	40.9
05:00-06:00	51.8	72.4	40.6
06:00-07:00	50.8	73.8	44.7
07:00-08:00	50.2	68.7	47.3
08:00-09:00	52.0	66.4	48.6
09:00-10:00	51.9	74.4	43.1
10:00-11:00	51.5	67.8	42.9
<b>24 Hours Measurement</b>	<b>48.2</b>	<b>74.4</b>	<b>43.2</b>
<b>Standard<sup>1)</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>53.5</b>	-	-

**Remark :** <sup>1)</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).

  
 (Ms.Thidarat Pukkha)  
 Laboratory Reviewer



  
 (Ms.Thanida Bunrungrueang)  
 Laboratory Supervisor


## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : ร่มรั้วโรงงานด้านทิศใต้  
**GPS. Coordinate** : UTM (WGS84) 47P 0725728 E, 1443557 N  
**Measured Date** : March 11-12, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820446

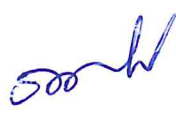
**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-029  
**Report No.** : 2023-RAAE714  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	47.3	67.9	40.5
12:00-13:00	47.1	68.3	40.2
13:00-14:00	47.1	60.2	43.3
14:00-15:00	48.1	66.4	43.9
15:00-16:00	48.0	62.9	44.5
16:00-17:00	47.8	69.9	44.3
17:00-18:00	48.7	76.5	44.7
18:00-19:00	51.5	64.0	46.2
19:00-20:00	46.5	58.2	44.1
20:00-21:00	47.8	69.0	45.0
21:00-22:00	48.0	66.9	45.4
22:00-23:00	48.3	64.1	44.8
23:00-00:00	47.4	64.4	44.3
00:00-01:00	47.2	63.8	43.6
01:00-02:00	48.2	66.7	43.9
02:00-03:00	48.5	66.5	44.4
03:00-04:00	45.8	65.8	42.1
04:00-05:00	44.5	60.8	42.2
05:00-06:00	55.0	73.9	44.0
06:00-07:00	54.5	74.8	45.4
07:00-08:00	47.2	75.8	42.6
08:00-09:00	50.2	74.5	42.5
09:00-10:00	47.2	66.5	41.8
10:00-11:00	50.7	69.2	43.4
<b>24 Hours Measurement</b>	<b>49.3</b>	<b>76.5</b>	<b>43.9</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>56.5</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).



(Ms.Thidarat Pukkha)  
Laboratory Reviewer

(Ms.Thanida Bunrungrueang)  
Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : ร่มรั้วโรงงานด้านทิศตะวันตก  
**GPS. Coordinate** : UTM (WGS84) 47P 0725956 E, 1444046 N  
**Measured Date** : March 9-10, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820445

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-030  
**Report No.** : 2023-RAAE715  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	52.0	76.2	46.6
12:00-13:00	48.5	74.2	46.1
13:00-14:00	52.3	77.7	46.3
14:00-15:00	52.9	74.3	45.7
15:00-16:00	53.2	73.4	45.7
16:00-17:00	53.1	80.0	46.2
17:00-18:00	52.5	75.5	46.3
18:00-19:00	55.1	72.9	48.0
19:00-20:00	51.3	67.3	49.3
20:00-21:00	50.2	75.7	49.1
21:00-22:00	50.7	71.1	49.1
22:00-23:00	52.0	75.5	49.4
23:00-00:00	50.6	66.5	49.5
00:00-01:00	50.8	77.8	49.5
01:00-02:00	52.1	77.5	49.2
02:00-03:00	51.0	79.8	48.6
03:00-04:00	50.2	76.2	48.5
04:00-05:00	51.2	66.5	48.1
05:00-06:00	51.4	77.6	48.0
06:00-07:00	54.2	73.9	48.8
07:00-08:00	51.2	65.2	48.9
08:00-09:00	52.4	71.5	48.4
09:00-10:00	51.1	70.0	47.2
10:00-11:00	49.2	72.3	46.9
<b>24 Hours Measurement</b>	<b>51.9</b>	<b>80.0</b>	<b>48.1</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>58.1</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).



(Ms.Thidarat Pukkha)  
Laboratory Reviewer




(Ms.Thanida Bunrungrueang)  
Laboratory Supervisor


## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : ร่มรั้วโรงงานด้านทิศตะวันตก  
**GPS. Coordinate** : UTM (WGS84) 47P 0725956 E, 1444046 N  
**Measured Date** : March 10-11, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820445

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-030  
**Report No.** : 2023-RAAE715  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	51.6	77.1	46.4
12:00-13:00	51.3	75.1	46.3
13:00-14:00	50.6	73.4	45.0
14:00-15:00	49.7	73.6	44.7
15:00-16:00	52.7	74.7	44.9
16:00-17:00	51.0	80.7	45.3
17:00-18:00	50.1	74.6	44.9
18:00-19:00	55.8	82.6	47.3
19:00-20:00	52.7	74.0	48.9
20:00-21:00	50.0	74.2	48.2
21:00-22:00	49.4	63.6	48.1
22:00-23:00	49.6	70.5	48.0
23:00-00:00	47.9	70.5	46.8
00:00-01:00	47.7	75.4	46.4
01:00-02:00	45.8	76.7	44.6
02:00-03:00	45.0	77.1	43.6
03:00-04:00	47.7	83.8	44.7
04:00-05:00	52.0	64.4	48.5
05:00-06:00	56.3	79.7	48.1
06:00-07:00	52.4	74.4	47.7
07:00-08:00	51.7	64.4	50.6
08:00-09:00	55.0	67.0	50.7
09:00-10:00	51.4	67.5	46.2
10:00-11:00	46.9	67.8	45.6
<b>24 Hours Measurement</b>	<b>51.5</b>	<b>83.8</b>	<b>47.2</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>57.4</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).

  
 (Ms.Thidarat Pukkha)  
 Laboratory Reviewer



  
 (Ms.Thanida Bunrungrueang)  
 Laboratory Supervisor




## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวดยุคที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : ริมรั้วโรงงานด้านทิศตะวันตก  
**GPS. Coordinate** : UTM (WGS84) 47P 0725956 E, 1444046 N  
**Measured Date** : March 11-12, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820445


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-030  
**Report No.** : 2023-RAAE715  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	48.9	84.6	44.1
12:00-13:00	47.8	77.3	44.6
13:00-14:00	50.4	67.5	46.6
14:00-15:00	53.5	81.3	45.5
15:00-16:00	53.9	72.4	46.7
16:00-17:00	53.4	82.6	46.8
17:00-18:00	56.7	82.5	49.1
18:00-19:00	59.1	69.1	51.2
19:00-20:00	49.2	64.7	47.7
20:00-21:00	53.5	83.9	50.2
21:00-22:00	49.7	66.0	47.4
22:00-23:00	52.8	72.1	48.5
23:00-00:00	50.9	67.5	47.1
00:00-01:00	52.9	84.3	50.7
01:00-02:00	52.4	84.5	48.3
02:00-03:00	53.3	84.8	49.6
03:00-04:00	49.7	83.4	46.4
04:00-05:00	52.1	65.0	49.8
05:00-06:00	59.5	81.2	51.5
06:00-07:00	56.1	75.4	48.4
07:00-08:00	48.7	71.5	45.9
08:00-09:00	53.2	75.1	49.6
09:00-10:00	46.7	65.9	44.9
10:00-11:00	46.1	69.2	44.1
<b>24 Hours Measurement</b>	<b>53.6</b>	<b>84.8</b>	<b>48.2</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>60.6</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).

  
 (Ms.Thidarat Pukkha)  
 Laboratory Reviewer



  
 (Ms.Thanida Bunrungrueang)  
 Laboratory Supervisor


## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : หน้าอาคารสำนักงาน  
**GPS. Coordinate** : UTM (WGS84) 47P 0726693 E, 1443425 N  
**Measured Date** : March 9-10, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820448


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-031  
**Report No.** : 2023-RAAE716  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	63.3	81.3	59.8
12:00-13:00	63.0	79.7	59.6
13:00-14:00	62.7	80.3	59.1
14:00-15:00	62.5	79.7	58.9
15:00-16:00	61.9	77.8	58.7
16:00-17:00	61.9	77.1	59.2
17:00-18:00	63.0	74.8	60.4
18:00-19:00	63.7	77.0	60.3
19:00-20:00	63.6	80.8	59.4
20:00-21:00	62.6	72.8	59.2
21:00-22:00	62.5	83.5	57.5
22:00-23:00	61.6	72.1	56.5
23:00-00:00	61.0	78.9	55.1
00:00-01:00	60.5	74.5	49.1
01:00-02:00	57.6	75.1	46.4
02:00-03:00	56.5	70.3	44.4
03:00-04:00	55.9	67.8	46.1
04:00-05:00	57.9	72.7	51.0
05:00-06:00	61.1	77.4	55.3
06:00-07:00	65.8	77.2	62.9
07:00-08:00	65.2	81.8	62.4
08:00-09:00	64.3	75.6	61.4
09:00-10:00	64.0	76.9	60.7
10:00-11:00	63.2	78.3	60.0
<b>24 Hours Measurement</b>	<b>62.5</b>	<b>83.5</b>	<b>58.8</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>67.7</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).

  
 (Ms.Thidarat Pukkha)  
 Laboratory Reviewer



  
 (Ms.Thanida Bunngrueang)  
 Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : หน้าอาคารสำนักงาน  
**GPS. Coordinate** : UTM (WGS84) 47P 0726693 E, 1443425 N  
**Measured Date** : March 10-11, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820448

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-031  
**Report No.** : 2023-RAAE716  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	64.5	87.4	59.3
12:00-13:00	63.5	86.8	59.7
13:00-14:00	63.0	78.1	59.7
14:00-15:00	63.6	78.6	59.8
15:00-16:00	63.0	80.5	59.5
16:00-17:00	63.1	79.1	59.8
17:00-18:00	64.5	82.9	61.2
18:00-19:00	64.3	73.6	61.2
19:00-20:00	63.3	78.4	60.0
20:00-21:00	62.0	76.4	58.3
21:00-22:00	61.5	77.4	56.2
22:00-23:00	60.6	74.6	54.4
23:00-00:00	58.4	76.5	50.5
00:00-01:00	56.3	69.4	48.2
01:00-02:00	55.2	72.3	43.7
02:00-03:00	54.4	70.7	43.8
03:00-04:00	56.1	73.9	44.4
04:00-05:00	57.1	72.8	49.8
05:00-06:00	60.0	70.7	54.3
06:00-07:00	65.3	75.9	62.4
07:00-08:00	66.1	82.0	63.6
08:00-09:00	64.9	77.7	62.3
09:00-10:00	63.8	80.5	60.6
10:00-11:00	64.1	81.3	59.8
<b>24 Hours Measurement</b>	<b>62.7</b>	<b>87.4</b>	<b>59.0</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>66.9</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).



(Ms.Thidarat Pukkha)

Laboratory Reviewer




(Ms.Thanida Bunrungrueang)

Laboratory Supervisor


## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลววด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : หน้าอาคารสำนักงาน  
**GPS. Coordinate** : UTM (WGS84) 47P 0726693 E, 1443425 N  
**Measured Date** : March 11-12, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820448


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-031  
**Report No.** : 2023-RAAE716  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
11:00-12:00	63.7	78.4	60.2
12:00-13:00	62.5	77.4	58.9
13:00-14:00	62.1	75.4	58.7
14:00-15:00	62.7	79.6	58.8
15:00-16:00	63.4	81.9	59.9
16:00-17:00	63.7	77.1	60.7
17:00-18:00	65.7	84.0	62.1
18:00-19:00	65.2	81.8	61.7
19:00-20:00	63.5	81.6	60.0
20:00-21:00	63.5	78.5	60.0
21:00-22:00	62.7	73.9	58.7
22:00-23:00	61.9	77.0	56.7
23:00-00:00	59.1	74.8	51.4
00:00-01:00	57.9	70.5	49.3
01:00-02:00	57.8	77.6	47.7
02:00-03:00	58.1	70.4	46.6
03:00-04:00	55.5	71.3	46.1
04:00-05:00	57.3	79.4	47.9
05:00-06:00	59.2	71.4	52.8
06:00-07:00	64.4	80.7	59.5
07:00-08:00	64.6	81.6	60.6
08:00-09:00	64.0	81.5	60.0
09:00-10:00	64.1	82.5	60.0
10:00-11:00	63.8	79.1	60.2
<b>24 Hours Measurement</b>	<b>62.7</b>	<b>84.0</b>	<b>58.6</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>67.1</b>	-	-

**Remark :** <sup>1/</sup> Notification of the Ministry of Industry B.E.2548 (2005), issued under Factory Act B.E.2535 (1992), published in the Royal Government Gazette No.123 Special Part 11D dated January 25, B.E.2549 (2006).

  
 (Ms.Thidarat Pukkha)  
 Laboratory Reviewer



  
 (Ms.Thanida Bunrungrueang)  
 Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวอด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : โรงเรียนบ้านเขานิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอสัตร์ราชา จังหวัดชลบุรี  
(เดิมชื่อโรงเรียนบ้านเขานินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727620 E, 1444338 N  
**Measured Date** : March 9-10, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820449


**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-032  
**Report No.** : 2023-RAAE717  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
10:00-11:00	62.0	85.6	55.6
11:00-12:00	60.0	77.3	55.6
12:00-13:00	61.4	81.1	56.8
13:00-14:00	60.2	83.1	55.3
14:00-15:00	62.1	83.6	57.6
15:00-16:00	62.2	77.8	58.9
16:00-17:00	62.1	80.5	58.3
17:00-18:00	62.7	80.3	58.9
18:00-19:00	62.7	86.0	57.5
19:00-20:00	63.3	85.0	55.7
20:00-21:00	60.7	83.8	54.7
21:00-22:00	61.5	86.3	52.0
22:00-23:00	57.2	79.2	49.2
23:00-00:00	59.3	83.7	47.4
00:00-01:00	55.0	76.5	44.5
01:00-02:00	52.2	80.5	43.1
02:00-03:00	52.0	71.8	42.7
03:00-04:00	51.6	75.0	43.7
04:00-05:00	52.7	72.6	44.0
05:00-06:00	55.4	75.4	48.3
06:00-07:00	60.1	77.1	51.9
07:00-08:00	63.5	85.9	57.6
08:00-09:00	64.4	88.9	58.1
09:00-10:00	60.9	80.5	56.2
<b>24 Hours Measurement</b>	<b>60.7</b>	<b>88.9</b>	<b>55.1</b>
<b>Standard<sup>1/</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>64.1</b>	-	-

**Remark :** <sup>1/</sup> Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007), under the Enhancement and Conservation National Environmental Quality Act B.E.2535 (1992).

  
(Ms.Thidarat Pukkha)  
Laboratory Reviewer



  
(Ms.Thanida Bunrungrueang)  
Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กกลวด ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : โรงเรียนบ้านเขาหิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
 (เดิมชื่อโรงเรียนบ้านเขาหินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727620 E, 1444338 N  
**Measured Date** : March 10-11, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820449

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-032  
**Report No.** : 2023-RAAE717  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
10:00-11:00	60.0	75.9	55.4
11:00-12:00	60.4	77.5	55.9
12:00-13:00	61.0	75.0	56.4
13:00-14:00	59.3	82.9	55.3
14:00-15:00	60.5	78.6	56.4
15:00-16:00	64.2	88.1	58.5
16:00-17:00	62.1	84.0	58.2
17:00-18:00	63.2	82.3	59.1
18:00-19:00	63.6	83.7	58.1
19:00-20:00	61.2	82.5	55.4
20:00-21:00	61.2	87.4	54.7
21:00-22:00	60.1	88.1	51.7
22:00-23:00	58.8	77.9	50.3
23:00-00:00	56.5	78.0	48.9
00:00-01:00	54.3	80.4	45.6
01:00-02:00	52.9	71.2	43.5
02:00-03:00	54.7	80.8	45.1
03:00-04:00	53.0	73.7	45.6
04:00-05:00	54.4	71.2	47.1
05:00-06:00	64.0	86.2	52.1
06:00-07:00	63.2	85.7	55.4
07:00-08:00	62.4	84.3	56.7
08:00-09:00	63.4	85.8	56.4
09:00-10:00	60.2	79.4	55.4
<b>24 Hours Measurement</b>	<b>60.9</b>	<b>88.1</b>	<b>55.1</b>
<b>Standard<sup>1'</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>65.9</b>	-	-

**Remark :** <sup>1'</sup> Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007), under the Enhancement and Conservation National Environmental Quality Act B.E.2535 (1992).



(Ms.Thidarat Pukkha)  
Laboratory Reviewer




(Ms.Thanida Bunrungrueang)  
Laboratory Supervisor



## ANALYSIS REPORT

**Customer Name** : Tata Steel Manufacturing (Thailand) PCL. (Branch : 00001)  
**Address** : 351 Moo 6 WHA Chonburi Industrial Estate 1, 331 Highway Road, Bo Win, Si Racha, Chon Buri 20230  
**Project Name** : โครงการขยายกำลังการผลิตเหล็กถลุง ระยะที่ 2  
**Measured Source** : Ambient Noise  
**Measured Point** : โรงเรียนบ้านเขาหิน (นิคมราษฎร์บำรุง) ตำบลปอวิน อำเภอศรีราชา จังหวัดชลบุรี  
(เดิมชื่อโรงเรียนบ้านเขาหินนิคมราษฎร์บำรุง)  
**GPS. Coordinate** : UTM (WGS84) 47P 0727620 E, 1444338 N  
**Measured Date** : March 11-12, 2023  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : Integrating Sound Level Meter Type II, Scarlet Tech Model ST-21D Serial Number 820449

**Quotation No.** : 2023-00188  
**Analysis No.** : 2023-AA847-032  
**Report No.** : 2023-RAAE717  
**Report Date** : March 29, 2023

Interval Time	Noise Level, dB(A)		
	Leq	Lmax	L90
10:00-11:00	60.4	77.0	55.4
11:00-12:00	61.0	84.7	55.2
12:00-13:00	59.0	77.4	55.1
13:00-14:00	59.9	75.9	55.4
14:00-15:00	61.2	77.6	57.1
15:00-16:00	60.9	78.0	56.5
16:00-17:00	61.7	79.9	57.0
17:00-18:00	62.8	84.3	58.0
18:00-19:00	63.5	89.7	56.9
19:00-20:00	62.5	84.6	56.2
20:00-21:00	60.5	80.1	54.9
21:00-22:00	59.9	81.0	53.1
22:00-23:00	59.6	88.0	50.0
23:00-00:00	57.2	74.2	48.6
00:00-01:00	55.5	75.7	46.3
01:00-02:00	53.0	74.1	44.3
02:00-03:00	53.3	75.1	42.8
03:00-04:00	51.7	73.4	41.9
04:00-05:00	51.6	70.0	43.1
05:00-06:00	54.0	71.3	47.4
06:00-07:00	59.7	73.6	50.3
07:00-08:00	58.4	79.7	53.0
08:00-09:00	61.1	83.8	54.9
09:00-10:00	60.3	80.0	55.8
<b>24 Hours Measurement</b>	<b>59.8</b>	<b>89.7</b>	<b>54.1</b>
<b>Standard<sup>1)</sup></b>	<b>70</b>	<b>115</b>	-
<b>Ldn</b>	<b>63.7</b>	-	-

**Remark :** <sup>1)</sup> Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007), under the Enhancement and Conservation National Environmental Quality Act B.E.2535 (1992).



(Ms.Thidarat Pukkha)

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