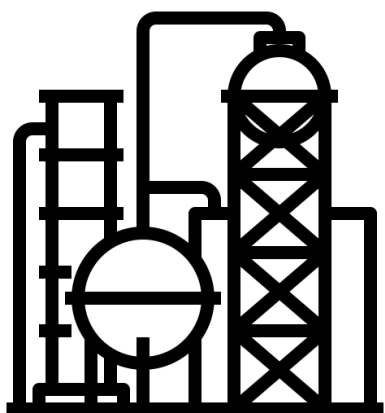


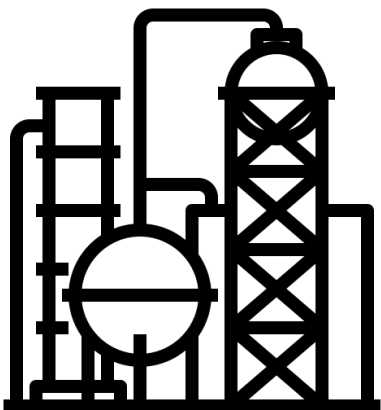
ภาคผนวก

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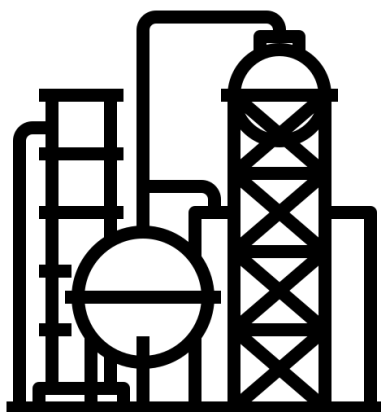
ภาคผนวก ก  
ใบรายงานผลการวิเคราะห์

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## คุณภาพอากาศในบรรยากาศ

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## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : BAN AO UDOM  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \*, \*\*, \*\*\*  
**SAMPLING TIME** : \*, \*\*, \*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARIN TUMSA-AT  
**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034664  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0008 - T23AH698-0010

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT             |                     |                      |
|------------------------------|-------------------|----------------------------------|--------------------|---------------------|----------------------|
|                              |                   |                                  | BAN AO UDOM        |                     |                      |
|                              |                   |                                  | *<br>T23AH698-0008 | **<br>T23AH698-0009 | ***<br>T23AH698-0010 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.063              | 0.037               | 0.048                |
| PARTICULATE MATTER (≤ 10 µm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.051              | 0.027               | 0.030                |
| <b>SAMPLE CONDITION</b>      |                   |                                  | COMPLETE           | COMPLETE            | COMPLETE             |

### REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 09:00 HOUR ON APRIL 22, 2023 TO 09:00 HOUR ON APRIL 23, 2023.  
\*\* : SAMPLING FROM 09:00 HOUR ON APRIL 23, 2023 TO 09:00 HOUR ON APRIL 24, 2023.  
\*\*\* : SAMPLING FROM 09:00 HOUR ON APRIL 24, 2023 TO 09:00 HOUR ON APRIL 25, 2023.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR

MAY 16, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : BAN AO UDOM  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \* , \*\* , \*\*\* , \*\*\*\*  
**SAMPLING TIME** : \* , \*\* , \*\*\* , \*\*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARIN TUMSA-AT  
**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034665  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0011 - T23AH698-0014

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT             |                     |                      |                       |
|------------------------------|-------------------|----------------------------------|--------------------|---------------------|----------------------|-----------------------|
|                              |                   |                                  | BAN AO UDOM        |                     |                      |                       |
|                              |                   |                                  | *<br>T23AH698-0011 | **<br>T23AH698-0012 | ***<br>T23AH698-0013 | ****<br>T23AH698-0014 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.059              | 0.048               | 0.042                | 0.041                 |
| PARTICULATE MATTER (≤ 10 μm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.031              | 0.035               | 0.029                | 0.023                 |
| <b>SAMPLE CONDITION</b>      |                   |                                  | COMPLETE           | COMPLETE            | COMPLETE             | COMPLETE              |

**REMARK**  
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 09:00 HOUR ON APRIL 25, 2023 TO 09:00 HOUR ON APRIL 26, 2023.  
\*\* : SAMPLING FROM 09:00 HOUR ON APRIL 26, 2023 TO 09:00 HOUR ON APRIL 27, 2023.  
\*\*\* : SAMPLING FROM 09:00 HOUR ON APRIL 27, 2023 TO 09:00 HOUR ON APRIL 28, 2023.  
\*\*\*\* : SAMPLING FROM 09:00 HOUR ON APRIL 28, 2023 TO 09:00 HOUR ON APRIL 29, 2023.

.....  
(Signature)  
LABORATORY SUPERVISOR

MAY 16, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : BAN AO UDOM  
**MEASURING TYPE** : AMBIENT (AIR)  
**MEASURING DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : CHEMILUMINESCENCE  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-29, 2023  
**ANALYTICAL DATE** : APRIL 22-29, 2023  
**REPORT NO.** : 2023-U033679  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0008 - T23AH698-0014

| TIME *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |
|                  | BAN AO UDOM                        |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0008 | APRIL 23-24, 2023<br>T23AH698-0009 | APRIL 24-25, 2023<br>T23AH698-0010 |
| 08:00-09:00 HOUR | 0.0218                             | 0.0224                             | 0.0208                             |
| 09:00-10:00 HOUR | 0.0225                             | 0.0229                             | 0.0227                             |
| 10:00-11:00 HOUR | 0.0226                             | 0.0224                             | 0.0224                             |
| 11:00-12:00 HOUR | 0.0223                             | 0.0229                             | 0.0224                             |
| 12:00-13:00 HOUR | 0.0217                             | 0.0223                             | 0.0218                             |
| 13:00-14:00 HOUR | 0.0222                             | 0.0221                             | 0.0219                             |
| 14:00-15:00 HOUR | 0.0231                             | 0.0226                             | 0.0225                             |
| 15:00-16:00 HOUR | 0.0221                             | 0.0229                             | 0.0224                             |
| 16:00-17:00 HOUR | 0.0231                             | 0.0217                             | 0.0226                             |
| 17:00-18:00 HOUR | 0.0222                             | 0.0226                             | 0.0222                             |
| 18:00-19:00 HOUR | 0.0223                             | 0.0220                             | 0.0218                             |
| 19:00-20:00 HOUR | 0.0210                             | 0.0207                             | 0.0222                             |
| 20:00-21:00 HOUR | 0.0209                             | 0.0203                             | 0.0230                             |
| 21:00-22:00 HOUR | 0.0210                             | 0.0209                             | 0.0225                             |
| 22:00-23:00 HOUR | 0.0217                             | 0.0197                             | 0.0195                             |
| 23:00-00:00 HOUR | 0.0197                             | 0.0195                             | 0.0211                             |
| 00:00-01:00 HOUR | 0.0201                             | 0.0195                             | 0.0193                             |
| 01:00-02:00 HOUR | 0.0202                             | 0.0207                             | 0.0201                             |
| 02:00-03:00 HOUR | 0.0197                             | 0.0208                             | 0.0196                             |
| 03:00-04:00 HOUR | 0.0202                             | 0.0200                             | 0.0198                             |
| 04:00-05:00 HOUR | 0.0215                             | 0.0211                             | 0.0218                             |
| 05:00-06:00 HOUR | 0.0214                             | 0.0210                             | 0.0214                             |
| 06:00-07:00 HOUR | 0.0199                             | 0.0204                             | 0.0202                             |
| 07:00-08:00 HOUR | 0.0215                             | 0.0194                             | 0.0218                             |



| TIME *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |                                    |
|                  | BAN AO UDOM                        |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0011 | APRIL 26-27, 2023<br>T23AH698-0012 | APRIL 27-28, 2023<br>T23AH698-0013 | APRIL 28-29, 2023<br>T23AH698-0014 |
| 08:00-09:00 HOUR | 0.0215                             | 0.0219                             | 0.0222                             | 0.0219                             |
| 09:00-10:00 HOUR | 0.0220                             | 0.0227                             | 0.0222                             | 0.0227                             |
| 10:00-11:00 HOUR | 0.0227                             | 0.0229                             | 0.0219                             | 0.0220                             |
| 11:00-12:00 HOUR | 0.0218                             | 0.0228                             | 0.0228                             | 0.0218                             |
| 12:00-13:00 HOUR | 0.0230                             | 0.0221                             | 0.0222                             | 0.0232                             |
| 13:00-14:00 HOUR | 0.0222                             | 0.0226                             | 0.0227                             | 0.0230                             |
| 14:00-15:00 HOUR | 0.0224                             | 0.0229                             | 0.0221                             | 0.0232                             |
| 15:00-16:00 HOUR | 0.0221                             | 0.0225                             | 0.0229                             | 0.0226                             |
| 16:00-17:00 HOUR | 0.0231                             | 0.0227                             | 0.0224                             | 0.0228                             |
| 17:00-18:00 HOUR | 0.0223                             | 0.0228                             | 0.0222                             | 0.0231                             |
| 18:00-19:00 HOUR | 0.0226                             | 0.0222                             | 0.0205                             | 0.0220                             |
| 19:00-20:00 HOUR | 0.0222                             | 0.0207                             | 0.0202                             | 0.0223                             |
| 20:00-21:00 HOUR | 0.0221                             | 0.0206                             | 0.0207                             | 0.0214                             |
| 21:00-22:00 HOUR | 0.0222                             | 0.0194                             | 0.0208                             | 0.0216                             |
| 22:00-23:00 HOUR | 0.0210                             | 0.0213                             | 0.0196                             | 0.0209                             |
| 23:00-00:00 HOUR | 0.0209                             | 0.0209                             | 0.0214                             | 0.0218                             |
| 00:00-01:00 HOUR | 0.0199                             | 0.0197                             | 0.0214                             | 0.0202                             |
| 01:00-02:00 HOUR | 0.0210                             | 0.0211                             | 0.0199                             | 0.0201                             |
| 02:00-03:00 HOUR | 0.0201                             | 0.0204                             | 0.0205                             | 0.0199                             |
| 03:00-04:00 HOUR | 0.0217                             | 0.0214                             | 0.0208                             | 0.0213                             |
| 04:00-05:00 HOUR | 0.0208                             | 0.0199                             | 0.0208                             | 0.0213                             |
| 05:00-06:00 HOUR | 0.0210                             | 0.0219                             | 0.0194                             | 0.0204                             |
| 06:00-07:00 HOUR | 0.0218                             | 0.0204                             | 0.0212                             | 0.0210                             |
| 07:00-08:00 HOUR | 0.0222                             | 0.0215                             | 0.0216                             | 0.0223                             |

(MR. SILA BANJONGJAIROK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : BAN AO UDOM  
**MEASURING TYPE** : AMBIENT (AIR) **RECEIVED DATE** : APRIL 22-29, 2023  
**MEASURING DATE** : APRIL 22-29, 2023 **ANALYTICAL DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \* **REPORT NO.** : 2023-U033685  
**MEASURING METHOD** : UV FLUORESCENCE **WORK NO.** : 2019-002022  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET **ANALYSIS NO.** : T23AH698-0008 - T23AH698-0014

| เวลา *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |
|                  | BAN AO UDOM                        |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0008 | APRIL 23-24, 2023<br>T23AH698-0009 | APRIL 24-25, 2023<br>T23AH698-0010 |
| 08:00-09:00 HOUR | 0.0032                             | 0.0032                             | 0.0032                             |
| 09:00-10:00 HOUR | 0.0035                             | 0.0034                             | 0.0033                             |
| 10:00-11:00 HOUR | 0.0035                             | 0.0033                             | 0.0034                             |
| 11:00-12:00 HOUR | 0.0034                             | 0.0033                             | 0.0032                             |
| 12:00-13:00 HOUR | 0.0034                             | 0.0034                             | 0.0034                             |
| 13:00-14:00 HOUR | 0.0033                             | 0.0035                             | 0.0033                             |
| 14:00-15:00 HOUR | 0.0032                             | 0.0033                             | 0.0035                             |
| 15:00-16:00 HOUR | 0.0033                             | 0.0033                             | 0.0032                             |
| 16:00-17:00 HOUR | 0.0031                             | 0.0034                             | 0.0033                             |
| 17:00-18:00 HOUR | 0.0030                             | 0.0033                             | 0.0032                             |
| 18:00-19:00 HOUR | 0.0029                             | 0.0032                             | 0.0031                             |
| 19:00-20:00 HOUR | 0.0026                             | 0.0030                             | 0.0030                             |
| 20:00-21:00 HOUR | 0.0027                             | 0.0029                             | 0.0029                             |
| 21:00-22:00 HOUR | 0.0026                             | 0.0026                             | 0.0027                             |
| 22:00-23:00 HOUR | 0.0026                             | 0.0029                             | 0.0028                             |
| 23:00-00:00 HOUR | 0.0030                             | 0.0028                             | 0.0029                             |
| 00:00-01:00 HOUR | 0.0028                             | 0.0030                             | 0.0026                             |
| 01:00-02:00 HOUR | 0.0026                             | 0.0028                             | 0.0028                             |
| 02:00-03:00 HOUR | 0.0026                             | 0.0026                             | 0.0027                             |
| 03:00-04:00 HOUR | 0.0029                             | 0.0029                             | 0.0028                             |
| 04:00-05:00 HOUR | 0.0026                             | 0.0027                             | 0.0030                             |
| 05:00-06:00 HOUR | 0.0028                             | 0.0028                             | 0.0029                             |
| 06:00-07:00 HOUR | 0.0029                             | 0.0030                             | 0.0028                             |
| 07:00-08:00 HOUR | 0.0031                             | 0.0031                             | 0.0030                             |
| AVERAGE 24 HOUR  | 0.0030                             | 0.0031                             | 0.0030                             |





| เวลา *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |                                    |
|                  | BAN AO UDOM                        |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0011 | APRIL 26-27, 2023<br>T23AH698-0012 | APRIL 27-28, 2023<br>T23AH698-0013 | APRIL 28-29, 2023<br>T23AH698-0014 |
| 08:00-09:00 HOUR | 0.0031                             | 0.0033                             | 0.0033                             | 0.0033                             |
| 09:00-10:00 HOUR | 0.0032                             | 0.0035                             | 0.0032                             | 0.0035                             |
| 10:00-11:00 HOUR | 0.0035                             | 0.0032                             | 0.0032                             | 0.0034                             |
| 11:00-12:00 HOUR | 0.0033                             | 0.0032                             | 0.0033                             | 0.0033                             |
| 12:00-13:00 HOUR | 0.0035                             | 0.0035                             | 0.0032                             | 0.0031                             |
| 13:00-14:00 HOUR | 0.0035                             | 0.0032                             | 0.0032                             | 0.0032                             |
| 14:00-15:00 HOUR | 0.0035                             | 0.0034                             | 0.0033                             | 0.0033                             |
| 15:00-16:00 HOUR | 0.0032                             | 0.0032                             | 0.0032                             | 0.0034                             |
| 16:00-17:00 HOUR | 0.0033                             | 0.0035                             | 0.0031                             | 0.0033                             |
| 17:00-18:00 HOUR | 0.0032                             | 0.0033                             | 0.0030                             | 0.0032                             |
| 18:00-19:00 HOUR | 0.0031                             | 0.0032                             | 0.0031                             | 0.0031                             |
| 19:00-20:00 HOUR | 0.0030                             | 0.0030                             | 0.0030                             | 0.0030                             |
| 20:00-21:00 HOUR | 0.0029                             | 0.0029                             | 0.0027                             | 0.0029                             |
| 21:00-22:00 HOUR | 0.0028                             | 0.0026                             | 0.0028                             | 0.0026                             |
| 22:00-23:00 HOUR | 0.0029                             | 0.0029                             | 0.0030                             | 0.0030                             |
| 23:00-00:00 HOUR | 0.0027                             | 0.0026                             | 0.0026                             | 0.0030                             |
| 00:00-01:00 HOUR | 0.0030                             | 0.0030                             | 0.0027                             | 0.0029                             |
| 01:00-02:00 HOUR | 0.0030                             | 0.0029                             | 0.0029                             | 0.0028                             |
| 02:00-03:00 HOUR | 0.0026                             | 0.0026                             | 0.0026                             | 0.0027                             |
| 03:00-04:00 HOUR | 0.0029                             | 0.0030                             | 0.0026                             | 0.0028                             |
| 04:00-05:00 HOUR | 0.0029                             | 0.0029                             | 0.0026                             | 0.0026                             |
| 05:00-06:00 HOUR | 0.0030                             | 0.0027                             | 0.0029                             | 0.0030                             |
| 06:00-07:00 HOUR | 0.0031                             | 0.0030                             | 0.0030                             | 0.0032                             |
| 07:00-08:00 HOUR | 0.0032                             | 0.0031                             | 0.0031                             | 0.0032                             |
| AVERAGE 24 HOUR  | 0.0031                             | 0.0031                             | 0.0030                             | 0.0031                             |

(MR SIDA BANJONGJAIKUN)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : LAM CHABANG PORT'S G  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \*, \*\*, \*\*\*  
**SAMPLING TIME** : \*, \*\*, \*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARIN TUMSA-AT  
**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034666  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0015 - T23AH698-0017

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT               |                     |                      |
|------------------------------|-------------------|----------------------------------|----------------------|---------------------|----------------------|
|                              |                   |                                  | LAM CHABANG PORT'S G |                     |                      |
|                              |                   |                                  | *<br>T23AH698-0015   | **<br>T23AH698-0016 | ***<br>T23AH698-0017 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.064                | 0.060               | 0.074                |
| PARTICULATE MATTER (≤ 10 µm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.037                | 0.027               | 0.031                |
| <b>SAMPLE CONDITION</b>      |                   |                                  | COMPLETE             | COMPLETE            | COMPLETE             |

### REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 09:30 HOUR ON APRIL 22, 2023 TO 09:30 HOUR ON APRIL 23, 2023.  
\*\* : SAMPLING FROM 09:30 HOUR ON APRIL 23, 2023 TO 09:30 HOUR ON APRIL 24, 2023.  
\*\*\* : SAMPLING FROM 09:30 HOUR ON APRIL 24, 2023 TO 09:30 HOUR ON APRIL 25, 2023.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR

MAY 16, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : LAM CHABANG PORT'S G  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \*, \*\*, \*\*\*, \*\*\*\*  
**SAMPLING TIME** : \*, \*\*, \*\*\*, \*\*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARI TUMSA-AT  
**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034667  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0018 - T23AH698-0021

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT               |               |               |               |
|------------------------------|-------------------|----------------------------------|----------------------|---------------|---------------|---------------|
|                              |                   |                                  | LAM CHABANG PORT'S G |               |               |               |
|                              |                   |                                  | *                    | **            | ***           | ****          |
|                              |                   |                                  | T23AH698-0018        | T23AH698-0019 | T23AH698-0020 | T23AH698-0021 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.103                | 0.053         | 0.083         | 0.061         |
| PARTICULATE MATTER (≤ 10 μm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.070                | 0.035         | 0.021         | 0.026         |
| <b>SAMPLE CONDITION</b>      |                   |                                  | COMPLETE             | COMPLETE      | COMPLETE      | COMPLETE      |

**REMARK**  
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 09:30 HOUR ON APRIL 25, 2023 TO 09:30 HOUR ON APRIL 26, 2023.  
\*\* : SAMPLING FROM 09:30 HOUR ON APRIL 26, 2023 TO 09:30 HOUR ON APRIL 27, 2023.  
\*\*\* : SAMPLING FROM 09:30 HOUR ON APRIL 27, 2023 TO 09:30 HOUR ON APRIL 28, 2023.  
\*\*\*\* : SAMPLING FROM 09:30 HOUR ON APRIL 28, 2023 TO 09:30 HOUR ON APRIL 29, 2023.

.....  
(MISS BUDSAKORN LERDPANOMAS)  
LABORATORY SUPERVISOR

MAY 16, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : LAM CHABANG PORT'S G  
**MEASURING TYPE** : AMBIENT (AIR) **RECEIVED DATE** : APRIL 22-29, 2023  
**MEASURING DATE** : APRIL 22-29, 2023 **ANALYTICAL DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \* **REPORT NO.** : 2023-U033680  
**MEASURING METHOD** : CHEMILUMINESCENCE **WORK NO.** : 2019-002022  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET **ANALYSIS NO.** : T23AH698-0015 - T23AH698-0021

| TIME *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |
|                  | LAM CHABANG PORT'S G               |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0015 | APRIL 23-24, 2023<br>T23AH698-0016 | APRIL 24-25, 2023<br>T23AH698-0017 |
| 08:00-09:00 HOUR | 0.0233                             | 0.0221                             | 0.0247                             |
| 09:00-10:00 HOUR | 0.0245                             | 0.0243                             | 0.0240                             |
| 10:00-11:00 HOUR | 0.0235                             | 0.0235                             | 0.0245                             |
| 11:00-12:00 HOUR | 0.0241                             | 0.0232                             | 0.0247                             |
| 12:00-13:00 HOUR | 0.0239                             | 0.0229                             | 0.0244                             |
| 13:00-14:00 HOUR | 0.0226                             | 0.0239                             | 0.0231                             |
| 14:00-15:00 HOUR | 0.0242                             | 0.0230                             | 0.0240                             |
| 15:00-16:00 HOUR | 0.0229                             | 0.0231                             | 0.0229                             |
| 16:00-17:00 HOUR | 0.0248                             | 0.0233                             | 0.0237                             |
| 17:00-18:00 HOUR | 0.0238                             | 0.0228                             | 0.0226                             |
| 18:00-19:00 HOUR | 0.0234                             | 0.0238                             | 0.0229                             |
| 19:00-20:00 HOUR | 0.0231                             | 0.0228                             | 0.0222                             |
| 20:00-21:00 HOUR | 0.0213                             | 0.0229                             | 0.0237                             |
| 21:00-22:00 HOUR | 0.0222                             | 0.0233                             | 0.0215                             |
| 22:00-23:00 HOUR | 0.0229                             | 0.0219                             | 0.0223                             |
| 23:00-00:00 HOUR | 0.0235                             | 0.0229                             | 0.0232                             |
| 00:00-01:00 HOUR | 0.0226                             | 0.0225                             | 0.0214                             |
| 01:00-02:00 HOUR | 0.0226                             | 0.0227                             | 0.0217                             |
| 02:00-03:00 HOUR | 0.0229                             | 0.0235                             | 0.0235                             |
| 03:00-04:00 HOUR | 0.0215                             | 0.0218                             | 0.0235                             |
| 04:00-05:00 HOUR | 0.0232                             | 0.0237                             | 0.0222                             |
| 05:00-06:00 HOUR | 0.0226                             | 0.0226                             | 0.0224                             |
| 06:00-07:00 HOUR | 0.0225                             | 0.0234                             | 0.0235                             |
| 07:00-08:00 HOUR | 0.0226                             | 0.0240                             | 0.0239                             |



| TIME *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |                                    |
|                  | LAM CHABANG PORT'S G               |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0018 | APRIL 26-27, 2023<br>T23AH698-0019 | APRIL 27-28, 2023<br>T23AH698-0020 | APRIL 28-29, 2023<br>T23AH698-0021 |
| 08:00-09:00 HOUR | 0.0247                             | 0.0229                             | 0.0230                             | 0.0242                             |
| 09:00-10:00 HOUR | 0.0236                             | 0.0235                             | 0.0231                             | 0.0245                             |
| 10:00-11:00 HOUR | 0.0229                             | 0.0237                             | 0.0228                             | 0.0243                             |
| 11:00-12:00 HOUR | 0.0231                             | 0.0238                             | 0.0245                             | 0.0249                             |
| 12:00-13:00 HOUR | 0.0250                             | 0.0234                             | 0.0237                             | 0.0250                             |
| 13:00-14:00 HOUR | 0.0244                             | 0.0236                             | 0.0229                             | 0.0229                             |
| 14:00-15:00 HOUR | 0.0248                             | 0.0254                             | 0.0249                             | 0.0246                             |
| 15:00-16:00 HOUR | 0.0229                             | 0.0230                             | 0.0245                             | 0.0227                             |
| 16:00-17:00 HOUR | 0.0225                             | 0.0248                             | 0.0250                             | 0.0253                             |
| 17:00-18:00 HOUR | 0.0230                             | 0.0235                             | 0.0224                             | 0.0230                             |
| 18:00-19:00 HOUR | 0.0245                             | 0.0241                             | 0.0236                             | 0.0224                             |
| 19:00-20:00 HOUR | 0.0243                             | 0.0235                             | 0.0228                             | 0.0232                             |
| 20:00-21:00 HOUR | 0.0238                             | 0.0245                             | 0.0229                             | 0.0229                             |
| 21:00-22:00 HOUR | 0.0229                             | 0.0238                             | 0.0236                             | 0.0220                             |
| 22:00-23:00 HOUR | 0.0224                             | 0.0225                             | 0.0215                             | 0.0237                             |
| 23:00-00:00 HOUR | 0.0224                             | 0.0226                             | 0.0230                             | 0.0223                             |
| 00:00-01:00 HOUR | 0.0215                             | 0.0228                             | 0.0221                             | 0.0212                             |
| 01:00-02:00 HOUR | 0.0223                             | 0.0223                             | 0.0218                             | 0.0228                             |
| 02:00-03:00 HOUR | 0.0223                             | 0.0216                             | 0.0225                             | 0.0232                             |
| 03:00-04:00 HOUR | 0.0231                             | 0.0221                             | 0.0227                             | 0.0222                             |
| 04:00-05:00 HOUR | 0.0234                             | 0.0228                             | 0.0234                             | 0.0234                             |
| 05:00-06:00 HOUR | 0.0233                             | 0.0229                             | 0.0238                             | 0.0222                             |
| 06:00-07:00 HOUR | 0.0231                             | 0.0216                             | 0.0241                             | 0.0234                             |
| 07:00-08:00 HOUR | 0.0230                             | 0.0228                             | 0.0234                             | 0.0240                             |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : LAM CHABANG PORT'S G  
**MEASURING TYPE** : AMBIENT (AIR) **RECEIVED DATE** : APRIL 22-29, 2023  
**MEASURING DATE** : APRIL 22-29, 2023 **ANALYTICAL DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \* **REPORT NO.** : 2023-U033686  
**MEASURING METHOD** : UV FLUORESCENCE **WORK NO.** : 2019-002022  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET **ANALYSIS NO.** : T23AH698-0015 - T23AH698-0021

| เวลา *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |
|                  | LAM CHABANG PORT'S G               |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0015 | APRIL 23-24, 2023<br>T23AH698-0016 | APRIL 24-25, 2023<br>T23AH698-0017 |
| 08:00-09:00 HOUR | 0.0030                             | 0.0028                             | 0.0029                             |
| 09:00-10:00 HOUR | 0.0031                             | 0.0031                             | 0.0031                             |
| 10:00-11:00 HOUR | 0.0030                             | 0.0033                             | 0.0033                             |
| 11:00-12:00 HOUR | 0.0033                             | 0.0033                             | 0.0030                             |
| 12:00-13:00 HOUR | 0.0033                             | 0.0032                             | 0.0032                             |
| 13:00-14:00 HOUR | 0.0030                             | 0.0030                             | 0.0034                             |
| 14:00-15:00 HOUR | 0.0033                             | 0.0031                             | 0.0030                             |
| 15:00-16:00 HOUR | 0.0031                             | 0.0033                             | 0.0034                             |
| 16:00-17:00 HOUR | 0.0028                             | 0.0034                             | 0.0032                             |
| 17:00-18:00 HOUR | 0.0029                             | 0.0033                             | 0.0034                             |
| 18:00-19:00 HOUR | 0.0026                             | 0.0030                             | 0.0031                             |
| 19:00-20:00 HOUR | 0.0029                             | 0.0029                             | 0.0025                             |
| 20:00-21:00 HOUR | 0.0025                             | 0.0028                             | 0.0026                             |
| 21:00-22:00 HOUR | 0.0028                             | 0.0027                             | 0.0029                             |
| 22:00-23:00 HOUR | 0.0025                             | 0.0026                             | 0.0029                             |
| 23:00-00:00 HOUR | 0.0026                             | 0.0027                             | 0.0027                             |
| 00:00-01:00 HOUR | 0.0027                             | 0.0029                             | 0.0028                             |
| 01:00-02:00 HOUR | 0.0025                             | 0.0029                             | 0.0026                             |
| 02:00-03:00 HOUR | 0.0025                             | 0.0026                             | 0.0027                             |
| 03:00-04:00 HOUR | 0.0026                             | 0.0029                             | 0.0027                             |
| 04:00-05:00 HOUR | 0.0025                             | 0.0027                             | 0.0029                             |
| 05:00-06:00 HOUR | 0.0027                             | 0.0028                             | 0.0029                             |
| 06:00-07:00 HOUR | 0.0025                             | 0.0028                             | 0.0025                             |
| 07:00-08:00 HOUR | 0.0026                             | 0.0026                             | 0.0027                             |
| AVERAGE 24 HOUR  | 0.0028                             | 0.0029                             | 0.0029                             |





| เวลา *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |                                    |
|                  | LAM CHABANG PORT'S G               |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0018 | APRIL 26-27, 2023<br>T23AH698-0019 | APRIL 27-28, 2023<br>T23AH698-0020 | APRIL 28-29, 2023<br>T23AH698-0021 |
| 08:00-09:00 HOUR | 0.0028                             | 0.0031                             | 0.0029                             | 0.0030                             |
| 09:00-10:00 HOUR | 0.0030                             | 0.0033                             | 0.0031                             | 0.0031                             |
| 10:00-11:00 HOUR | 0.0031                             | 0.0030                             | 0.0034                             | 0.0032                             |
| 11:00-12:00 HOUR | 0.0031                             | 0.0032                             | 0.0031                             | 0.0032                             |
| 12:00-13:00 HOUR | 0.0033                             | 0.0033                             | 0.0032                             | 0.0032                             |
| 13:00-14:00 HOUR | 0.0032                             | 0.0031                             | 0.0031                             | 0.0030                             |
| 14:00-15:00 HOUR | 0.0030                             | 0.0034                             | 0.0034                             | 0.0034                             |
| 15:00-16:00 HOUR | 0.0031                             | 0.0032                             | 0.0032                             | 0.0030                             |
| 16:00-17:00 HOUR | 0.0032                             | 0.0032                             | 0.0031                             | 0.0029                             |
| 17:00-18:00 HOUR | 0.0032                             | 0.0033                             | 0.0030                             | 0.0027                             |
| 18:00-19:00 HOUR | 0.0030                             | 0.0031                             | 0.0031                             | 0.0026                             |
| 19:00-20:00 HOUR | 0.0029                             | 0.0030                             | 0.0031                             | 0.0025                             |
| 20:00-21:00 HOUR | 0.0028                             | 0.0028                             | 0.0034                             | 0.0025                             |
| 21:00-22:00 HOUR | 0.0028                             | 0.0027                             | 0.0030                             | 0.0027                             |
| 22:00-23:00 HOUR | 0.0029                             | 0.0027                             | 0.0028                             | 0.0028                             |
| 23:00-00:00 HOUR | 0.0028                             | 0.0028                             | 0.0026                             | 0.0029                             |
| 00:00-01:00 HOUR | 0.0029                             | 0.0025                             | 0.0025                             | 0.0027                             |
| 01:00-02:00 HOUR | 0.0025                             | 0.0027                             | 0.0029                             | 0.0026                             |
| 02:00-03:00 HOUR | 0.0028                             | 0.0026                             | 0.0025                             | 0.0025                             |
| 03:00-04:00 HOUR | 0.0029                             | 0.0025                             | 0.0029                             | 0.0027                             |
| 04:00-05:00 HOUR | 0.0025                             | 0.0025                             | 0.0026                             | 0.0028                             |
| 05:00-06:00 HOUR | 0.0025                             | 0.0026                             | 0.0026                             | 0.0027                             |
| 06:00-07:00 HOUR | 0.0029                             | 0.0027                             | 0.0027                             | 0.0028                             |
| 07:00-08:00 HOUR | 0.0030                             | 0.0028                             | 0.0029                             | 0.0029                             |
| AVERAGE 24 HOUR  | 0.0029                             | 0.0029                             | 0.0030                             | 0.0029                             |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : K.U.STATION  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \*, \*\*, \*\*\*  
**SAMPLING TIME** : \*, \*\*, \*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARIN TUMSA-AT  
**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034668  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0022 - T23AH698-0024

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT             |                     |                      |
|------------------------------|-------------------|----------------------------------|--------------------|---------------------|----------------------|
|                              |                   |                                  | K.U.STATION        |                     |                      |
|                              |                   |                                  | *<br>T23AH698-0022 | **<br>T23AH698-0023 | ***<br>T23AH698-0024 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.087              | 0.045               | 0.060                |
| PARTICULATE MATTER (≤ 10 μm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.059              | 0.028               | 0.031                |
| <b>SAMPLE CONDITION</b>      |                   |                                  | COMPLETE           | COMPLETE            | COMPLETE             |

### REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 08:30 HOUR ON APRIL 22, 2023 TO 08:30 HOUR ON APRIL 23, 2023.  
\*\* : SAMPLING FROM 08:30 HOUR ON APRIL 23, 2023 TO 08:30 HOUR ON APRIL 24, 2023.  
\*\*\* : SAMPLING FROM 08:30 HOUR ON APRIL 24, 2023 TO 08:30 HOUR ON APRIL 25, 2023.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR

MAY 16, 2023





## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : K.U.STATION  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \*, \*\*, \*\*\*, \*\*\*\*  
**SAMPLING TIME** : \*, \*\*, \*\*\*, \*\*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARIN TUMSA-AT

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034669  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0025 - T23AH698-0028

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT        |               |               |               |
|------------------------------|-------------------|----------------------------------|---------------|---------------|---------------|---------------|
|                              |                   |                                  | K.U.STATION   |               |               |               |
|                              |                   |                                  | *             | **            | ***           | ****          |
|                              |                   |                                  | T23AH698-0025 | T23AH698-0026 | T23AH698-0027 | T23AH698-0028 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.110         | 0.069         | 0.060         | 0.053         |
| PARTICULATE MATTER (≤ 10 μm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.028         | 0.030         | 0.026         | 0.028         |
| SAMPLE CONDITION             |                   |                                  | COMPLETE      | COMPLETE      | COMPLETE      | COMPLETE      |

**REMARK**  
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 08:30 HOUR ON APRIL 25, 2023 TO 08:30 HOUR ON APRIL 26, 2023.  
\*\* : SAMPLING FROM 08:30 HOUR ON APRIL 26, 2023 TO 08:30 HOUR ON APRIL 27, 2023.  
\*\*\* : SAMPLING FROM 08:30 HOUR ON APRIL 27, 2023 TO 08:30 HOUR ON APRIL 28, 2023.  
\*\*\*\* : SAMPLING FROM 08:30 HOUR ON APRIL 28, 2023 TO 08:30 HOUR ON APRIL 29, 2023.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR

MAY 16, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : K.U.STATION  
**MEASURING TYPE** : AMBIENT (AIR) **RECEIVED DATE** : APRIL 22-29, 2023  
**MEASURING DATE** : APRIL 22-29, 2023 **ANALYTICAL DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \* **REPORT NO.** : 2023-U033682  
**MEASURING METHOD** : CHEMILUMINESCENCE **WORK NO.** : 2019-002022  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET **ANALYSIS NO.** : T23AH698-0022 - T23AH698-0028

| TIME *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |
|                  | K.U.STATION                        |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0022 | APRIL 23-24, 2023<br>T23AH698-0023 | APRIL 24-25, 2023<br>T23AH698-0024 |
| 08:00-09:00 HOUR | 0.0212                             | 0.0187                             | 0.0199                             |
| 09:00-10:00 HOUR | 0.0200                             | 0.0185                             | 0.0214                             |
| 10:00-11:00 HOUR | 0.0207                             | 0.0211                             | 0.0187                             |
| 11:00-12:00 HOUR | 0.0186                             | 0.0205                             | 0.0190                             |
| 12:00-13:00 HOUR | 0.0195                             | 0.0211                             | 0.0192                             |
| 13:00-14:00 HOUR | 0.0184                             | 0.0206                             | 0.0191                             |
| 14:00-15:00 HOUR | 0.0198                             | 0.0184                             | 0.0216                             |
| 15:00-16:00 HOUR | 0.0209                             | 0.0188                             | 0.0192                             |
| 16:00-17:00 HOUR | 0.0203                             | 0.0192                             | 0.0208                             |
| 17:00-18:00 HOUR | 0.0201                             | 0.0201                             | 0.0206                             |
| 18:00-19:00 HOUR | 0.0217                             | 0.0199                             | 0.0202                             |
| 19:00-20:00 HOUR | 0.0201                             | 0.0208                             | 0.0200                             |
| 20:00-21:00 HOUR | 0.0205                             | 0.0187                             | 0.0191                             |
| 21:00-22:00 HOUR | 0.0211                             | 0.0189                             | 0.0198                             |
| 22:00-23:00 HOUR | 0.0191                             | 0.0203                             | 0.0208                             |
| 23:00-00:00 HOUR | 0.0181                             | 0.0195                             | 0.0211                             |
| 00:00-01:00 HOUR | 0.0209                             | 0.0204                             | 0.0204                             |
| 01:00-02:00 HOUR | 0.0205                             | 0.0178                             | 0.0206                             |
| 02:00-03:00 HOUR | 0.0192                             | 0.0199                             | 0.0182                             |
| 03:00-04:00 HOUR | 0.0190                             | 0.0206                             | 0.0202                             |
| 04:00-05:00 HOUR | 0.0187                             | 0.0209                             | 0.0181                             |
| 05:00-06:00 HOUR | 0.0195                             | 0.0178                             | 0.0196                             |
| 06:00-07:00 HOUR | 0.0185                             | 0.0189                             | 0.0208                             |
| 07:00-08:00 HOUR | 0.0203                             | 0.0207                             | 0.0200                             |



| TIME *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |                                    |
|                  | K.U.STATION                        |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0025 | APRIL 26-27, 2023<br>T23AH698-0026 | APRIL 27-28, 2023<br>T23AH698-0027 | APRIL 28-29, 2023<br>T23AH698-0028 |
| 08:00-09:00 HOUR | 0.0209                             | 0.0204                             | 0.0211                             | 0.0197                             |
| 09:00-10:00 HOUR | 0.0185                             | 0.0203                             | 0.0206                             | 0.0188                             |
| 10:00-11:00 HOUR | 0.0201                             | 0.0208                             | 0.0204                             | 0.0182                             |
| 11:00-12:00 HOUR | 0.0210                             | 0.0188                             | 0.0191                             | 0.0206                             |
| 12:00-13:00 HOUR | 0.0212                             | 0.0201                             | 0.0200                             | 0.0188                             |
| 13:00-14:00 HOUR | 0.0197                             | 0.0189                             | 0.0192                             | 0.0197                             |
| 14:00-15:00 HOUR | 0.0202                             | 0.0197                             | 0.0191                             | 0.0214                             |
| 15:00-16:00 HOUR | 0.0210                             | 0.0187                             | 0.0194                             | 0.0192                             |
| 16:00-17:00 HOUR | 0.0190                             | 0.0190                             | 0.0199                             | 0.0203                             |
| 17:00-18:00 HOUR | 0.0197                             | 0.0188                             | 0.0194                             | 0.0206                             |
| 18:00-19:00 HOUR | 0.0201                             | 0.0207                             | 0.0206                             | 0.0205                             |
| 19:00-20:00 HOUR | 0.0189                             | 0.0190                             | 0.0204                             | 0.0188                             |
| 20:00-21:00 HOUR | 0.0201                             | 0.0191                             | 0.0210                             | 0.0196                             |
| 21:00-22:00 HOUR | 0.0185                             | 0.0184                             | 0.0202                             | 0.0211                             |
| 22:00-23:00 HOUR | 0.0194                             | 0.0198                             | 0.0211                             | 0.0186                             |
| 23:00-00:00 HOUR | 0.0194                             | 0.0209                             | 0.0190                             | 0.0181                             |
| 00:00-01:00 HOUR | 0.0196                             | 0.0193                             | 0.0218                             | 0.0186                             |
| 01:00-02:00 HOUR | 0.0200                             | 0.0190                             | 0.0187                             | 0.0212                             |
| 02:00-03:00 HOUR | 0.0182                             | 0.0196                             | 0.0201                             | 0.0192                             |
| 03:00-04:00 HOUR | 0.0198                             | 0.0203                             | 0.0194                             | 0.0205                             |
| 04:00-05:00 HOUR | 0.0196                             | 0.0207                             | 0.0204                             | 0.0192                             |
| 05:00-06:00 HOUR | 0.0203                             | 0.0202                             | 0.0190                             | 0.0185                             |
| 06:00-07:00 HOUR | 0.0205                             | 0.0203                             | 0.0208                             | 0.0203                             |
| 07:00-08:00 HOUR | 0.0197                             | 0.0182                             | 0.0180                             | 0.0218                             |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : K.U.STATION  
**MEASURING TYPE** : AMBIENT (AIR) **RECEIVED DATE** : APRIL 22-29, 2023  
**MEASURING DATE** : APRIL 22-29, 2023 **ANALYTICAL DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \* **REPORT NO.** : 2023-U033687  
**MEASURING METHOD** : UV FLUORESCENCE **WORK NO.** : 2019-002022  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET **ANALYSIS NO.** : T23AH698-0022 - T23AH698-0028

| เวลา *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |
|                  | K.U.STATION                        |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0022 | APRIL 23-24, 2023<br>T23AH698-0023 | APRIL 24-25, 2023<br>T23AH698-0024 |
| 08:00-09:00 HOUR | 0.0024                             | 0.0024                             | 0.0024                             |
| 09:00-10:00 HOUR | 0.0024                             | 0.0024                             | 0.0026                             |
| 10:00-11:00 HOUR | 0.0026                             | 0.0024                             | 0.0025                             |
| 11:00-12:00 HOUR | 0.0025                             | 0.0025                             | 0.0024                             |
| 12:00-13:00 HOUR | 0.0026                             | 0.0026                             | 0.0025                             |
| 13:00-14:00 HOUR | 0.0025                             | 0.0025                             | 0.0025                             |
| 14:00-15:00 HOUR | 0.0024                             | 0.0025                             | 0.0025                             |
| 15:00-16:00 HOUR | 0.0026                             | 0.0025                             | 0.0024                             |
| 16:00-17:00 HOUR | 0.0026                             | 0.0024                             | 0.0026                             |
| 17:00-18:00 HOUR | 0.0025                             | 0.0024                             | 0.0026                             |
| 18:00-19:00 HOUR | 0.0026                             | 0.0025                             | 0.0025                             |
| 19:00-20:00 HOUR | 0.0024                             | 0.0026                             | 0.0025                             |
| 20:00-21:00 HOUR | 0.0026                             | 0.0026                             | 0.0024                             |
| 21:00-22:00 HOUR | 0.0026                             | 0.0025                             | 0.0026                             |
| 22:00-23:00 HOUR | 0.0025                             | 0.0024                             | 0.0024                             |
| 23:00-00:00 HOUR | 0.0025                             | 0.0024                             | 0.0025                             |
| 00:00-01:00 HOUR | 0.0024                             | 0.0025                             | 0.0025                             |
| 01:00-02:00 HOUR | 0.0024                             | 0.0024                             | 0.0026                             |
| 02:00-03:00 HOUR | 0.0025                             | 0.0025                             | 0.0024                             |
| 03:00-04:00 HOUR | 0.0026                             | 0.0024                             | 0.0025                             |
| 04:00-05:00 HOUR | 0.0024                             | 0.0025                             | 0.0024                             |
| 05:00-06:00 HOUR | 0.0025                             | 0.0026                             | 0.0025                             |
| 06:00-07:00 HOUR | 0.0024                             | 0.0025                             | 0.0025                             |
| 07:00-08:00 HOUR | 0.0026                             | 0.0024                             | 0.0025                             |
| AVERAGE 24 HOUR  | 0.0025                             | 0.0025                             | 0.0025                             |



| เวลา *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |                                    |
|                  | K.U.STATION                        |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0025 | APRIL 26-27, 2023<br>T23AH698-0026 | APRIL 27-28, 2023<br>T23AH698-0027 | APRIL 28-29, 2023<br>T23AH698-0028 |
| 08:00-09:00 HOUR | 0.0026                             | 0.0025                             | 0.0026                             | 0.0025                             |
| 09:00-10:00 HOUR | 0.0025                             | 0.0026                             | 0.0024                             | 0.0024                             |
| 10:00-11:00 HOUR | 0.0024                             | 0.0026                             | 0.0024                             | 0.0025                             |
| 11:00-12:00 HOUR | 0.0026                             | 0.0024                             | 0.0026                             | 0.0026                             |
| 12:00-13:00 HOUR | 0.0026                             | 0.0026                             | 0.0026                             | 0.0026                             |
| 13:00-14:00 HOUR | 0.0025                             | 0.0025                             | 0.0024                             | 0.0025                             |
| 14:00-15:00 HOUR | 0.0025                             | 0.0026                             | 0.0025                             | 0.0026                             |
| 15:00-16:00 HOUR | 0.0026                             | 0.0026                             | 0.0026                             | 0.0025                             |
| 16:00-17:00 HOUR | 0.0024                             | 0.0026                             | 0.0025                             | 0.0024                             |
| 17:00-18:00 HOUR | 0.0024                             | 0.0026                             | 0.0024                             | 0.0024                             |
| 18:00-19:00 HOUR | 0.0025                             | 0.0025                             | 0.0026                             | 0.0026                             |
| 19:00-20:00 HOUR | 0.0025                             | 0.0026                             | 0.0026                             | 0.0025                             |
| 20:00-21:00 HOUR | 0.0025                             | 0.0026                             | 0.0025                             | 0.0025                             |
| 21:00-22:00 HOUR | 0.0026                             | 0.0024                             | 0.0026                             | 0.0024                             |
| 22:00-23:00 HOUR | 0.0025                             | 0.0026                             | 0.0026                             | 0.0024                             |
| 23:00-00:00 HOUR | 0.0026                             | 0.0024                             | 0.0024                             | 0.0026                             |
| 00:00-01:00 HOUR | 0.0025                             | 0.0024                             | 0.0024                             | 0.0025                             |
| 01:00-02:00 HOUR | 0.0026                             | 0.0025                             | 0.0025                             | 0.0025                             |
| 02:00-03:00 HOUR | 0.0024                             | 0.0026                             | 0.0026                             | 0.0026                             |
| 03:00-04:00 HOUR | 0.0025                             | 0.0024                             | 0.0024                             | 0.0026                             |
| 04:00-05:00 HOUR | 0.0026                             | 0.0026                             | 0.0024                             | 0.0024                             |
| 05:00-06:00 HOUR | 0.0026                             | 0.0026                             | 0.0025                             | 0.0025                             |
| 06:00-07:00 HOUR | 0.0025                             | 0.0025                             | 0.0025                             | 0.0025                             |
| 07:00-08:00 HOUR | 0.0025                             | 0.0026                             | 0.0024                             | 0.0026                             |
| AVERAGE 24 HOUR  | 0.0025                             | 0.0025                             | 0.0025                             | 0.0025                             |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : REFINERY GATE  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \*, \*\*, \*\*\*  
**SAMPLING TIME** : \*, \*\*, \*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARIN TUMSA-AT  
**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034656  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0001 - T23AH698-0003

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT             |                     |                      |
|------------------------------|-------------------|----------------------------------|--------------------|---------------------|----------------------|
|                              |                   |                                  | REFINERY GATE      |                     |                      |
|                              |                   |                                  | *<br>T23AH698-0001 | **<br>T23AH698-0002 | ***<br>T23AH698-0003 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.071              | 0.057               | 0.102                |
| PARTICULATE MATTER (≤ 10 μm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.047              | 0.032               | 0.046                |
| <b>SAMPLE CONDITION</b>      |                   |                                  | COMPLETE           | COMPLETE            | COMPLETE             |

### REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 10:00 HOUR ON APRIL 22, 2023 TO 10:00 HOUR ON APRIL 23, 2023.  
\*\* : SAMPLING FROM 10:00 HOUR ON APRIL 23, 2023 TO 10:00 HOUR ON APRIL 24, 2023.  
\*\*\* : SAMPLING FROM 10:00 HOUR ON APRIL 24, 2023 TO 10:00 HOUR ON APRIL 25, 2023.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR

MAY 16, 2023





## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : REFINERY GATE  
**SAMPLE TYPE** : AMBIENT  
**SAMPLING DATE** : \*, \*\*, \*\*\*, \*\*\*\*  
**SAMPLING TIME** : \*, \*\*, \*\*\*, \*\*\*\*  
**SAMPLING BY** : MR SIRAPAT JONGPHADUNGKIET  
**ANALYZED BY** : MISS JETJARI TUMSA-AT  
**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U034663  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0004 - T23AH698-0007

| PARAMETER                    | UNIT              | METHOD OF ANALYSIS               | RESULT        |               |               |               |
|------------------------------|-------------------|----------------------------------|---------------|---------------|---------------|---------------|
|                              |                   |                                  | REFINERY GATE |               |               |               |
|                              |                   |                                  | *             | **            | ***           | ****          |
|                              |                   |                                  | T23AH698-0004 | T23AH698-0005 | T23AH698-0006 | T23AH698-0007 |
| TOTAL SUSPENDED PARTICULATE  | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.094         | 0.099         | 0.066         | 0.047         |
| PARTICULATE MATTER (≤ 10 µm) | mg/m <sup>3</sup> | GRAVIMETRIC (HIGH VOLUME METHOD) | 0.042         | 0.049         | 0.035         | 0.029         |
| SAMPLE CONDITION             |                   |                                  | COMPLETE      | COMPLETE      | COMPLETE      | COMPLETE      |

**REMARK**  
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.  
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.  
\* : SAMPLING FROM 10:00 HOUR ON APRIL 25, 2023 TO 10:00 HOUR ON APRIL 26, 2023.  
\*\* : SAMPLING FROM 10:00 HOUR ON APRIL 26, 2023 TO 10:00 HOUR ON APRIL 27, 2023.  
\*\*\* : SAMPLING FROM 10:00 HOUR ON APRIL 27, 2023 TO 10:00 HOUR ON APRIL 28, 2023.  
\*\*\*\* : SAMPLING FROM 10:00 HOUR ON APRIL 28, 2023 TO 10:00 HOUR ON APRIL 29, 2023.

.....  
(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR

MAY 16, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : REFINERY GATE  
**MEASURING TYPE** : AMBIENT (AIR)  
**MEASURING DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : CHEMILUMINESCENCE  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-29, 2023  
**ANALYTICAL DATE** : APRIL 22-29, 2023  
**REPORT NO.** : 2023-U033665  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0001 - T23AH698-0007

| TIME *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |
|                  | REFINERY GATE                      |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0001 | APRIL 23-24, 2023<br>T23AH698-0002 | APRIL 24-25, 2023<br>T23AH698-0003 |
| 08:00-09:00 HOUR | 0.0227                             | 0.0239                             | 0.0228                             |
| 09:00-10:00 HOUR | 0.0239                             | 0.0228                             | 0.0219                             |
| 10:00-11:00 HOUR | 0.0235                             | 0.0242                             | 0.0223                             |
| 11:00-12:00 HOUR | 0.0235                             | 0.0237                             | 0.0240                             |
| 12:00-13:00 HOUR | 0.0244                             | 0.0222                             | 0.0241                             |
| 13:00-14:00 HOUR | 0.0241                             | 0.0224                             | 0.0234                             |
| 14:00-15:00 HOUR | 0.0232                             | 0.0225                             | 0.0228                             |
| 15:00-16:00 HOUR | 0.0224                             | 0.0239                             | 0.0221                             |
| 16:00-17:00 HOUR | 0.0240                             | 0.0241                             | 0.0230                             |
| 17:00-18:00 HOUR | 0.0227                             | 0.0239                             | 0.0218                             |
| 18:00-19:00 HOUR | 0.0234                             | 0.0232                             | 0.0214                             |
| 19:00-20:00 HOUR | 0.0221                             | 0.0243                             | 0.0219                             |
| 20:00-21:00 HOUR | 0.0224                             | 0.0220                             | 0.0206                             |
| 21:00-22:00 HOUR | 0.0210                             | 0.0228                             | 0.0221                             |
| 22:00-23:00 HOUR | 0.0211                             | 0.0213                             | 0.0199                             |
| 23:00-00:00 HOUR | 0.0214                             | 0.0210                             | 0.0209                             |
| 00:00-01:00 HOUR | 0.0213                             | 0.0219                             | 0.0208                             |
| 01:00-02:00 HOUR | 0.0217                             | 0.0210                             | 0.0213                             |
| 02:00-03:00 HOUR | 0.0207                             | 0.0217                             | 0.0201                             |
| 03:00-04:00 HOUR | 0.0213                             | 0.0216                             | 0.0208                             |
| 04:00-05:00 HOUR | 0.0212                             | 0.0209                             | 0.0222                             |
| 05:00-06:00 HOUR | 0.0218                             | 0.0219                             | 0.0210                             |
| 06:00-07:00 HOUR | 0.0232                             | 0.0220                             | 0.0212                             |
| 07:00-08:00 HOUR | 0.0234                             | 0.0240                             | 0.0217                             |





| TIME *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | NITROGEN DIOXIDE                   |                                    |                                    |                                    |
|                  | REFINERY GATE                      |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0004 | APRIL 26-27, 2023<br>T23AH698-0005 | APRIL 27-28, 2023<br>T23AH698-0006 | APRIL 28-29, 2023<br>T23AH698-0007 |
| 08:00-09:00 HOUR | 0.0219                             | 0.0247                             | 0.0210                             | 0.0239                             |
| 09:00-10:00 HOUR | 0.0235                             | 0.0234                             | 0.0218                             | 0.0236                             |
| 10:00-11:00 HOUR | 0.0238                             | 0.0221                             | 0.0226                             | 0.0239                             |
| 11:00-12:00 HOUR | 0.0230                             | 0.0227                             | 0.0227                             | 0.0237                             |
| 12:00-13:00 HOUR | 0.0239                             | 0.0219                             | 0.0237                             | 0.0237                             |
| 13:00-14:00 HOUR | 0.0221                             | 0.0233                             | 0.0229                             | 0.0241                             |
| 14:00-15:00 HOUR | 0.0223                             | 0.0237                             | 0.0233                             | 0.0235                             |
| 15:00-16:00 HOUR | 0.0237                             | 0.0232                             | 0.0226                             | 0.0217                             |
| 16:00-17:00 HOUR | 0.0228                             | 0.0221                             | 0.0218                             | 0.0233                             |
| 17:00-18:00 HOUR | 0.0225                             | 0.0223                             | 0.0231                             | 0.0228                             |
| 18:00-19:00 HOUR | 0.0226                             | 0.0200                             | 0.0239                             | 0.0233                             |
| 19:00-20:00 HOUR | 0.0236                             | 0.0200                             | 0.0234                             | 0.0236                             |
| 20:00-21:00 HOUR | 0.0237                             | 0.0201                             | 0.0227                             | 0.0219                             |
| 21:00-22:00 HOUR | 0.0231                             | 0.0199                             | 0.0219                             | 0.0212                             |
| 22:00-23:00 HOUR | 0.0223                             | 0.0217                             | 0.0219                             | 0.0204                             |
| 23:00-00:00 HOUR | 0.0215                             | 0.0213                             | 0.0217                             | 0.0209                             |
| 00:00-01:00 HOUR | 0.0206                             | 0.0206                             | 0.0209                             | 0.0203                             |
| 01:00-02:00 HOUR | 0.0211                             | 0.0203                             | 0.0205                             | 0.0217                             |
| 02:00-03:00 HOUR | 0.0202                             | 0.0202                             | 0.0201                             | 0.0203                             |
| 03:00-04:00 HOUR | 0.0205                             | 0.0214                             | 0.0197                             | 0.0203                             |
| 04:00-05:00 HOUR | 0.0214                             | 0.0208                             | 0.0217                             | 0.0221                             |
| 05:00-06:00 HOUR | 0.0211                             | 0.0207                             | 0.0218                             | 0.0219                             |
| 06:00-07:00 HOUR | 0.0219                             | 0.0197                             | 0.0226                             | 0.0217                             |
| 07:00-08:00 HOUR | 0.0224                             | 0.0211                             | 0.0247                             | 0.0213                             |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : REFINERY GATE  
**MEASURING TYPE** : AMBIENT (AIR) **RECEIVED DATE** : APRIL 22-29, 2023  
**MEASURING DATE** : APRIL 22-29, 2023 **ANALYTICAL DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \* **REPORT NO.** : 2023-U033683  
**MEASURING METHOD** : UV FLUORESCENCE **WORK NO.** : 2019-002022  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET **ANALYSIS NO.** : T23AH698-0001 - T23AH698-0007

| เวลา *           | RESULT (ppm)                       |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |
|                  | REFINERY GATE                      |                                    |                                    |
|                  | APRIL 22-23, 2023<br>T23AH698-0001 | APRIL 23-24, 2023<br>T23AH698-0002 | APRIL 24-25, 2023<br>T23AH698-0003 |
| 08:00-09:00 HOUR | 0.0043                             | 0.0039                             | 0.0042                             |
| 09:00-10:00 HOUR | 0.0042                             | 0.0043                             | 0.0039                             |
| 10:00-11:00 HOUR | 0.0042                             | 0.0039                             | 0.0041                             |
| 11:00-12:00 HOUR | 0.0038                             | 0.0043                             | 0.0040                             |
| 12:00-13:00 HOUR | 0.0040                             | 0.0041                             | 0.0041                             |
| 13:00-14:00 HOUR | 0.0040                             | 0.0043                             | 0.0040                             |
| 14:00-15:00 HOUR | 0.0040                             | 0.0042                             | 0.0039                             |
| 15:00-16:00 HOUR | 0.0038                             | 0.0040                             | 0.0042                             |
| 16:00-17:00 HOUR | 0.0038                             | 0.0039                             | 0.0042                             |
| 17:00-18:00 HOUR | 0.0042                             | 0.0038                             | 0.0041                             |
| 18:00-19:00 HOUR | 0.0043                             | 0.0041                             | 0.0043                             |
| 19:00-20:00 HOUR | 0.0040                             | 0.0043                             | 0.0039                             |
| 20:00-21:00 HOUR | 0.0038                             | 0.0039                             | 0.0038                             |
| 21:00-22:00 HOUR | 0.0033                             | 0.0035                             | 0.0037                             |
| 22:00-23:00 HOUR | 0.0035                             | 0.0034                             | 0.0035                             |
| 23:00-00:00 HOUR | 0.0038                             | 0.0032                             | 0.0039                             |
| 00:00-01:00 HOUR | 0.0036                             | 0.0036                             | 0.0036                             |
| 01:00-02:00 HOUR | 0.0039                             | 0.0033                             | 0.0038                             |
| 02:00-03:00 HOUR | 0.0036                             | 0.0033                             | 0.0038                             |
| 03:00-04:00 HOUR | 0.0038                             | 0.0032                             | 0.0035                             |
| 04:00-05:00 HOUR | 0.0037                             | 0.0038                             | 0.0033                             |
| 05:00-06:00 HOUR | 0.0033                             | 0.0038                             | 0.0034                             |
| 06:00-07:00 HOUR | 0.0035                             | 0.0039                             | 0.0037                             |
| 07:00-08:00 HOUR | 0.0038                             | 0.0040                             | 0.0039                             |
| AVERAGE 24 HOUR  | 0.0038                             | 0.0038                             | 0.0039                             |



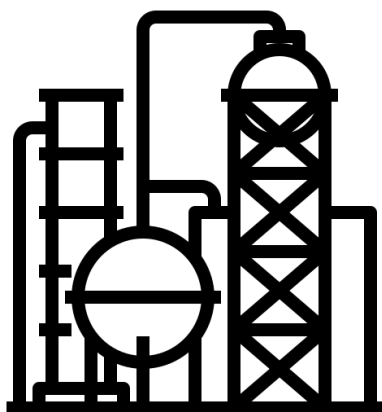
| เวลา *           | RESULT (ppm)                       |                                    |                                    |                                    |
|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  | SULPHUR DIOXIDE                    |                                    |                                    |                                    |
|                  | REFINERY GATE                      |                                    |                                    |                                    |
|                  | APRIL 25-26, 2023<br>T23AH698-0004 | APRIL 26-27, 2023<br>T23AH698-0005 | APRIL 27-28, 2023<br>T23AH698-0006 | APRIL 28-29, 2023<br>T23AH698-0007 |
| 08:00-09:00 HOUR | 0.0040                             | 0.0038                             | 0.0042                             | 0.0043                             |
| 09:00-10:00 HOUR | 0.0043                             | 0.0039                             | 0.0039                             | 0.0039                             |
| 10:00-11:00 HOUR | 0.0042                             | 0.0041                             | 0.0041                             | 0.0043                             |
| 11:00-12:00 HOUR | 0.0041                             | 0.0040                             | 0.0043                             | 0.0039                             |
| 12:00-13:00 HOUR | 0.0039                             | 0.0041                             | 0.0038                             | 0.0042                             |
| 13:00-14:00 HOUR | 0.0040                             | 0.0040                             | 0.0040                             | 0.0040                             |
| 14:00-15:00 HOUR | 0.0038                             | 0.0040                             | 0.0039                             | 0.0041                             |
| 15:00-16:00 HOUR | 0.0039                             | 0.0040                             | 0.0041                             | 0.0039                             |
| 16:00-17:00 HOUR | 0.0039                             | 0.0042                             | 0.0041                             | 0.0042                             |
| 17:00-18:00 HOUR | 0.0042                             | 0.0040                             | 0.0038                             | 0.0043                             |
| 18:00-19:00 HOUR | 0.0043                             | 0.0043                             | 0.0039                             | 0.0038                             |
| 19:00-20:00 HOUR | 0.0041                             | 0.0039                             | 0.0038                             | 0.0038                             |
| 20:00-21:00 HOUR | 0.0039                             | 0.0038                             | 0.0036                             | 0.0036                             |
| 21:00-22:00 HOUR | 0.0037                             | 0.0039                             | 0.0038                             | 0.0032                             |
| 22:00-23:00 HOUR | 0.0035                             | 0.0038                             | 0.0032                             | 0.0039                             |
| 23:00-00:00 HOUR | 0.0032                             | 0.0039                             | 0.0034                             | 0.0033                             |
| 00:00-01:00 HOUR | 0.0032                             | 0.0035                             | 0.0032                             | 0.0034                             |
| 01:00-02:00 HOUR | 0.0034                             | 0.0036                             | 0.0035                             | 0.0038                             |
| 02:00-03:00 HOUR | 0.0034                             | 0.0039                             | 0.0032                             | 0.0032                             |
| 03:00-04:00 HOUR | 0.0039                             | 0.0037                             | 0.0038                             | 0.0037                             |
| 04:00-05:00 HOUR | 0.0038                             | 0.0034                             | 0.0037                             | 0.0038                             |
| 05:00-06:00 HOUR | 0.0032                             | 0.0036                             | 0.0036                             | 0.0040                             |
| 06:00-07:00 HOUR | 0.0032                             | 0.0037                             | 0.0039                             | 0.0038                             |
| 07:00-08:00 HOUR | 0.0035                             | 0.0039                             | 0.0042                             | 0.0041                             |
| AVERAGE 24 HOUR  | 0.0038                             | 0.0039                             | 0.0038                             | 0.0039                             |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ทิศทางและความเร็วลม

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## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : BAN AO UDOM  
**MEASURING TYPE** : AMBIENT (AIR)  
**MEASURING DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : WIND SPEED & WIND DIRECTION EQUIPMENT  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-29, 2023  
**ANALYTICAL DATE** : APRIL 22-29, 2023  
**REPORT NO.** : 2023-U033693  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0008 - T23AH698-0014

| TIME *           | RESULT (m/s)                       |                |                                    |                |                                    |                |
|------------------|------------------------------------|----------------|------------------------------------|----------------|------------------------------------|----------------|
|                  | BAN AO UDOM                        |                |                                    |                |                                    |                |
|                  | APRIL 22-23, 2023<br>T23AH698-0008 |                | APRIL 23-24, 2023<br>T23AH698-0009 |                | APRIL 24-25, 2023<br>T23AH698-0010 |                |
|                  | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION |
| 08:00-09:00 HOUR | 1.9                                | SW             | 3.3                                | WNW            | 1.1                                | W              |
| 09:00-10:00 HOUR | 3.9                                | WSW            | 4.2                                | SW             | 4.3                                | WNW            |
| 10:00-11:00 HOUR | 1.8                                | SSW            | 1.9                                | WSW            | 3.6                                | SW             |
| 11:00-12:00 HOUR | 4.1                                | WSW            | 2.4                                | WSW            | 3.1                                | WSW            |
| 12:00-13:00 HOUR | 0.6                                | WSW            | 3.3                                | SW             | 1.0                                | WSW            |
| 13:00-14:00 HOUR | 2.1                                | SW             | 0.8                                | W              | 3.1                                | W              |
| 14:00-15:00 HOUR | 3.0                                | WSW            | 0.5                                | W              | 3.3                                | WSW            |
| 15:00-16:00 HOUR | 2.6                                | WNW            | 1.3                                | W              | 1.6                                | SSW            |
| 16:00-17:00 HOUR | 0.9                                | W              | 3.1                                | SW             | 2.4                                | WSW            |
| 17:00-18:00 HOUR | 3.5                                | WNW            | 2.3                                | W              | 3.3                                | SSW            |
| 18:00-19:00 HOUR | 2.0                                | W              | 1.1                                | SW             | 0.8                                | WSW            |
| 19:00-20:00 HOUR | 2.5                                | SW             | 2.8                                | W              | 1.1                                | W              |
| 20:00-21:00 HOUR | 1.1                                | WNW            | 2.3                                | WSW            | 0.7                                | WSW            |
| 21:00-22:00 HOUR | 2.7                                | NW             | 2.1                                | SW             | 2.2                                | W              |
| 22:00-23:00 HOUR | 3.0                                | NNW            | 1.9                                | SW             | 3.0                                | W              |
| 23:00-00:00 HOUR | 2.8                                | NW             | 4.3                                | WSW            | 1.7                                | SW             |
| 00:00-01:00 HOUR | 1.5                                | NW             | 2.9                                | WSW            | 3.7                                | WNW            |
| 01:00-02:00 HOUR | 2.1                                | NNW            | 2.5                                | SW             | 4.1                                | W              |
| 02:00-03:00 HOUR | 4.1                                | NW             | 4.1                                | SW             | 4.0                                | SW             |
| 03:00-04:00 HOUR | 2.9                                | NNW            | 1.9                                | W              | 2.1                                | SW             |
| 04:00-05:00 HOUR | 0.6                                | NNW            | 1.7                                | WSW            | 2.0                                | SW             |
| 05:00-06:00 HOUR | 2.2                                | NW             | 3.6                                | WSW            | 3.5                                | SSW            |
| 06:00-07:00 HOUR | 3.3                                | WNW            | 2.5                                | SW             | 0.8                                | SW             |
| 07:00-08:00 HOUR | 1.1                                | WNW            | 1.6                                | W              | 2.9                                | W              |



| TIME *           | RESULT (m/s)      |                |                   |                |                   |                |                   |                |
|------------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|
|                  | BAN AO UDOM       |                |                   |                |                   |                |                   |                |
|                  | APRIL 25-26, 2023 |                | APRIL 26-27, 2023 |                | APRIL 27-28, 2023 |                | APRIL 28-29, 2023 |                |
|                  | T23AH698-0011     |                | T23AH698-0012     |                | T23AH698-0013     |                | T23AH698-0014     |                |
|                  | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION |
| 08:00-09:00 HOUR | 3.9               | WNW            | 3.2               | W              | 1.4               | WSW            | 0.9               | WSW            |
| 09:00-10:00 HOUR | 4.0               | W              | 0.8               | WSW            | 0.7               | W              | 2.0               | WNW            |
| 10:00-11:00 HOUR | 3.6               | W              | 3.8               | W              | 1.2               | SW             | 3.9               | W              |
| 11:00-12:00 HOUR | 3.6               | SW             | 3.2               | WSW            | 2.0               | WNW            | 1.0               | WSW            |
| 12:00-13:00 HOUR | 2.7               | WNW            | 0.7               | WSW            | 1.5               | WSW            | 1.1               | WSW            |
| 13:00-14:00 HOUR | 0.5               | SW             | 4.2               | W              | 3.8               | SW             | 1.6               | SW             |
| 14:00-15:00 HOUR | 2.3               | SW             | 1.8               | SW             | 4.2               | SW             | 3.7               | W              |
| 15:00-16:00 HOUR | 1.5               | W              | 2.1               | SW             | 2.9               | WSW            | 1.0               | W              |
| 16:00-17:00 HOUR | 2.9               | SW             | 2.7               | W              | 0.9               | W              | 4.0               | WSW            |
| 17:00-18:00 HOUR | 0.8               | W              | 1.8               | WNW            | 0.5               | WSW            | 2.8               | W              |
| 18:00-19:00 HOUR | 1.1               | SW             | 1.0               | W              | 2.2               | SW             | 3.4               | W              |
| 19:00-20:00 HOUR | 0.5               | W              | 3.1               | SW             | 2.4               | W              | 0.7               | W              |
| 20:00-21:00 HOUR | 3.7               | W              | 3.9               | SW             | 2.5               | WSW            | 3.7               | SW             |
| 21:00-22:00 HOUR | 2.6               | W              | 1.9               | SW             | 2.2               | W              | 0.7               | WSW            |
| 22:00-23:00 HOUR | 3.6               | W              | 1.1               | W              | 1.8               | SW             | 2.7               | WSW            |
| 23:00-00:00 HOUR | 1.0               | W              | 3.0               | W              | 0.7               | WSW            | 4.1               | W              |
| 00:00-01:00 HOUR | 2.4               | WNW            | 1.9               | WSW            | 3.6               | WSW            | 3.0               | SW             |
| 01:00-02:00 HOUR | 0.6               | WNW            | 3.9               | W              | 1.9               | SW             | 1.3               | WSW            |
| 02:00-03:00 HOUR | 2.2               | SW             | 0.5               | WSW            | 2.0               | SW             | 2.6               | W              |
| 03:00-04:00 HOUR | 2.7               | SW             | 3.8               | W              | 3.5               | WNW            | 1.3               | WNW            |
| 04:00-05:00 HOUR | 0.8               | W              | 4.3               | SW             | 0.9               | WNW            | 2.3               | WSW            |
| 05:00-06:00 HOUR | 2.8               | WSW            | 4.1               | WSW            | 3.2               | WNW            | 1.4               | W              |
| 06:00-07:00 HOUR | 0.8               | WNW            | 1.1               | SW             | 3.1               | W              | 1.9               | WSW            |
| 07:00-08:00 HOUR | 2.0               | W              | 2.0               | SW             | 4.2               | WSW            | 3.2               | W              |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : LAM CHABANG PORT'S G  
**MEASURING TYPE** : AMBIENT (AIR)  
**MEASURING DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : WIND SPEED & WIND DIRECTION EQUIPMENT  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-29, 2023  
**ANALYTICAL DATE** : APRIL 22-29, 2023  
**REPORT NO.** : 2023-U033695  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0015 - T23AH698-0021

| TIME *           | RESULT (m/s)                       |                |                                    |                |                                    |                |
|------------------|------------------------------------|----------------|------------------------------------|----------------|------------------------------------|----------------|
|                  | LAM CHABANG PORT'S G               |                |                                    |                |                                    |                |
|                  | APRIL 22-23, 2023<br>T23AH698-0015 |                | APRIL 23-24, 2023<br>T23AH698-0016 |                | APRIL 24-25, 2023<br>T23AH698-0017 |                |
|                  | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION |
| 08:00-09:00 HOUR | 3.0                                | SW             | 4.2                                | SSW            | 1.9                                | WSW            |
| 09:00-10:00 HOUR | 2.2                                | WSW            | 2.2                                | S              | 3.6                                | SW             |
| 10:00-11:00 HOUR | 3.2                                | W              | 2.4                                | S              | 3.3                                | W              |
| 11:00-12:00 HOUR | 2.2                                | W              | 3.6                                | S              | 3.1                                | WNW            |
| 12:00-13:00 HOUR | 3.2                                | SW             | 1.8                                | S              | 0.5                                | SW             |
| 13:00-14:00 HOUR | 4.2                                | SW             | 3.1                                | S              | 4.3                                | WSW            |
| 14:00-15:00 HOUR | 1.6                                | WNW            | 0.7                                | S              | 2.4                                | WNW            |
| 15:00-16:00 HOUR | 2.5                                | W              | 3.4                                | S              | 4.1                                | SW             |
| 16:00-17:00 HOUR | 1.8                                | SW             | 4.3                                | SSW            | 1.0                                | WSW            |
| 17:00-18:00 HOUR | 0.8                                | SSW            | 3.1                                | SSW            | 0.8                                | WSW            |
| 18:00-19:00 HOUR | 0.8                                | WNW            | 2.5                                | WSW            | 3.3                                | WSW            |
| 19:00-20:00 HOUR | 3.9                                | W              | 3.6                                | SW             | 2.7                                | W              |
| 20:00-21:00 HOUR | 3.7                                | SW             | 4.0                                | WNW            | 0.5                                | WNW            |
| 21:00-22:00 HOUR | 3.5                                | WSW            | 3.6                                | WSW            | 2.6                                | SW             |
| 22:00-23:00 HOUR | 1.2                                | WSW            | 2.2                                | W              | 2.5                                | WSW            |
| 23:00-00:00 HOUR | 3.4                                | SW             | 3.4                                | W              | 3.7                                | WNW            |
| 00:00-01:00 HOUR | 1.7                                | SW             | 0.7                                | WSW            | 1.1                                | WNW            |
| 01:00-02:00 HOUR | 0.7                                | SW             | 3.9                                | W              | 1.7                                | WSW            |
| 02:00-03:00 HOUR | 2.3                                | WSW            | 3.3                                | W              | 1.6                                | WSW            |
| 03:00-04:00 HOUR | 2.8                                | WSW            | 3.7                                | SSW            | 3.3                                | WSW            |
| 04:00-05:00 HOUR | 0.9                                | SW             | 1.0                                | WSW            | 2.3                                | W              |
| 05:00-06:00 HOUR | 1.2                                | SSW            | 1.7                                | WSW            | 3.9                                | W              |
| 06:00-07:00 HOUR | 3.0                                | S              | 3.9                                | WNW            | 3.3                                | WSW            |
| 07:00-08:00 HOUR | 3.2                                | S              | 4.3                                | SW             | 2.6                                | W              |



| TIME *           | RESULT (m/s)         |                |                   |                |                   |                |                   |                |
|------------------|----------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|
|                  | LAM CHABANG PORT'S G |                |                   |                |                   |                |                   |                |
|                  | APRIL 25-26, 2023    |                | APRIL 26-27, 2023 |                | APRIL 27-28, 2023 |                | APRIL 28-29, 2023 |                |
|                  | T23AH698-0018        |                | T23AH698-0019     |                | T23AH698-0020     |                | T23AH698-0021     |                |
|                  | WIND SPEED           | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION |
| 08:00-09:00 HOUR | 0.9                  | W              | 3.8               | WSW            | 1.0               | W              | 4.2               | SW             |
| 09:00-10:00 HOUR | 2.3                  | WSW            | 3.5               | W              | 0.7               | WNW            | 1.9               | SW             |
| 10:00-11:00 HOUR | 2.9                  | WNW            | 2.0               | WSW            | 2.3               | W              | 1.4               | W              |
| 11:00-12:00 HOUR | 3.0                  | W              | 3.7               | W              | 0.8               | WNW            | 1.0               | WSW            |
| 12:00-13:00 HOUR | 2.3                  | SW             | 0.8               | W              | 3.6               | SW             | 1.8               | SW             |
| 13:00-14:00 HOUR | 3.7                  | WNW            | 4.1               | SW             | 4.4               | W              | 0.8               | SW             |
| 14:00-15:00 HOUR | 2.9                  | WSW            | 3.3               | WSW            | 2.3               | W              | 3.6               | WNW            |
| 15:00-16:00 HOUR | 2.2                  | SW             | 0.5               | WSW            | 0.8               | WSW            | 2.0               | WSW            |
| 16:00-17:00 HOUR | 3.1                  | SW             | 2.7               | SW             | 1.9               | W              | 3.2               | WSW            |
| 17:00-18:00 HOUR | 1.9                  | WNW            | 1.1               | WSW            | 1.8               | WSW            | 2.9               | W              |
| 18:00-19:00 HOUR | 3.7                  | SW             | 1.1               | WSW            | 2.3               | W              | 3.6               | WNW            |
| 19:00-20:00 HOUR | 1.4                  | SW             | 0.9               | WNW            | 2.3               | SW             | 3.9               | W              |
| 20:00-21:00 HOUR | 2.6                  | WSW            | 2.4               | WSW            | 4.3               | W              | 4.2               | SW             |
| 21:00-22:00 HOUR | 2.1                  | WSW            | 3.6               | SW             | 0.8               | WNW            | 1.9               | WSW            |
| 22:00-23:00 HOUR | 4.3                  | SW             | 0.5               | WSW            | 2.6               | W              | 3.4               | SW             |
| 23:00-00:00 HOUR | 4.3                  | SW             | 4.4               | WSW            | 2.5               | W              | 1.9               | W              |
| 00:00-01:00 HOUR | 2.0                  | W              | 3.9               | WNW            | 4.0               | SW             | 1.6               | WSW            |
| 01:00-02:00 HOUR | 1.6                  | SW             | 2.0               | NNW            | 2.7               | SSW            | 1.5               | WNW            |
| 02:00-03:00 HOUR | 3.3                  | SW             | 1.0               | NW             | 1.7               | WSW            | 3.7               | W              |
| 03:00-04:00 HOUR | 2.7                  | WNW            | 0.6               | WNW            | 1.4               | WNW            | 1.7               | W              |
| 04:00-05:00 HOUR | 3.9                  | W              | 2.4               | WNW            | 2.7               | SW             | 1.3               | SW             |
| 05:00-06:00 HOUR | 4.4                  | WSW            | 3.6               | WSW            | 1.2               | W              | 3.8               | WSW            |
| 06:00-07:00 HOUR | 0.9                  | W              | 4.0               | W              | 1.1               | WNW            | 4.4               | W              |
| 07:00-08:00 HOUR | 3.1                  | WNW            | 2.0               | WSW            | 4.0               | WSW            | 3.0               | SW             |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : K.U.STATION  
**MEASURING TYPE** : AMBIENT (AIR)  
**MEASURING DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : WIND SPEED & WIND DIRECTION EQUIPMENT  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-29, 2023  
**ANALYTICAL DATE** : APRIL 22-29, 2023  
**REPORT NO.** : 2023-U033696  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0022 - T23AH698-0028

| TIME *           | RESULT (m/s)                       |                |                                    |                |                                    |                |
|------------------|------------------------------------|----------------|------------------------------------|----------------|------------------------------------|----------------|
|                  | K.U.STATION                        |                |                                    |                |                                    |                |
|                  | APRIL 22-23, 2023<br>T23AH698-0022 |                | APRIL 23-24, 2023<br>T23AH698-0023 |                | APRIL 24-25, 2023<br>T23AH698-0024 |                |
|                  | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION |
| 08:00-09:00 HOUR | 2.3                                | WNW            | 2.3                                | W              | 2.1                                | WSW            |
| 09:00-10:00 HOUR | 3.6                                | W              | 3.9                                | WNW            | 3.2                                | W              |
| 10:00-11:00 HOUR | 2.1                                | WNW            | 3.8                                | WSW            | 1.7                                | WSW            |
| 11:00-12:00 HOUR | 2.8                                | WNW            | 2.5                                | WSW            | 1.8                                | WNW            |
| 12:00-13:00 HOUR | 3.8                                | W              | 1.8                                | WSW            | 1.1                                | SW             |
| 13:00-14:00 HOUR | 1.6                                | WNW            | 4.0                                | WSW            | 1.8                                | SW             |
| 14:00-15:00 HOUR | 4.0                                | W              | 3.2                                | WSW            | 3.9                                | WSW            |
| 15:00-16:00 HOUR | 1.5                                | WSW            | 2.5                                | WSW            | 0.5                                | WNW            |
| 16:00-17:00 HOUR | 2.9                                | WSW            | 2.0                                | WNW            | 3.6                                | W              |
| 17:00-18:00 HOUR | 1.8                                | W              | 2.7                                | W              | 0.5                                | WSW            |
| 18:00-19:00 HOUR | 2.5                                | W              | 2.2                                | WSW            | 3.4                                | WNW            |
| 19:00-20:00 HOUR | 3.0                                | WNW            | 0.7                                | SW             | 3.4                                | W              |
| 20:00-21:00 HOUR | 1.4                                | SW             | 1.1                                | WSW            | 2.7                                | W              |
| 21:00-22:00 HOUR | 2.5                                | W              | 3.0                                | WNW            | 1.1                                | W              |
| 22:00-23:00 HOUR | 2.8                                | W              | 3.5                                | WSW            | 1.7                                | SW             |
| 23:00-00:00 HOUR | 3.8                                | WSW            | 1.8                                | SW             | 3.8                                | SW             |
| 00:00-01:00 HOUR | 3.9                                | W              | 1.9                                | W              | 1.0                                | WSW            |
| 01:00-02:00 HOUR | 3.7                                | WNW            | 3.0                                | W              | 0.5                                | WSW            |
| 02:00-03:00 HOUR | 1.2                                | WSW            | 1.5                                | WSW            | 1.3                                | W              |
| 03:00-04:00 HOUR | 2.7                                | WSW            | 2.2                                | WSW            | 2.2                                | W              |
| 04:00-05:00 HOUR | 4.1                                | WSW            | 4.0                                | WSW            | 0.9                                | SW             |
| 05:00-06:00 HOUR | 3.2                                | W              | 0.7                                | W              | 0.7                                | W              |
| 06:00-07:00 HOUR | 2.6                                | W              | 1.2                                | W              | 3.6                                | WNW            |
| 07:00-08:00 HOUR | 2.4                                | W              | 2.7                                | WSW            | 1.1                                | W              |



| TIME *           | RESULT (m/s)      |                |                   |                |                   |                |                   |                |
|------------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|
|                  | K.U.STATION       |                |                   |                |                   |                |                   |                |
|                  | APRIL 25-26, 2023 |                | APRIL 26-27, 2023 |                | APRIL 27-28, 2023 |                | APRIL 28-29, 2023 |                |
|                  | T23AH698-0025     |                | T23AH698-0026     |                | T23AH698-0027     |                | T23AH698-0028     |                |
|                  | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION |
| 08:00-09:00 HOUR | 1.1               | WSW            | 2.0               | WSW            | 2.7               | WNW            | 1.6               | W              |
| 09:00-10:00 HOUR | 0.5               | W              | 3.5               | W              | 0.6               | WSW            | 3.9               | WNW            |
| 10:00-11:00 HOUR | 4.0               | WSW            | 3.5               | WSW            | 2.6               | WSW            | 1.5               | WNW            |
| 11:00-12:00 HOUR | 2.7               | SW             | 3.0               | WSW            | 1.0               | WSW            | 4.1               | W              |
| 12:00-13:00 HOUR | 3.8               | W              | 0.8               | WNW            | 1.8               | WNW            | 2.7               | WNW            |
| 13:00-14:00 HOUR | 3.4               | WSW            | 2.0               | WSW            | 3.8               | WSW            | 1.1               | WSW            |
| 14:00-15:00 HOUR | 1.1               | WNW            | 3.7               | W              | 3.8               | WSW            | 2.2               | WNW            |
| 15:00-16:00 HOUR | 3.2               | W              | 0.9               | W              | 1.8               | WSW            | 2.8               | W              |
| 16:00-17:00 HOUR | 3.1               | WSW            | 2.4               | WSW            | 3.6               | WSW            | 2.1               | WSW            |
| 17:00-18:00 HOUR | 3.5               | W              | 3.2               | WNW            | 2.4               | W              | 2.8               | WSW            |
| 18:00-19:00 HOUR | 2.1               | W              | 0.9               | WNW            | 3.6               | W              | 2.4               | WSW            |
| 19:00-20:00 HOUR | 2.7               | W              | 3.4               | W              | 2.0               | W              | 2.4               | W              |
| 20:00-21:00 HOUR | 3.6               | WSW            | 1.6               | W              | 4.1               | W              | 1.9               | W              |
| 21:00-22:00 HOUR | 2.7               | WNW            | 3.0               | W              | 2.8               | WNW            | 2.3               | W              |
| 22:00-23:00 HOUR | 3.0               | W              | 0.5               | WSW            | 4.0               | W              | 2.9               | WNW            |
| 23:00-00:00 HOUR | 0.6               | W              | 1.5               | W              | 3.2               | WSW            | 2.8               | WSW            |
| 00:00-01:00 HOUR | 3.8               | WSW            | 2.3               | W              | 2.5               | WNW            | 1.9               | SW             |
| 01:00-02:00 HOUR | 1.1               | SW             | 1.4               | WSW            | 3.1               | WNW            | 1.9               | W              |
| 02:00-03:00 HOUR | 0.8               | WSW            | 0.9               | WNW            | 2.4               | WNW            | 3.7               | W              |
| 03:00-04:00 HOUR | 1.5               | W              | 3.5               | WSW            | 0.6               | WSW            | 2.2               | W              |
| 04:00-05:00 HOUR | 3.5               | WSW            | 0.8               | WSW            | 0.7               | WNW            | 1.2               | W              |
| 05:00-06:00 HOUR | 0.6               | W              | 2.3               | W              | 2.2               | WNW            | 2.5               | WSW            |
| 06:00-07:00 HOUR | 0.5               | SW             | 1.3               | WSW            | 1.8               | W              | 0.5               | W              |
| 07:00-08:00 HOUR | 3.1               | WSW            | 3.8               | WNW            | 1.3               | W              | 3.1               | WNW            |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING PLACE** : REFINERY GATE  
**MEASURING TYPE** : AMBIENT (AIR)  
**MEASURING DATE** : APRIL 22-29, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : WIND SPEED & WIND DIRECTION EQUIPMENT  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-29, 2023  
**ANALYTICAL DATE** : APRIL 22-29, 2023  
**REPORT NO.** : 2023-U033688  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH698-0001 - T23AH698-0007

| TIME *           | RESULT (m/s)                       |                |                                    |                |                                    |                |
|------------------|------------------------------------|----------------|------------------------------------|----------------|------------------------------------|----------------|
|                  | REFINERY GATE                      |                |                                    |                |                                    |                |
|                  | APRIL 22-23, 2023<br>T23AH698-0001 |                | APRIL 23-24, 2023<br>T23AH698-0002 |                | APRIL 24-25, 2023<br>T23AH698-0003 |                |
|                  | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION | WIND SPEED                         | WIND DIRECTION |
| 08:00-09:00 HOUR | 1.9                                | SSW            | 2.6                                | WSW            | 1.6                                | S              |
| 09:00-10:00 HOUR | 2.1                                | SW             | 2.9                                | WSW            | 1.4                                | SW             |
| 10:00-11:00 HOUR | 2.1                                | W              | 3.1                                | WSW            | 1.7                                | WSW            |
| 11:00-12:00 HOUR | 2.5                                | WSW            | 3.5                                | WSW            | 1.8                                | NW             |
| 12:00-13:00 HOUR | 2.7                                | W              | 3.6                                | WSW            | 1.7                                | NW             |
| 13:00-14:00 HOUR | 2.7                                | WNW            | 3.6                                | WSW            | 2.2                                | NNW            |
| 14:00-15:00 HOUR | 2.6                                | WNW            | 3.6                                | WSW            | 2.3                                | W              |
| 15:00-16:00 HOUR | 2.7                                | WNW            | 4.2                                | WSW            | 2.2                                | WSW            |
| 16:00-17:00 HOUR | 2.7                                | W              | 4.4                                | W              | 2.5                                | WSW            |
| 17:00-18:00 HOUR | 2.9                                | W              | 4.1                                | WSW            | 2.6                                | SW             |
| 18:00-19:00 HOUR | 2.6                                | WSW            | 3.8                                | WSW            | 3.2                                | S              |
| 19:00-20:00 HOUR | 2.9                                | WSW            | 2.9                                | WSW            | 2.0                                | SSW            |
| 20:00-21:00 HOUR | 3.5                                | SSW            | 3.1                                | SW             | 1.9                                | SW             |
| 21:00-22:00 HOUR | 3.3                                | SSW            | 2.8                                | SW             | 1.9                                | SSW            |
| 22:00-23:00 HOUR | 2.7                                | SSW            | 2.6                                | WSW            | 1.7                                | SSE            |
| 23:00-00:00 HOUR | 2.2                                | SSW            | 2.6                                | WSW            | 2.0                                | S              |
| 00:00-01:00 HOUR | 2.7                                | SW             | 2.8                                | WSW            | 2.0                                | S              |
| 01:00-02:00 HOUR | 2.2                                | SSW            | 2.5                                | WSW            | 1.7                                | S              |
| 02:00-03:00 HOUR | 1.9                                | SSW            | 2.3                                | WSW            | 1.1                                | S              |
| 03:00-04:00 HOUR | 1.5                                | S              | 2.3                                | WSW            | 1.1                                | SSE            |
| 04:00-05:00 HOUR | 1.5                                | S              | 1.9                                | WSW            | 1.2                                | S              |
| 05:00-06:00 HOUR | 1.7                                | SSW            | 1.4                                | S              | 1.1                                | S              |
| 06:00-07:00 HOUR | 1.7                                | SSW            | 1.1                                | S              | 1.1                                | SSW            |
| 07:00-08:00 HOUR | 1.7                                | SSW            | 1.5                                | S              | 1.2                                | SE             |



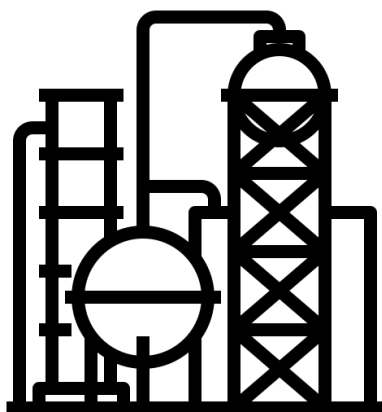
| TIME *           | RESULT (m/s)      |                |                   |                |                   |                |                   |                |
|------------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|
|                  | REFINERY GATE     |                |                   |                |                   |                |                   |                |
|                  | APRIL 25-26, 2023 |                | APRIL 26-27, 2023 |                | APRIL 27-28, 2023 |                | APRIL 28-29, 2023 |                |
|                  | T23AH698-0004     |                | T23AH698-0005     |                | T23AH698-0006     |                | T23AH698-0007     |                |
|                  | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION | WIND SPEED        | WIND DIRECTION |
| 08:00-09:00 HOUR | 1.2               | S              | 2.4               | SSE            | 1.4               | ESE            | 1.8               | SW             |
| 09:00-10:00 HOUR | 1.9               | WSW            | 3.1               | S              | 1.4               | E              | 2.5               | WSW            |
| 10:00-11:00 HOUR | 2.1               | W              | 3.1               | SW             | 2.0               | NE             | 2.7               | WSW            |
| 11:00-12:00 HOUR | 2.2               | W              | 2.0               | W              | 2.1               | N              | 2.6               | W              |
| 12:00-13:00 HOUR | 2.5               | W              | 2.1               | W              | 2.1               | NW             | 2.6               | W              |
| 13:00-14:00 HOUR | 2.6               | W              | 1.6               | SSW            | 2.3               | WNW            | 2.8               | W              |
| 14:00-15:00 HOUR | 3.0               | W              | 1.2               | SE             | 2.5               | WNW            | 2.9               | WSW            |
| 15:00-16:00 HOUR | 2.9               | W              | 1.3               | SSE            | 2.4               | WNW            | 2.8               | WSW            |
| 16:00-17:00 HOUR | 3.2               | W              | 0.8               | ESE            | 2.4               | W              | 2.4               | W              |
| 17:00-18:00 HOUR | 3.0               | W              | 1.9               | SSW            | 2.4               | W              | 2.3               | W              |
| 18:00-19:00 HOUR | 4.2               | SE             | 1.4               | S              | 2.0               | WSW            | 2.2               | W              |
| 19:00-20:00 HOUR | 2.5               | S              | 1.3               | E              | 1.9               | WSW            | 2.3               | W              |
| 20:00-21:00 HOUR | 2.6               | SSE            | 1.1               | E              | 1.5               | WSW            | 2.9               | SW             |
| 21:00-22:00 HOUR | 2.3               | SSW            | 0.6               | ESE            | 1.9               | SW             | 2.7               | SW             |
| 22:00-23:00 HOUR | 2.7               | SW             | 1.3               | SW             | 2.1               | SSW            | 2.5               | WSW            |
| 23:00-00:00 HOUR | 2.0               | SSW            | 1.0               | S              | 1.9               | SSW            | 2.4               | WSW            |
| 00:00-01:00 HOUR | 1.6               | SSE            | 0.9               | SSW            | 2.1               | SW             | 2.5               | WSW            |
| 01:00-02:00 HOUR | 1.4               | SE             | 1.1               | SW             | 1.7               | SW             | 2.4               | WSW            |
| 02:00-03:00 HOUR | 1.5               | SSE            | 0.9               | S              | 1.8               | WSW            | 2.0               | SSW            |
| 03:00-04:00 HOUR | 1.5               | ESE            | 0.6               | SSE            | 1.6               | SW             | 1.9               | SSW            |
| 04:00-05:00 HOUR | 1.1               | SE             | 1.0               | S              | 1.4               | S              | 1.7               | SW             |
| 05:00-06:00 HOUR | 1.6               | SSE            | 0.7               | S              | 1.4               | S              | 2.3               | WSW            |
| 06:00-07:00 HOUR | 1.4               | SSE            | 0.8               | SW             | 1.4               | S              | 1.8               | S              |
| 07:00-08:00 HOUR | 1.8               | S              | 1.2               | S              | 1.4               | SW             | 2.0               | SSW            |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## คุณภาพอากาศจากปล่องระบายอากาศ

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## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 24, 2023  
**SAMPLING TIME** : 15:10-16:50 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๓-145-๓-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๓-145-๓-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033758  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0001

| PARAMETER                             | UNIT              | METHOD OF ANALYSIS                                                     | RESULT                                              |           |
|---------------------------------------|-------------------|------------------------------------------------------------------------|-----------------------------------------------------|-----------|
|                                       |                   |                                                                        | CRUDE DISTILLATION FURNACE (F-101)<br>T23AH700-0001 |           |
|                                       |                   |                                                                        | ACTUAL OXYGEN                                       | 7% OXYGEN |
| TOTAL SUSPENDED PARTICULATE           | mg/m <sup>3</sup> | ISOKINETIC, GRAVIMETRIC METHOD (US EPA METHOD 5)                       | 1.34                                                | 1.20      |
| SULPHUR DIOXIDE                       | ppm               | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                                              | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm               | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 73.4                                                | 65.6      |
| <b>SAMPLE CONDITION</b>               |                   |                                                                        | COMPLETE                                            |           |

| DESCRIPTION              | UNIT                | RESULT                                              |
|--------------------------|---------------------|-----------------------------------------------------|
|                          |                     | CRUDE DISTILLATION FURNACE (F-101)<br>T23AH700-0001 |
| AMBIENT PRESSURE         | mmHg                | 758                                                 |
| AMBIENT TEMPERATURE      | °C                  | 35                                                  |
| STACK TEMPERATURE        | °C                  | 375.33                                              |
| DIAMETER                 | m                   | 1.65                                                |
| GAS VELOCITY             | m/s                 | 8.6                                                 |
| FLOW RATE                | Nm <sup>3</sup> /hr | 25,342.12                                           |
| OXYGEN                   | %                   | 5.36                                                |
| MOISTURE                 | %                   | 16.44                                               |
| CARBONDIOXIDE            | %                   | 8.86                                                |
| VOLUME OF DRY GAS AT STP | m <sup>3</sup>      | 0.896371                                            |

### REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๓-145-๓-0011  
MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 24, 2023  
**SAMPLING TIME** : 15:30-16:40 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๖-145-๖-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๖-145-๓-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033759  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0002

| PARAMETER                             | UNIT              | METHOD OF ANALYSIS                                                     | RESULT                                              |           |
|---------------------------------------|-------------------|------------------------------------------------------------------------|-----------------------------------------------------|-----------|
|                                       |                   |                                                                        | CRUDE DISTILLATION FURNACE (F-102)<br>T23AH700-0002 |           |
|                                       |                   |                                                                        | ACTUAL OXYGEN                                       | 7% OXYGEN |
| TOTAL SUSPENDED PARTICULATE           | mg/m <sup>3</sup> | ISOKINETIC, GRAVIMETRIC METHOD (US EPA METHOD 5)                       | 0.65                                                | 0.55      |
| SULPHUR DIOXIDE                       | ppm               | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                                              | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm               | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 49.2                                                | 41.6      |
| <b>SAMPLE CONDITION</b>               |                   |                                                                        | COMPLETE                                            |           |

| DESCRIPTION              | UNIT                | RESULT                                              |
|--------------------------|---------------------|-----------------------------------------------------|
|                          |                     | CRUDE DISTILLATION FURNACE (F-102)<br>T23AH700-0002 |
| AMBIENT PRESSURE         | mmHg                | 758                                                 |
| AMBIENT TEMPERATURE      | °C                  | 34.17                                               |
| STACK TEMPERATURE        | °C                  | 200.17                                              |
| DIAMETER                 | m                   | 1.52                                                |
| GAS VELOCITY             | m/s                 | 7.62                                                |
| FLOW RATE                | Nm <sup>3</sup> /hr | 28,658.39                                           |
| OXYGEN                   | %                   | 4.45                                                |
| MOISTURE                 | %                   | 8.22                                                |
| CARBONDIOXIDE            | %                   | 9.38                                                |
| VOLUME OF DRY GAS AT STP | m <sup>3</sup>      | 0.91697                                             |

### REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANOMAS)  
LABORATORY SUPERVISOR  
๖-145-๓-0011  
MAY 10, 2023





## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 25, 2023  
**SAMPLING TIME** : 11:55-12:45 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๓-145-๓-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๓-145-๓-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033760  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0003

| PARAMETER                             | UNIT | METHOD OF ANALYSIS                                                     | RESULT                                                                                                                                            |           |
|---------------------------------------|------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                                       |      |                                                                        | APS2/VPS2 : COMMON STACK OF CRUDE DISTILLATION FURNACE 2 & VACUUM DISTILLATION FURNACE-2 & NHF-2 FURNACE (F-3101 & F-3601 & F-3301) T23AH700-0003 |           |
|                                       |      |                                                                        | ACTUAL OXYGEN                                                                                                                                     | 7% OXYGEN |
| SULPHUR DIOXIDE                       | ppm  | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | 88.6                                                                                                                                              | 75.1      |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm  | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 38.6                                                                                                                                              | 32.8      |
| <b>SAMPLE CONDITION</b>               |      |                                                                        | COMPLETE                                                                                                                                          |           |

| DESCRIPTION              | UNIT   | RESULT                                                                                                                                            |
|--------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |        | APS2/VPS2 : COMMON STACK OF CRUDE DISTILLATION FURNACE 2 & VACUUM DISTILLATION FURNACE-2 & NHF-2 FURNACE (F-3101 & F-3601 & F-3301) T23AH700-0003 |
| AMBIENT PRESSURE         | mmHg   | 758                                                                                                                                               |
| AMBIENT TEMPERATURE      | °C     | 34                                                                                                                                                |
| STACK TEMPERATURE        | °C     | 344                                                                                                                                               |
| DIAMETER                 | m      | 3.2                                                                                                                                               |
| GAS VELOCITY             | m/s    | 14.65                                                                                                                                             |
| FLOW RATE                | Nm³/hr | 159,576.14                                                                                                                                        |
| OXYGEN                   | %      | 4.5                                                                                                                                               |
| MOISTURE                 | %      | 21.56                                                                                                                                             |
| CARBONDIOXIDE            | %      | 9.35                                                                                                                                              |
| VOLUME OF DRY GAS AT STP | m³     | 0.590088                                                                                                                                          |

**REMARK**

**RESULT** : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๓-145-๓-0011  
MAY 10, 2023





## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 26, 2023  
**SAMPLING TIME** : 11:25-12:10 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๓-145-๓-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๓-145-๓-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033761  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0004

| PARAMETER                             | UNIT | METHOD OF ANALYSIS                                                     | RESULT                                          |           |
|---------------------------------------|------|------------------------------------------------------------------------|-------------------------------------------------|-----------|
|                                       |      |                                                                        | PLATFORMER FURNACE-1 (F-3401S)<br>T23AH700-0004 |           |
|                                       |      |                                                                        | ACTUAL OXYGEN                                   | 7% OXYGEN |
| SULPHUR DIOXIDE                       | ppm  | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                                          | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm  | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 20.6                                            | 17.5      |
| <b>SAMPLE CONDITION</b>               |      |                                                                        | COMPLETE                                        |           |

| DESCRIPTION              | UNIT   | RESULT                                          |
|--------------------------|--------|-------------------------------------------------|
|                          |        | PLATFORMER FURNACE-1 (F-3401S)<br>T23AH700-0004 |
| AMBIENT PRESSURE         | mmHg   | 758                                             |
| AMBIENT TEMPERATURE      | °C     | 30                                              |
| STACK TEMPERATURE        | °C     | 190.75                                          |
| DIAMETER                 | m      | 2.52                                            |
| GAS VELOCITY             | m/s    | 8.18                                            |
| FLOW RATE                | Nm³/hr | 75,315.54                                       |
| OXYGEN                   | %      | 4.57                                            |
| MOISTURE                 | %      | 19.92                                           |
| CARBONDIOXIDE            | %      | 9.31                                            |
| VOLUME OF DRY GAS AT STP | m³     | 0.597696                                        |

**REMARK**  
**RESULT** : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๓-145-๓-0011  
MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 28, 2023  
**SAMPLING TIME** : 14:30-15:20 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO จ-145-ก-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG จ-145-ก-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033762  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0005

| PARAMETER                             | UNIT | METHOD OF ANALYSIS                                                     | RESULT                               |           |
|---------------------------------------|------|------------------------------------------------------------------------|--------------------------------------|-----------|
|                                       |      |                                                                        | GTG-1+HRSG-1 (3001)<br>T23AH700-0005 |           |
|                                       |      |                                                                        | ACTUAL OXYGEN                        | 7% OXYGEN |
| SULPHUR DIOXIDE                       | ppm  | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                               | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm  | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 26.7                                 | 71.7      |
| SAMPLE CONDITION                      |      |                                                                        | COMPLETE                             |           |

| DESCRIPTION              | UNIT   | RESULT                               |
|--------------------------|--------|--------------------------------------|
|                          |        | GTG-1+HRSG-1 (3001)<br>T23AH700-0005 |
| AMBIENT PRESSURE         | mmHg   | 758                                  |
| AMBIENT TEMPERATURE      | °C     | 32.58                                |
| STACK TEMPERATURE        | °C     | 203.33                               |
| DIAMETER                 | m      | 2.95                                 |
| GAS VELOCITY             | m/s    | 9.68                                 |
| FLOW RATE                | Nm³/hr | 133,497.78                           |
| OXYGEN                   | %      | 15.73                                |
| MOISTURE                 | %      | 10.13                                |
| CARBONDIOXIDE            | %      | 2.98                                 |
| VOLUME OF DRY GAS AT STP | m³     | 0.574811                             |

**REMARK**

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
จ-145-ก-0011  
MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 28, 2023  
**SAMPLING TIME** : 14:30-15:20 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๓-145-๓-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๓-145-๓-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033763  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0006

| PARAMETER                             | UNIT | METHOD OF ANALYSIS                                                     | RESULT                               |           |
|---------------------------------------|------|------------------------------------------------------------------------|--------------------------------------|-----------|
|                                       |      |                                                                        | GTG-2+HRSG-2 (4001)<br>T23AH700-0006 |           |
|                                       |      |                                                                        | ACTUAL OXYGEN                        | 7% OXYGEN |
| SULPHUR DIOXIDE                       | ppm  | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                               | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm  | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 9.35                                 | 30.0      |
| SAMPLE CONDITION                      |      |                                                                        | COMPLETE                             |           |

| DESCRIPTION              | UNIT   | RESULT                               |
|--------------------------|--------|--------------------------------------|
|                          |        | GTG-2+HRSG-2 (4001)<br>T23AH700-0006 |
| AMBIENT PRESSURE         | mmHg   | 758                                  |
| AMBIENT TEMPERATURE      | °C     | 33                                   |
| STACK TEMPERATURE        | °C     | 212.58                               |
| DIAMETER                 | m      | 2.95                                 |
| GAS VELOCITY             | m/s    | 11.02                                |
| FLOW RATE                | Nm³/hr | 150,681.49                           |
| OXYGEN                   | %      | 16.56                                |
| MOISTURE                 | %      | 9.15                                 |
| CARBONDIOXIDE            | %      | 2.52                                 |
| VOLUME OF DRY GAS AT STP | m³     | 0.555524                             |

**REMARK**

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๓-145-๓-0011  
MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 27, 2023  
**SAMPLING TIME** : 10:10-10:30 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๓-145-๓-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๓-145-๓-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033764  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0007

| PARAMETER                             | UNIT | METHOD OF ANALYSIS                                                     | RESULT                               |           |
|---------------------------------------|------|------------------------------------------------------------------------|--------------------------------------|-----------|
|                                       |      |                                                                        | GTG-3+HRSG-3 (5101)<br>T23AH700-0007 |           |
|                                       |      |                                                                        | ACTUAL OXYGEN                        | 7% OXYGEN |
| SULPHUR DIOXIDE                       | ppm  | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                               | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm  | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 27.9                                 | 94.0      |
| SAMPLE CONDITION                      |      |                                                                        | COMPLETE                             |           |

| DESCRIPTION              | UNIT   | RESULT                               |
|--------------------------|--------|--------------------------------------|
|                          |        | GTG-3+HRSG-3 (5101)<br>T23AH700-0007 |
| AMBIENT PRESSURE         | mmHg   | 758                                  |
| AMBIENT TEMPERATURE      | °C     | 33                                   |
| STACK TEMPERATURE        | °C     | 212.25                               |
| DIAMETER                 | m      | 3.8                                  |
| GAS VELOCITY             | m/s    | 13.49                                |
| FLOW RATE                | Nm³/hr | 302,835.54                           |
| OXYGEN                   | %      | 16.78                                |
| MOISTURE                 | %      | 10.17                                |
| CARBONDIOXIDE            | %      | 2.39                                 |
| VOLUME OF DRY GAS AT STP | m³     | 0.558956                             |

### REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๓-145-๓-0011  
MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 26, 2023  
**SAMPLING TIME** : 11:20-12:50 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๓-145-๓-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๓-145-๓-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033765  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0008

| PARAMETER                             | UNIT              | METHOD OF ANALYSIS                                                     | RESULT                            |           |
|---------------------------------------|-------------------|------------------------------------------------------------------------|-----------------------------------|-----------|
|                                       |                   |                                                                        | FCCU REGENERATOR<br>T23AH700-0008 |           |
|                                       |                   |                                                                        | ACTUAL OXYGEN                     | 7% OXYGEN |
| TOTAL SUSPENDED PARTICULATE           | mg/m <sup>3</sup> | ISOKINETIC, GRAVIMETRIC METHOD (US EPA METHOD 5)                       | 63.4                              | 47.3      |
| SULPHUR DIOXIDE                       | ppm               | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | 568                               | 424       |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm               | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 46.7                              | 34.8      |
| <b>SAMPLE CONDITION</b>               |                   |                                                                        | COMPLETE                          |           |

| DESCRIPTION              | UNIT                | RESULT                            |
|--------------------------|---------------------|-----------------------------------|
|                          |                     | FCCU REGENERATOR<br>T23AH700-0008 |
| AMBIENT PRESSURE         | mmHg                | 758                               |
| AMBIENT TEMPERATURE      | °C                  | 28.75                             |
| STACK TEMPERATURE        | °C                  | 267.75                            |
| DIAMETER                 | m                   | 1.58                              |
| GAS VELOCITY             | m/s                 | 39.12                             |
| FLOW RATE                | Nm <sup>3</sup> /hr | 129,667.74                        |
| OXYGEN                   | %                   | 2.28                              |
| MOISTURE                 | %                   | 15.31                             |
| CARBONDIOXIDE            | %                   | 18.36                             |
| VOLUME OF DRY GAS AT STP | m <sup>3</sup>      | 0.930507                          |

### REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๓-145-๓-0011  
MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 26, 2023  
**SAMPLING TIME** : 11:25-11:55 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO  
**ANALYZED BY** : MISS SUWAN KONGTHONG

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033766  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0008

| PARAMETER        | UNIT              | METHOD OF ANALYSIS                                              | RESULT                            |           |
|------------------|-------------------|-----------------------------------------------------------------|-----------------------------------|-----------|
|                  |                   |                                                                 | FCCU REGENERATOR<br>T23AH700-0008 |           |
|                  |                   |                                                                 | ACTUAL OXYGEN                     | 7% OXYGEN |
| HYDROGEN CYANIDE | mg/m <sup>3</sup> | FILTERING, ION-SPECIFIC ELECTRODE METHOD<br>(OSHA METHOD ID120) | < 0.20                            | < 0.20    |
| SAMPLE CONDITION |                   |                                                                 | COMPLETE                          |           |

| DESCRIPTION              | UNIT                | RESULT                            |
|--------------------------|---------------------|-----------------------------------|
|                          |                     | FCCU REGENERATOR<br>T23AH700-0008 |
| AMBIENT PRESSURE         | mmHg                | 758                               |
| AMBIENT TEMPERATURE      | °C                  | 28.75                             |
| STACK TEMPERATURE        | °C                  | 267.75                            |
| DIAMETER                 | m                   | 1.58                              |
| GAS VELOCITY             | m/s                 | 39.12                             |
| FLOW RATE                | Nm <sup>3</sup> /hr | 129,667.74                        |
| OXYGEN                   | %                   | 2.28                              |
| MOISTURE                 | %                   | 15.31                             |
| CARBONDIOXIDE            | %                   | 18.36                             |
| VOLUME OF DRY GAS AT STP | m <sup>3</sup>      | 0.930507                          |

REMARK  
 RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
 LABORATORY SUPERVISOR

MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 28, 2023  
**SAMPLING TIME** : 11:00-12:10 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO จ-145-ก-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG จ-145-ก-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033767  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0009

| PARAMETER                             | UNIT | METHOD OF ANALYSIS                                                     | RESULT                                |           |
|---------------------------------------|------|------------------------------------------------------------------------|---------------------------------------|-----------|
|                                       |      |                                                                        | SRU/TGCU INCINERATOR<br>T23AH700-0009 |           |
|                                       |      |                                                                        | ACTUAL OXYGEN                         | 7% OXYGEN |
| SULPHUR DIOXIDE                       | ppm  | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | 83.7                                  | 83.8      |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm  | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 14.6                                  | 14.6      |
| HYDROGEN SULPHIDE                     | ppm  | ABSORPTION, IODOMETRIC METHOD AT SITE (US EPA METHOD 11)               | < 5.75                                | < 5.75    |
| SAMPLE CONDITION                      |      |                                                                        | COMPLETE                              |           |

| DESCRIPTION              | UNIT   | RESULT                                |
|--------------------------|--------|---------------------------------------|
|                          |        | SRU/TGCU INCINERATOR<br>T23AH700-0009 |
| AMBIENT PRESSURE         | mmHg   | 758                                   |
| AMBIENT TEMPERATURE      | °C     | 34.42                                 |
| STACK TEMPERATURE        | °C     | 592.83                                |
| DIAMETER                 | m      | 1.71                                  |
| GAS VELOCITY             | m/s    | 6.74                                  |
| FLOW RATE                | Nm³/hr | 16,941.52                             |
| OXYGEN                   | %      | 7.02                                  |
| MOISTURE                 | %      | 11.03                                 |
| CARBONDIOXIDE            | %      | 7.91                                  |
| VOLUME OF DRY GAS AT STP | m³     | 0.558179                              |

### REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
จ-145-ก-0011  
MAY 10, 2023





## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 26, 2023  
**SAMPLING TIME** : 15:20-16:30 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๖-145-๖-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๖-145-๖-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033769  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0010

| PARAMETER                             | UNIT              | METHOD OF ANALYSIS                                                     | RESULT                                      |           |
|---------------------------------------|-------------------|------------------------------------------------------------------------|---------------------------------------------|-----------|
|                                       |                   |                                                                        | COMMON STACK OF PAREX FURNACE T23AH700-0010 |           |
|                                       |                   |                                                                        | ACTUAL OXYGEN                               | 7% OXYGEN |
| TOTAL SUSPENDED PARTICULATE           | mg/m <sup>3</sup> | ISOKINETIC, GRAVIMETRIC METHOD (US EPA METHOD 5)                       | 2.28                                        | 1.94      |
| SULPHUR DIOXIDE                       | ppm               | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                                      | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm               | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 18.5                                        | 15.8      |
| <b>SAMPLE CONDITION</b>               |                   |                                                                        | COMPLETE                                    |           |

| DESCRIPTION              | UNIT                | RESULT                                      |
|--------------------------|---------------------|---------------------------------------------|
|                          |                     | COMMON STACK OF PAREX FURNACE T23AH700-0010 |
| AMBIENT PRESSURE         | mmHg                | 758                                         |
| AMBIENT TEMPERATURE      | °C                  | 31.75                                       |
| STACK TEMPERATURE        | °C                  | 207.67                                      |
| DIAMETER                 | m                   | 3.65                                        |
| GAS VELOCITY             | m/s                 | 7.09                                        |
| FLOW RATE                | Nm <sup>3</sup> /hr | 142,476.42                                  |
| OXYGEN                   | %                   | 4.59                                        |
| MOISTURE                 | %                   | 13.61                                       |
| CARBONDIOXIDE            | %                   | 9.3                                         |
| VOLUME OF DRY GAS AT STP | m <sup>3</sup>      | 0.922439                                    |

### REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๖-145-๖-0011  
MAY 10, 2023



## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 08 9692 4144 e-mail : paisarn.apiwatananon@exxonmobil.com  
**SAMPLING SOURCE** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**SAMPLE TYPE** : STACK  
**SAMPLING DATE** : APRIL 27, 2023  
**SAMPLING TIME** : 11:40-12:50 HOUR  
**SAMPLING BY** : MR PARINYA KLOMKLIAO ๖-145-๖-0039  
**ANALYZED BY** : MISS SUWAN KONGTHONG ๖-145-๖-0025

**RECEIVED DATE** : MAY 2, 2023  
**ANALYTICAL DATE** : MAY 2-8, 2023  
**REPORT NO.** : 2023-U033770  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH700-0011

| PARAMETER                             | UNIT              | METHOD OF ANALYSIS                                                     | RESULT                                      |           |
|---------------------------------------|-------------------|------------------------------------------------------------------------|---------------------------------------------|-----------|
|                                       |                   |                                                                        | COMMON STACK OF BOILER 3&4<br>T23AH700-0011 |           |
|                                       |                   |                                                                        | ACTUAL OXYGEN                               | 7% OXYGEN |
| TOTAL SUSPENDED PARTICULATE           | mg/m <sup>3</sup> | ISOKINETIC, GRAVIMETRIC METHOD (US EPA METHOD 5)                       | 0.65                                        | 1.04      |
| SULPHUR DIOXIDE                       | ppm               | ABSORPTION, BARIUM-THORIN TITRIMETRIC METHOD AT SITE (US EPA METHOD 6) | < 1.30                                      | < 1.30    |
| OXIDE OF NITROGEN AS NITROGEN DIOXIDE | ppm               | ABSORPTION, PHENOLDISULFONIC ACID METHOD (US EPA METHOD 7)             | 48.1                                        | 77.0      |
| <b>SAMPLE CONDITION</b>               |                   |                                                                        | COMPLETE                                    |           |

| DESCRIPTION              | UNIT                | RESULT                                      |
|--------------------------|---------------------|---------------------------------------------|
|                          |                     | COMMON STACK OF BOILER 3&4<br>T23AH700-0011 |
| AMBIENT PRESSURE         | mmHg                | 758                                         |
| AMBIENT TEMPERATURE      | °C                  | 30.92                                       |
| STACK TEMPERATURE        | °C                  | 283                                         |
| DIAMETER                 | m                   | 1.32                                        |
| GAS VELOCITY             | m/s                 | 18.4                                        |
| FLOW RATE                | Nm <sup>3</sup> /hr | 42,343.66                                   |
| OXYGEN                   | %                   | 12.22                                       |
| MOISTURE                 | %                   | 12.56                                       |
| CARBONDIOXIDE            | %                   | 4.97                                        |
| VOLUME OF DRY GAS AT STP | m <sup>3</sup>      | 0.925804                                    |

### REMARK

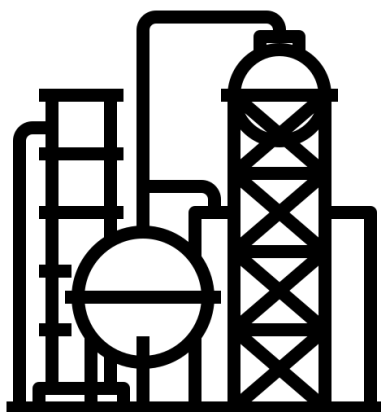
RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

(MISS BUDSAKORN LERDPANUMAS)  
LABORATORY SUPERVISOR  
๖-145-๖-0011  
MAY 10, 2023



## ระดับเสียงในบรรยากาศ

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## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING SOURCE** : BAN KON CHA-NANG  
**MEASURING TYPE** : AMBIENT (NOISE)  
**MEASURING DATE** : APRIL 22-25, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : INTEGRATED SOUND LEVEL METER  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-25, 2023  
**ANALYTICAL DATE** : APRIL 22-25, 2023  
**REPORT NO.** : 2023-U033697  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH737-0001 - T23AH737-0003

| TIME*                           | RESULT dB(A)            |                          |                         |
|---------------------------------|-------------------------|--------------------------|-------------------------|
|                                 | BAN KON CHA-NANG        |                          |                         |
|                                 | APRIL 22-23, 2023       |                          |                         |
|                                 | T23AH737-0001           |                          |                         |
|                                 | L <sub>Aeq</sub> 1 hour | L <sub>Amax</sub> 1 hour | L <sub>A90</sub> 1 hour |
| 07:00-08:00 HOUR                | 52.0                    | 59.4                     | 50.2                    |
| 08:00-09:00 HOUR                | 51.6                    | 57.5                     | 49.8                    |
| 09:00-10:00 HOUR                | 52.1                    | 61.9                     | 50.5                    |
| 10:00-11:00 HOUR                | 52.0                    | 63.0                     | 50.5                    |
| 11:00-12:00 HOUR                | 51.8                    | 58.7                     | 50.2                    |
| 12:00-13:00 HOUR                | 52.5                    | 68.9                     | 50.3                    |
| 13:00-14:00 HOUR                | 54.8                    | 72.0                     | 50.0                    |
| 14:00-15:00 HOUR                | 53.2                    | 71.2                     | 49.7                    |
| 15:00-16:00 HOUR                | 54.9                    | 76.0                     | 50.2                    |
| 16:00-17:00 HOUR                | 53.3                    | 68.5                     | 49.9                    |
| 17:00-18:00 HOUR                | 51.5                    | 61.6                     | 49.6                    |
| 18:00-19:00 HOUR                | 52.5                    | 68.5                     | 50.0                    |
| 19:00-20:00 HOUR                | 51.5                    | 57.6                     | 49.9                    |
| 20:00-21:00 HOUR                | 52.7                    | 69.5                     | 50.1                    |
| 21:00-22:00 HOUR                | 52.1                    | 58.7                     | 50.1                    |
| 22:00-23:00 HOUR                | 51.9                    | 67.6                     | 50.0                    |
| 23:00-00:00 HOUR                | 52.4                    | 71.7                     | 50.0                    |
| 00:00-01:00 HOUR                | 52.6                    | 65.2                     | 50.5                    |
| 01:00-02:00 HOUR                | 52.9                    | 61.4                     | 50.9                    |
| 02:00-03:00 HOUR                | 53.9                    | 71.0                     | 50.8                    |
| 03:00-04:00 HOUR                | 52.7                    | 65.9                     | 51.0                    |
| 04:00-05:00 HOUR                | 52.3                    | 59.2                     | 50.9                    |
| 05:00-06:00 HOUR                | 54.1                    | 69.1                     | 52.3                    |
| 06:00-07:00 HOUR                | 54.8                    | 71.1                     | 52.6                    |
| <b>L<sub>Aeq</sub> 24 hours</b> |                         | 52.9                     |                         |



| TIME*                     | RESULT dB(A)            |                          |                         |
|---------------------------|-------------------------|--------------------------|-------------------------|
|                           | BAN KON CHA-NANG        |                          |                         |
|                           | APRIL 23-24, 2023       |                          |                         |
|                           | T23AH737-0002           |                          |                         |
|                           | L <sub>Aeq</sub> 1 hour | L <sub>Amax</sub> 1 hour | L <sub>A90</sub> 1 hour |
| 07:00-08:00 HOUR          | 54.3                    | 61.9                     | 52.7                    |
| 08:00-09:00 HOUR          | 54.7                    | 63.3                     | 53.0                    |
| 09:00-10:00 HOUR          | 54.5                    | 62.1                     | 52.6                    |
| 10:00-11:00 HOUR          | 53.8                    | 60.4                     | 52.0                    |
| 11:00-12:00 HOUR          | 54.1                    | 60.6                     | 52.1                    |
| 12:00-13:00 HOUR          | 55.9                    | 66.8                     | 53.9                    |
| 13:00-14:00 HOUR          | 55.3                    | 62.3                     | 53.3                    |
| 14:00-15:00 HOUR          | 55.1                    | 60.1                     | 53.1                    |
| 15:00-16:00 HOUR          | 54.6                    | 58.3                     | 53.0                    |
| 16:00-17:00 HOUR          | 55.0                    | 60.6                     | 53.4                    |
| 17:00-18:00 HOUR          | 54.5                    | 59.2                     | 52.6                    |
| 18:00-19:00 HOUR          | 54.4                    | 59.1                     | 52.8                    |
| 19:00-20:00 HOUR          | 55.2                    | 60.5                     | 53.4                    |
| 20:00-21:00 HOUR          | 55.0                    | 64.1                     | 53.4                    |
| 21:00-22:00 HOUR          | 56.7                    | 69.9                     | 53.5                    |
| 22:00-23:00 HOUR          | 56.3                    | 67.8                     | 54.0                    |
| 23:00-00:00 HOUR          | 55.1                    | 65.9                     | 53.0                    |
| 00:00-01:00 HOUR          | 54.9                    | 63.2                     | 53.0                    |
| 01:00-02:00 HOUR          | 54.7                    | 66.1                     | 53.2                    |
| 02:00-03:00 HOUR          | 54.9                    | 59.8                     | 53.5                    |
| 03:00-04:00 HOUR          | 54.8                    | 58.1                     | 53.4                    |
| 04:00-05:00 HOUR          | 55.0                    | 60.4                     | 53.5                    |
| 05:00-06:00 HOUR          | 54.6                    | 62.3                     | 53.2                    |
| 06:00-07:00 HOUR          | 55.4                    | 60.2                     | 54.0                    |
| L <sub>Aeq</sub> 24 hours |                         | 55.0                     |                         |

| TIME*                     | RESULT dB(A)            |                          |                         |
|---------------------------|-------------------------|--------------------------|-------------------------|
|                           | BAN KON CHA-NANG        |                          |                         |
|                           | APRIL 24-25, 2023       |                          |                         |
|                           | T23AH737-0003           |                          |                         |
|                           | L <sub>Aeq</sub> 1 hour | L <sub>Amax</sub> 1 hour | L <sub>A90</sub> 1 hour |
| 07:00-08:00 HOUR          | 55.2                    | 60.4                     | 53.4                    |
| 08:00-09:00 HOUR          | 55.0                    | 60.6                     | 53.1                    |
| 09:00-10:00 HOUR          | 54.5                    | 60.2                     | 52.9                    |
| 10:00-11:00 HOUR          | 55.0                    | 60.3                     | 53.4                    |
| 11:00-12:00 HOUR          | 55.0                    | 60.8                     | 53.3                    |
| 12:00-13:00 HOUR          | 54.3                    | 60.0                     | 52.7                    |
| 13:00-14:00 HOUR          | 54.6                    | 59.0                     | 53.0                    |
| 14:00-15:00 HOUR          | 55.3                    | 61.0                     | 53.4                    |
| 15:00-16:00 HOUR          | 54.9                    | 59.8                     | 53.2                    |
| 16:00-17:00 HOUR          | 54.8                    | 61.1                     | 53.1                    |
| 17:00-18:00 HOUR          | 54.4                    | 59.4                     | 52.9                    |
| 18:00-19:00 HOUR          | 53.7                    | 58.9                     | 52.1                    |
| 19:00-20:00 HOUR          | 54.0                    | 68.0                     | 52.3                    |
| 20:00-21:00 HOUR          | 54.1                    | 59.4                     | 52.8                    |
| 21:00-22:00 HOUR          | 54.5                    | 60.7                     | 52.8                    |
| 22:00-23:00 HOUR          | 53.9                    | 60.4                     | 52.4                    |
| 23:00-00:00 HOUR          | 54.2                    | 60.2                     | 52.2                    |
| 00:00-01:00 HOUR          | 53.6                    | 59.7                     | 52.0                    |
| 01:00-02:00 HOUR          | 53.6                    | 58.3                     | 51.9                    |
| 02:00-03:00 HOUR          | 53.2                    | 58.9                     | 51.5                    |
| 03:00-04:00 HOUR          | 52.7                    | 57.8                     | 51.3                    |
| 04:00-05:00 HOUR          | 53.2                    | 59.0                     | 51.5                    |
| 05:00-06:00 HOUR          | 52.9                    | 60.3                     | 51.4                    |
| 06:00-07:00 HOUR          | 52.6                    | 57.5                     | 51.2                    |
| L <sub>Aeq</sub> 24 hours |                         | 54.2                     |                         |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## ANALYSIS REPORT

**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2392 e-mail : tanya.udom@exxonmobil.com  
**MEASURING SOURCE** : BAN NHONG AUNG  
**MEASURING TYPE** : AMBIENT (NOISE)  
**MEASURING DATE** : APRIL 22-25, 2023  
**MEASURING TIME** : \*  
**MEASURING METHOD** : INTEGRATED SOUND LEVEL METER  
**MEASURED BY** : MR SIRAPAT JONGPHADUNGKIET

**RECEIVED DATE** : APRIL 22-25, 2023  
**ANALYTICAL DATE** : APRIL 22-25, 2023  
**REPORT NO.** : 2023-U033698  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH737-0004 - T23AH737-0006

| TIME*                           | RESULT dB(A)            |                          |                         |
|---------------------------------|-------------------------|--------------------------|-------------------------|
|                                 | BAN NHONG AUNG          |                          |                         |
|                                 | APRIL 22-23, 2023       |                          |                         |
|                                 | T23AH737-0004           |                          |                         |
|                                 | L <sub>Aeq</sub> 1 hour | L <sub>Amax</sub> 1 hour | L <sub>A90</sub> 1 hour |
| 07:00-08:00 HOUR                | 53.4                    | 68.2                     | 44.3                    |
| 08:00-09:00 HOUR                | 52.0                    | 67.5                     | 44.3                    |
| 09:00-10:00 HOUR                | 50.8                    | 68.4                     | 42.9                    |
| 10:00-11:00 HOUR                | 53.9                    | 71.0                     | 43.9                    |
| 11:00-12:00 HOUR                | 47.7                    | 61.7                     | 43.5                    |
| 12:00-13:00 HOUR                | 50.2                    | 66.6                     | 44.4                    |
| 13:00-14:00 HOUR                | 48.2                    | 68.9                     | 43.7                    |
| 14:00-15:00 HOUR                | 50.5                    | 69.1                     | 43.1                    |
| 15:00-16:00 HOUR                | 52.2                    | 73.2                     | 45.6                    |
| 16:00-17:00 HOUR                | 54.0                    | 67.9                     | 46.4                    |
| 17:00-18:00 HOUR                | 56.3                    | 65.7                     | 54.3                    |
| 18:00-19:00 HOUR                | 57.1                    | 67.1                     | 55.3                    |
| 19:00-20:00 HOUR                | 53.5                    | 70.8                     | 48.3                    |
| 20:00-21:00 HOUR                | 50.9                    | 68.4                     | 47.9                    |
| 21:00-22:00 HOUR                | 49.9                    | 61.4                     | 49.1                    |
| 22:00-23:00 HOUR                | 49.5                    | 51.6                     | 48.8                    |
| 23:00-00:00 HOUR                | 49.4                    | 51.5                     | 48.7                    |
| 00:00-01:00 HOUR                | 49.3                    | 58.9                     | 48.6                    |
| 01:00-02:00 HOUR                | 48.5                    | 51.4                     | 44.9                    |
| 02:00-03:00 HOUR                | 47.0                    | 49.8                     | 45.9                    |
| 03:00-04:00 HOUR                | 47.3                    | 59.6                     | 46.1                    |
| 04:00-05:00 HOUR                | 46.0                    | 59.6                     | 43.7                    |
| 05:00-06:00 HOUR                | 44.3                    | 48.3                     | 43.4                    |
| 06:00-07:00 HOUR                | 44.2                    | 50.3                     | 43.3                    |
| <b>L<sub>Aeq</sub> 24 hours</b> |                         | <b>51.5</b>              |                         |





| TIME*                     | RESULT dB(A)            |                          |                         |
|---------------------------|-------------------------|--------------------------|-------------------------|
|                           | BAN NHONG AUNG          |                          |                         |
|                           | APRIL 23-24, 2023       |                          |                         |
|                           | T23AH737-0005           |                          |                         |
|                           | L <sub>Aeq</sub> 1 hour | L <sub>Amax</sub> 1 hour | L <sub>A90</sub> 1 hour |
| 07:00-08:00 HOUR          | 46.6                    | 54.5                     | 43.6                    |
| 08:00-09:00 HOUR          | 48.1                    | 51.6                     | 46.7                    |
| 09:00-10:00 HOUR          | 53.8                    | 81.7                     | 43.8                    |
| 10:00-11:00 HOUR          | 50.9                    | 66.6                     | 44.5                    |
| 11:00-12:00 HOUR          | 51.9                    | 67.5                     | 46.2                    |
| 12:00-13:00 HOUR          | 54.8                    | 65.5                     | 48.6                    |
| 13:00-14:00 HOUR          | 50.5                    | 65.7                     | 44.8                    |
| 14:00-15:00 HOUR          | 53.6                    | 71.6                     | 45.0                    |
| 15:00-16:00 HOUR          | 53.8                    | 72.1                     | 45.7                    |
| 16:00-17:00 HOUR          | 52.3                    | 71.4                     | 46.0                    |
| 17:00-18:00 HOUR          | 53.1                    | 67.0                     | 46.8                    |
| 18:00-19:00 HOUR          | 52.1                    | 68.8                     | 46.1                    |
| 19:00-20:00 HOUR          | 52.7                    | 71.3                     | 46.7                    |
| 20:00-21:00 HOUR          | 50.9                    | 66.3                     | 44.6                    |
| 21:00-22:00 HOUR          | 49.6                    | 67.3                     | 41.5                    |
| 22:00-23:00 HOUR          | 45.5                    | 60.4                     | 42.1                    |
| 23:00-00:00 HOUR          | 46.1                    | 59.0                     | 42.4                    |
| 00:00-01:00 HOUR          | 44.7                    | 55.4                     | 42.1                    |
| 01:00-02:00 HOUR          | 47.5                    | 59.2                     | 43.2                    |
| 02:00-03:00 HOUR          | 49.2                    | 63.6                     | 46.3                    |
| 03:00-04:00 HOUR          | 48.1                    | 58.6                     | 46.1                    |
| 04:00-05:00 HOUR          | 47.8                    | 61.7                     | 46.2                    |
| 05:00-06:00 HOUR          | 48.2                    | 62.0                     | 46.2                    |
| 06:00-07:00 HOUR          | 51.9                    | 67.7                     | 46.4                    |
| L <sub>Aeq</sub> 24 hours |                         | 51.0                     |                         |

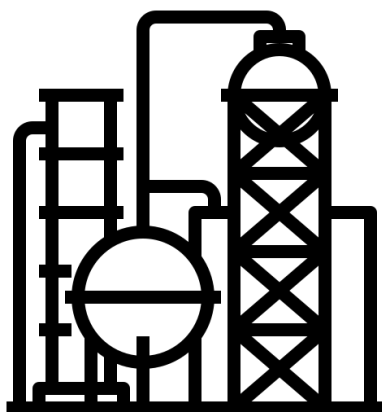
| TIME*                           | RESULT dB(A)            |                          |                         |
|---------------------------------|-------------------------|--------------------------|-------------------------|
|                                 | BAN NHONG AUNG          |                          |                         |
|                                 | APRIL 24-25, 2023       |                          |                         |
|                                 | T23AH737-0006           |                          |                         |
|                                 | L <sub>Aeq</sub> 1 hour | L <sub>Amax</sub> 1 hour | L <sub>A90</sub> 1 hour |
| 07:00-08:00 HOUR                | 54.0                    | 71.8                     | 47.0                    |
| 08:00-09:00 HOUR                | 57.2                    | 79.0                     | 48.7                    |
| 09:00-10:00 HOUR                | 54.3                    | 69.3                     | 47.7                    |
| 10:00-11:00 HOUR                | 54.1                    | 70.7                     | 45.5                    |
| 11:00-12:00 HOUR                | 54.8                    | 69.6                     | 47.5                    |
| 12:00-13:00 HOUR                | 53.7                    | 65.9                     | 46.4                    |
| 13:00-14:00 HOUR                | 52.3                    | 65.0                     | 45.7                    |
| 14:00-15:00 HOUR                | 51.0                    | 68.3                     | 44.3                    |
| 15:00-16:00 HOUR                | 48.2                    | 62.3                     | 43.5                    |
| 16:00-17:00 HOUR                | 50.1                    | 66.0                     | 43.8                    |
| 17:00-18:00 HOUR                | 50.0                    | 66.9                     | 44.1                    |
| 18:00-19:00 HOUR                | 54.5                    | 67.7                     | 45.6                    |
| 19:00-20:00 HOUR                | 53.8                    | 68.8                     | 44.4                    |
| 20:00-21:00 HOUR                | 51.8                    | 72.1                     | 44.8                    |
| 21:00-22:00 HOUR                | 50.0                    | 62.4                     | 47.3                    |
| 22:00-23:00 HOUR                | 49.7                    | 63.4                     | 48.0                    |
| 23:00-00:00 HOUR                | 48.8                    | 55.3                     | 48.0                    |
| 00:00-01:00 HOUR                | 48.3                    | 57.0                     | 46.9                    |
| 01:00-02:00 HOUR                | 49.9                    | 63.7                     | 47.8                    |
| 02:00-03:00 HOUR                | 50.2                    | 68.4                     | 43.8                    |
| 03:00-04:00 HOUR                | 50.4                    | 64.6                     | 44.0                    |
| 04:00-05:00 HOUR                | 52.9                    | 69.6                     | 45.2                    |
| 05:00-06:00 HOUR                | 56.5                    | 65.4                     | 52.0                    |
| 06:00-07:00 HOUR                | 54.5                    | 72.4                     | 50.1                    |
| <b>L<sub>Aeq</sub> 24 hours</b> |                         | 52.9                     |                         |

(MR SILA BANJONGJAIKUK)  
LABORATORY SUPERVISOR

MAY 9, 2023

## คุณภาพน้ำทิ้ง และคุณภาพน้ำทะเล

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## ANALYSIS REPORT

|                                     |                                                            |                        |                      |
|-------------------------------------|------------------------------------------------------------|------------------------|----------------------|
| <b>PROJECT NAME</b>                 | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     | <b>RECEIVED DATE</b>   | : JANUARY 4, 2023    |
| <b>CUSTOMER NAME</b>                | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   | <b>ANALYTICAL DATE</b> | : JANUARY 4-10, 2023 |
| <b>ADDRESS</b>                      | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          | <b>REPORT NO.</b>      | : 2023-U003186       |
| <b>CONTACT INFORMATION</b>          | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com | <b>WORK NO.</b>        | : 2019-002022        |
| <b>SAMPLING SOURCE</b>              | : -                                                        | <b>ANALYSIS NO.</b>    | : T23AA059-0001      |
| <b>SAMPLE TYPE</b>                  | : WASTEWATER                                               |                        |                      |
| <b>SAMPLING DATE</b>                | : JANUARY 4, 2023                                          |                        |                      |
| <b>SAMPLING TIME</b>                | : 11:55 HOUR                                               |                        |                      |
| <b>SAMPLING METHOD <sup>c</sup></b> | : GRAB                                                     |                        |                      |
| <b>SAMPLING BY <sup>c</sup></b>     | : MR THANADET WANSANOR ๓-145-๓-0056                        |                        |                      |
| <b>ANALYZED BY</b>                  | : MISS AMONRAT PUTTALEE ๓-145-๓-0009                       |                        |                      |

| PARAMETER                                                    | UNIT                 | METHOD OF ANALYSIS                                                                          | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                                                              |                      |                                                                                             | LBW001 : INLET API<br>T23AA059-0001 |                 |
| pH <sup>a</sup>                                              | -                    | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                                            | 7.5 (25°C)                          | -               |
| TEMPERATURE <sup>c</sup>                                     | °C                   | LABORATORY AND FIELD METHODS (SM: 2550 B)                                                   | 37                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: 5210 B AND 4500-O G)                         | 311                                 | 2.0             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>                          | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                                              | 419                                 | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L                 | DRIED AT 103-105 °C (SM: 2540 D)                                                            | 232                                 | 5.0             |
| SULPHIDE <sup>c</sup>                                        | mg/L                 | METHYLENE BLUE METHOD(SM: 4500-S <sup>2-</sup> D)                                           | 0.20                                | 0.02            |
| TOTAL DISSOLVED SOLIDS <sup>b</sup>                          | mg/L                 | DRIED AT 180 °C (SM: 2540 C)                                                                | 5,280                               | 25              |
| FAT, OIL AND GREASE <sup>a</sup>                             | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)                                    | 30                                  | 3               |
| CYANIDE <sup>c</sup>                                         | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: 4500 -CN <sup>-</sup> C AND 4500-CN <sup>-</sup> E) | 0.040                               | 0.005           |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |                      |                                                                                             | GREY/TURBID<br>GREY                 |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-04-01-002

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
JANUARY 17, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : FEBRUARY 1, 2023  
**SAMPLING TIME** : 10:10 HOUR  
**SAMPLING METHOD <sup>c</sup>** : GRAB  
**SAMPLING BY <sup>c</sup>** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS AMONRAT PUTTALEE ๓-145-๓-0009

**RECEIVED DATE** : FEBRUARY 1, 2023  
**ANALYTICAL DATE** : FEBRUARY 1-7, 2023  
**REPORT NO.** : 2023-U009488  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AB655-0001

| PARAMETER                                                    | UNIT                 | METHOD OF ANALYSIS                                                                          | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                                                              |                      |                                                                                             | LBW001 : INLET API<br>T23AB655-0001 |                 |
| pH <sup>a</sup>                                              | -                    | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                                            | 7.6 (25°C)                          | -               |
| TEMPERATURE <sup>c</sup>                                     | °C                   | LABORATORY AND FIELD METHODS (SM: 2550 B)                                                   | 38                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: 5210 B AND 4500-O G)                         | 216                                 | 2.0             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>                          | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                                              | 266                                 | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L                 | DRIED AT 103-105 °C (SM: 2540 D)                                                            | 68.5                                | 5.0             |
| SULPHIDE <sup>c</sup>                                        | mg/L                 | METHYLENE BLUE METHOD(SM: 4500-S <sup>2-</sup> D)                                           | 0.18                                | 0.02            |
| TOTAL DISSOLVED SOLIDS <sup>b</sup>                          | mg/L                 | DRIED AT 180 °C (SM: 2540 C)                                                                | 4,743                               | 25              |
| FAT, OIL AND GREASE <sup>a</sup>                             | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)                                    | 20                                  | 3               |
| CYANIDE <sup>c</sup>                                         | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: 4500 -CN <sup>-</sup> C AND 4500-CN <sup>-</sup> E) | 0.049                               | 0.005           |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |                      |                                                                                             | GREY/TURBID<br>GREY                 |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-01-02-001

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
FEBRUARY 10, 2023



## ANALYSIS REPORT

|                                     |                                                            |                        |                    |
|-------------------------------------|------------------------------------------------------------|------------------------|--------------------|
| <b>PROJECT NAME</b>                 | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     | <b>RECEIVED DATE</b>   | : MARCH 2, 2023    |
| <b>CUSTOMER NAME</b>                | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   | <b>ANALYTICAL DATE</b> | : MARCH 2-10, 2023 |
| <b>ADDRESS</b>                      | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          | <b>REPORT NO.</b>      | : 2023-U017556     |
| <b>CONTACT INFORMATION</b>          | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com | <b>WORK NO.</b>        | : 2019-002022      |
| <b>SAMPLING SOURCE</b>              | : -                                                        | <b>ANALYSIS NO.</b>    | : T23AD649-0001    |
| <b>SAMPLE TYPE</b>                  | : WASTEWATER                                               |                        |                    |
| <b>SAMPLING DATE</b>                | : MARCH 2, 2023                                            |                        |                    |
| <b>SAMPLING TIME</b>                | : 09:30 HOUR                                               |                        |                    |
| <b>SAMPLING METHOD <sup>c</sup></b> | : GRAB                                                     |                        |                    |
| <b>SAMPLING BY <sup>c</sup></b>     | : MR THANADET WANSANOR ๓-145-๓-0056                        |                        |                    |
| <b>ANALYZED BY</b>                  | : MISS AMONRAT PUTTALAE ๓-145-๓-0009                       |                        |                    |

| PARAMETER                                                    | UNIT                 | METHOD OF ANALYSIS                                                                                   | RESULT                           | DETECTION LIMIT |
|--------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------|----------------------------------|-----------------|
|                                                              |                      |                                                                                                      | LBW001 : INLET API T23AD649-0001 |                 |
| pH <sup>a</sup>                                              | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                | 8.4 (25°C)                       | -               |
| TEMPERATURE <sup>c</sup>                                     | °C                   | LABORATORY AND FIELD METHODS (SM: PART 2550 B)                                                       | 35                               | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                        | 193                              | 2.0             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>                          | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                  | 356                              | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L                 | DRIED AT 103-105 °C (SM: PART 2540 D)                                                                | 60.4                             | 5.0             |
| SULPHIDE <sup>c</sup>                                        | mg/L                 | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                                               | 4.40                             | 0.02            |
| TOTAL DISSOLVED SOLIDS <sup>c</sup>                          | mg/L                 | DRIED AT 180 °C (SM: PART 2540 C)                                                                    | 9,902                            | 25              |
| FAT, OIL AND GREASE <sup>a</sup>                             | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                        | 13                               | 3               |
| CYANIDE <sup>c</sup>                                         | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | 0.022                            | 0.005           |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |                      |                                                                                                      | GREY/TURBID<br>GREY              |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-02-03-001

.....  
(MRS PITAPAT SUTTHAMNONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
MARCH 14, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : MARCH 2, 2023  
**SAMPLING TIME** : 09:30 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS ARIYA THARAROM

**RECEIVED DATE** : MARCH 2, 2023  
**ANALYTICAL DATE** : MARCH 2-8, 2023  
**REPORT NO.** : 2023-U017557  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AD649-0002

| PARAMETER                                                    | UNIT | METHOD OF ANALYSIS                                 | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|------|----------------------------------------------------|-------------------------------------|-----------------|
|                                                              |      |                                                    | LBW001 : INLET API<br>T23AD649-0002 |                 |
| TOTAL SOLIDS                                                 | mg/L | TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B) | 11,260                              | 25              |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |      |                                                    | GREY/TURBID<br>GREY                 |                 |

RELEASE ORDER NO. : EV-02-03-001

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

MARCH 14, 2023





## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : APRIL 6, 2023  
**SAMPLING TIME** : 10:40 HOUR  
**SAMPLING METHOD <sup>c</sup>** : GRAB  
**SAMPLING BY <sup>c</sup>** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS AMONRAT PUTTALEE ๓-145-๓-0009

**RECEIVED DATE** : APRIL 7, 2023  
**ANALYTICAL DATE** : APRIL 7-18, 2023  
**REPORT NO.** : 2023-U028426  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AG235-0001

| PARAMETER                                                    | UNIT                 | METHOD OF ANALYSIS                                                                                   | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                                                              |                      |                                                                                                      | LBW001 : INLET API<br>T23AG235-0001 |                 |
| pH <sup>a</sup>                                              | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                | 7.4 (25°C)                          | -               |
| TEMPERATURE <sup>c</sup>                                     | °C                   | LABORATORY AND FIELD METHODS (SM: PART 2550 B)                                                       | 41                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                        | 279                                 | 2.0             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>                          | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                  | 397                                 | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L                 | DRIED AT 103-105 °C (SM: PART 2540 D)                                                                | 113                                 | 5.0             |
| SULPHIDE <sup>c</sup>                                        | mg/L                 | METHYLENE BLUE METHOD (SM: PART 4500-S <sup>2-</sup> D)                                              | 0.58                                | 0.02            |
| TOTAL DISSOLVED SOLIDS <sup>b</sup>                          | mg/L                 | DRIED AT 180 °C (SM: PART 2540 C)                                                                    | 4,555                               | 25              |
| FAT, OIL AND GREASE <sup>a</sup>                             | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                        | 52                                  | 3               |
| CYANIDE <sup>c</sup>                                         | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | 0.089                               | 0.005           |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |                      |                                                                                                      | YELLOW/TURBID<br>BROWN              |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-06-04-002

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
APRIL 20, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : MAY 4, 2023  
**SAMPLING TIME** : 09:20 HOUR  
**SAMPLING METHOD °** : GRAB  
**SAMPLING BY °** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS ARIYA THARAROM ๓-145-๓-0067

**RECEIVED DATE** : MAY 5, 2023  
**ANALYTICAL DATE** : MAY 5-16, 2023  
**REPORT NO.** : 2023-U036755  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AI006-0001

| PARAMETER                                                    | UNIT                 | METHOD OF ANALYSIS                                                                                              | RESULT                           | DETECTION LIMIT |
|--------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------|
|                                                              |                      |                                                                                                                 | LBW001 : INLET API T23AI006-0001 |                 |
| pH <sup>a</sup>                                              | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                           | 7.4 (25°C)                       | -               |
| TEMPERATURE °                                                | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                           | 39                               | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                                                   | 184                              | 2.0             |
| CHEMICAL OXYGEN DEMAND °                                     | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                             | 304                              | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L                 | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)                                                    | 33.2                             | 5.0             |
| SULPHIDE °                                                   | mg/L                 | METHYLENE BLUE METHOD (SM: PART 4500-S <sup>2-</sup> D)                                                         | 0.22                             | 0.02            |
| TOTAL DISSOLVED SOLIDS °                                     | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)                                                        | 12,243                           | 25              |
| FAT, OIL AND GREASE <sup>a</sup>                             | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                                   | 34                               | 3               |
| CYANIDE °                                                    | mg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | 0.025                            | 0.005           |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |                      |                                                                                                                 | YELLOW/TURBID<br>GREY            |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-04-05-002

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
MAY 19, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : MAY 4, 2023  
**SAMPLING TIME** : 09:20 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS NADNAPA KAMOLBOON ๓-145-๓-0066

**RECEIVED DATE** : MAY 5, 2023  
**ANALYTICAL DATE** : MAY 5-12, 2023  
**REPORT NO.** : 2023-U036756  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AI006-0002

| PARAMETER             | UNIT    | METHOD OF ANALYSIS                       | RESULT                              | DETECTION LIMIT |
|-----------------------|---------|------------------------------------------|-------------------------------------|-----------------|
|                       |         |                                          | LBW001 : INLET API<br>T23AI006-0002 |                 |
| METALS                |         |                                          |                                     |                 |
| MERCURY               | mg/L Hg | COLD VAPOUR AAS METHOD (SM: PART 3112 B) | 0.0012                              | 0.0005          |
| SAMPLE CONDITION      |         |                                          |                                     |                 |
| WATER'S COLOUR/TURBID |         |                                          | YELLOW/CLEAR                        |                 |
| SEDIMENT              |         |                                          | BROWN                               |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-04-05-002

(MR BHUCHONK PANICHLERTUMPI)  
LABORATORY SUPERVISOR  
๓-145-๓-0020  
MAY 19, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : JUNE 1, 2023  
**SAMPLING TIME** : 09:25 HOUR  
**SAMPLING METHOD <sup>c</sup>** : GRAB  
**SAMPLING BY <sup>c</sup>** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS ARIYA THARAROM ๓-145-๓-0067

**RECEIVED DATE** : JUNE 2, 2023  
**ANALYTICAL DATE** : JUNE 2-9, 2023  
**REPORT NO.** : 2023-U046614  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AK197-0001

| PARAMETER                                                    | UNIT                 | METHOD OF ANALYSIS                                                                                              | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                                                              |                      |                                                                                                                 | LBW001 : INLET API<br>T23AK197-0001 |                 |
| pH <sup>a</sup>                                              | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                           | 7.7 (25°C)                          | -               |
| TEMPERATURE <sup>c</sup>                                     | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                           | 40                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                                                   | 292                                 | 2.0             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>                          | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                             | 474                                 | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L                 | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)                                                    | 35.9                                | 5.0             |
| SULPHIDE <sup>c</sup>                                        | mg/L                 | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                                                          | 0.16                                | 0.02            |
| TOTAL DISSOLVED SOLIDS <sup>c</sup>                          | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)                                                        | 8,080                               | 25              |
| FAT, OIL AND GREASE <sup>a</sup>                             | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                                   | 22                                  | 3               |
| CYANIDE <sup>c</sup>                                         | mg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | 0.020                               | 0.005           |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |                      |                                                                                                                 | GREY/TURBID<br>GREY                 |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-01-06-001

(MRS PIYAPAT SUTTHAMNUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
JUNE 16, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : JUNE 1, 2023  
**SAMPLING TIME** : 09:25 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS ARIYA THARAROM

**RECEIVED DATE** : JUNE 2, 2023  
**ANALYTICAL DATE** : JUNE 2-7, 2023  
**REPORT NO.** : 2023-U046615  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AK197-0002

| PARAMETER                                                    | UNIT | METHOD OF ANALYSIS                                 | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|------|----------------------------------------------------|-------------------------------------|-----------------|
|                                                              |      |                                                    | LBW001 : INLET API<br>T23AK197-0002 |                 |
| TOTAL SOLIDS                                                 | mg/L | TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B) | 8,900                               | 25              |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |      |                                                    | GREY/TURBID<br>GREY                 |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-01-06-001

(MRS PIPAT SUTTHAMNONGWONG)  
LABORATORY SUPERVISOR

JUNE 16, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : MAY 4, 2023  
**SAMPLING TIME** : 09:50 HOUR  
**SAMPLING METHOD °** : GRAB  
**SAMPLING BY °** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS AKSARIN BUNKONG

**RECEIVED DATE** : MAY 5, 2023  
**ANALYTICAL DATE** : MAY 5-14, 2023  
**REPORT NO.** : 2023-U036759  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AI006-0005

| PARAMETER                                                    | UNIT                 | METHOD OF ANALYSIS                                                                                | RESULT                                         | DETECTION LIMIT |
|--------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------|
|                                                              |                      |                                                                                                   | LBW016 : CLARIFIER (SUPERNATANT) T23AI006-0005 |                 |
| pH <sup>a</sup>                                              | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                             | 7.1 (25°C)                                     | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                                     | 7.7                                            | 2.0             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>                          | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                               | 125                                            | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L                 | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)                                      | 30.5                                           | 5.0             |
| AMMONIA <sup>c</sup>                                         | mg/L NH <sub>3</sub> | KJELDAHL (SM: PART 4500-NH <sub>3</sub> B AND PART 4500-NH <sub>3</sub> C) AND CALCULATION METHOD | 52.5                                           | 1.8             |
| PHOSPHATE <sup>c</sup>                                       | mg/L                 | VANADOMOLYBDOPHOSPHORIC ACID COLOURIMETRIC METHOD (SM: PART 4500-P C)                             | 0.61                                           | 0.03            |
| FAT, OIL AND GREASE <sup>a</sup>                             | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                     | 4                                              | 3               |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |                      |                                                                                                   | YELLOW/TURBID<br>BROWN                         |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-04-05-002

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

MAY 19, 2023





## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : MAY 4, 2023  
**SAMPLING TIME** : 09:30 HOUR  
**SAMPLING METHOD <sup>c</sup>** : GRAB  
**SAMPLING BY <sup>c</sup>** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS AKSARIN BUNKONG ๓-145-๓-0014

**RECEIVED DATE** : MAY 5, 2023  
**ANALYTICAL DATE** : MAY 5-12, 2023  
**REPORT NO.** : 2023-U036760  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AI006-0006

| PARAMETER                                                    | UNIT | METHOD OF ANALYSIS                                            | RESULT                                               | DETECTION LIMIT |
|--------------------------------------------------------------|------|---------------------------------------------------------------|------------------------------------------------------|-----------------|
|                                                              |      |                                                               | LBW013 :<br>SEDIMENTATION<br>ZONE 2<br>T23AI006-0006 |                 |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>                       | mg/L | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G) | 5.6                                                  | 2.0             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>                          | mg/L | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)           | 47.5                                                 | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>                          | mg/L | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)  | 13.9                                                 | 5.0             |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |      |                                                               | YELLOW/TURBID<br>BROWN                               |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-04-05-002

(MRS PITAPAT SUTTAMANONTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
MAY 19, 2023





## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JANUARY 4, 2023  
**SAMPLING TIME** : 10:28 HOUR  
**SAMPLING METHOD °** : GRAB  
**SAMPLING BY °** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS KANNIKAR SUMLEETHA ๓-145-๓-0074

**RECEIVED DATE** : JANUARY 4, 2023  
**ANALYTICAL DATE** : JANUARY 4-10, 2023  
**REPORT NO.** : 2023-U003194  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AA059-0005

| PARAMETER                   | UNIT                 | METHOD OF ANALYSIS                                                                         | RESULT                              | DETECTION LIMIT |
|-----------------------------|----------------------|--------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                             |                      |                                                                                            | LBW004 : OP OUTLET<br>T23AA059-0005 |                 |
| pH <sup>a</sup>             | -                    | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                                           | 7.8 (25°C)                          | -               |
| TEMPERATURE °               | °C                   | LABORATORY AND FIELD METHODS (SM: 2550 B)                                                  | 27                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND ° | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: 5210 B AND 4500-O G)                        | < 2.0                               | 2.0             |
| CHEMICAL OXYGEN DEMAND °    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                                             | 75.3                                | 25.0            |
| TOTAL SUSPENDED SOLIDS °    | mg/L                 | DRIED AT 103-105 °C (SM: 2540 D)                                                           | 6.5                                 | 5.0             |
| SULPHIDE °                  | mg/L                 | METHYLENE BLUE METHOD(SM: 4500-S <sup>2-</sup> D)                                          | < 0.02                              | 0.02            |
| TOTAL DISSOLVED SOLIDS °    | mg/L                 | DRIED AT 180 °C (SM: 2540 C)                                                               | 37,075                              | 25              |
| FAT, OIL AND GREASE °       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)                                   | 0.8                                 | 3               |
| CYANIDE °                   | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: 4500-CN <sup>-</sup> C AND 4500-CN <sup>-</sup> E) | < 0.005                             | 0.005           |
| <b>SAMPLE CONDITION</b>     |                      |                                                                                            |                                     |                 |
| WATER'S COLOUR/TURBID       |                      |                                                                                            | YELLOW/CLEAR                        |                 |
| SEDIMENT                    |                      |                                                                                            | YELLOW                              |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-04-01-002

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
JANUARY 17, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : FEBRUARY 1, 2023  
**SAMPLING TIME** : 10:20 HOUR  
**SAMPLING METHOD °** : GRAB  
**SAMPLING BY °** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS KANNIKAR SUMLEETHA ๓-145-๓-0074

**RECEIVED DATE** : FEBRUARY 1, 2023  
**ANALYTICAL DATE** : FEBRUARY 1-7, 2023  
**REPORT NO.** : 2023-U009493  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AB655-0005

| PARAMETER                           | UNIT                 | METHOD OF ANALYSIS                                                                         | RESULT                              | DETECTION LIMIT |
|-------------------------------------|----------------------|--------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                                     |                      |                                                                                            | LBW004 : OP OUTLET<br>T23AB655-0005 |                 |
| pH <sup>a</sup>                     | -                    | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                                           | 7.7 (25°C)                          | -               |
| TEMPERATURE °                       | °C                   | LABORATORY AND FIELD METHODS (SM: 2550 B)                                                  | 27                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND °         | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: 5210 B AND 4500-O G)                        | < 2.0                               | 2.0             |
| CHEMICAL OXYGEN DEMAND °            | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                                             | 51.2                                | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup> | mg/L                 | DRIED AT 103-105 °C (SM: 2540 D)                                                           | 9.7                                 | 5.0             |
| SULPHIDE °                          | mg/L                 | METHYLENE BLUE METHOD(SM: 4500-S <sup>2-</sup> D)                                          | < 0.02                              | 0.02            |
| TOTAL DISSOLVED SOLIDS °            | mg/L                 | DRIED AT 180 °C (SM: 2540 C)                                                               | 36,250                              | 25              |
| FAT, OIL AND GREASE °               | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)                                   | 0.8                                 | 3               |
| CYANIDE °                           | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: 4500-CN <sup>-</sup> C AND 4500-CN <sup>-</sup> E) | < 0.005                             | 0.005           |
| <b>SAMPLE CONDITION</b>             |                      |                                                                                            |                                     |                 |
| WATER'S COLOUR/TURBID               |                      |                                                                                            | YELLOW/CLEAR                        |                 |
| SEDIMENT                            |                      |                                                                                            | YELLOW                              |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-01-02-001

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
FEBRUARY 10, 2023



## ANALYSIS REPORT

|                            |                                                            |                        |                    |
|----------------------------|------------------------------------------------------------|------------------------|--------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     | <b>RECEIVED DATE</b>   | : MARCH 2, 2023    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   | <b>ANALYTICAL DATE</b> | : MARCH 2-10, 2023 |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          | <b>REPORT NO.</b>      | : 2023-U017561     |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com | <b>WORK NO.</b>        | : 2019-002022      |
| <b>SAMPLING SOURCE</b>     | : -                                                        | <b>ANALYSIS NO.</b>    | : T23AD649-0006    |
| <b>SAMPLE TYPE</b>         | : EFFLUENT                                                 |                        |                    |
| <b>SAMPLING DATE</b>       | : MARCH 2, 2023                                            |                        |                    |
| <b>SAMPLING TIME</b>       | : 10:05 HOUR                                               |                        |                    |
| <b>SAMPLING METHOD °</b>   | : GRAB                                                     |                        |                    |
| <b>SAMPLING BY °</b>       | : MR THANADET WANSANOR ๓-145-๓-0056                        |                        |                    |
| <b>ANALYZED BY</b>         | : MISS KANNIKAR SUMLEETHA ๓-145-๓-0074                     |                        |                    |

| PARAMETER                              | UNIT                 | METHOD OF ANALYSIS                                                                                   | RESULT                              | DETECTION LIMIT |
|----------------------------------------|----------------------|------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                                        |                      |                                                                                                      | LBW004 : OP OUTLET<br>T23AD649-0006 |                 |
| pH <sup>a</sup>                        | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                | 7.6 (25°C)                          | -               |
| TEMPERATURE °                          | °C                   | LABORATORY AND FIELD METHODS (SM: PART 2550 B)                                                       | 29                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>a</sup> | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                        | 2.4                                 | 2.0             |
| CHEMICAL OXYGEN DEMAND °               | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                  | 54.9                                | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>    | mg/L                 | DRIED AT 103-105 °C (SM: PART 2540 D)                                                                | 5.1                                 | 5.0             |
| SULPHIDE °                             | mg/L                 | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                                               | < 0.02                              | 0.02            |
| TOTAL DISSOLVED SOLIDS °               | mg/L                 | DRIED AT 180 °C (SM: PART 2540 C)                                                                    | 37,780                              | 25              |
| FAT, OIL AND GREASE °                  | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                        | 0.7                                 | 3               |
| CYANIDE °                              | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | < 0.005                             | 0.005           |
| <b>SAMPLE CONDITION</b>                |                      |                                                                                                      |                                     |                 |
| WATER'S COLOUR/TURBID                  |                      |                                                                                                      | YELLOW/CLEAR                        |                 |
| SEDIMENT                               |                      |                                                                                                      | YELLOW                              |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-02-03-001

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
MARCH 14, 2023




## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : MARCH 2, 2023  
**SAMPLING TIME** : 10:05 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS ARIYA THARAROM

**RECEIVED DATE** : MARCH 2, 2023  
**ANALYTICAL DATE** : MARCH 2-8, 2023  
**REPORT NO.** : 2023-U017562  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AD649-0007

| PARAMETER                                                    | UNIT | METHOD OF ANALYSIS                                 | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|------|----------------------------------------------------|-------------------------------------|-----------------|
|                                                              |      |                                                    | LBW004 : OP OUTLET<br>T23AD649-0007 |                 |
| TOTAL SOLIDS                                                 | mg/L | TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B) | 42,200                              | 25              |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |      |                                                    | YELLOW/CLEAR<br>YELLOW              |                 |

RELEASE ORDER NO. : EV-02-03-001

  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

MARCH 14, 2023



## ANALYSIS REPORT

|                            |                                                            |                        |                    |
|----------------------------|------------------------------------------------------------|------------------------|--------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     |                        |                    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   |                        |                    |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHILA SI RACHA CHON BURI 20230         |                        |                    |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com |                        |                    |
| <b>SAMPLING SOURCE</b>     | : -                                                        |                        |                    |
| <b>SAMPLE TYPE</b>         | : EFFLUENT                                                 | <b>RECEIVED DATE</b>   | : APRIL 7, 2023    |
| <b>SAMPLING DATE</b>       | : APRIL 6, 2023                                            | <b>ANALYTICAL DATE</b> | : APRIL 7-18, 2023 |
| <b>SAMPLING TIME</b>       | : 11:00 HOUR                                               | <b>REPORT NO.</b>      | : 2023-U028430     |
| <b>SAMPLING METHOD °</b>   | : GRAB                                                     | <b>WORK NO.</b>        | : 2019-002022      |
| <b>SAMPLING BY °</b>       | : MR THANADET WANSANOR จ-145-จ-0056                        | <b>ANALYSIS NO.</b>    | : T23AG235-0005    |
| <b>ANALYZED BY</b>         | : MISS KANNIKAR SUMLEETHA จ-145-จ-0074                     |                        |                    |

| PARAMETER                   | UNIT                 | METHOD OF ANALYSIS                                                                                   | RESULT                              | DETECTION LIMIT |
|-----------------------------|----------------------|------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                             |                      |                                                                                                      | LBW004 : OP OUTLET<br>T23AG235-0005 |                 |
| pH <sup>a</sup>             | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                | 7.9 (25°C)                          | -               |
| TEMPERATURE °               | °C                   | LABORATORY AND FIELD METHODS (SM: PART 2550 B)                                                       | 32                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND ° | mg/L                 | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                        | < 2.0                               | 2.0             |
| CHEMICAL OXYGEN DEMAND °    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                  | 70.4                                | 25.0            |
| TOTAL SUSPENDED SOLIDS °    | mg/L                 | DRIED AT 103-105 °C (SM: PART 2540 D)                                                                | < 5.0                               | 5.0             |
| SULPHIDE °                  | mg/L                 | METHYLENE BLUE METHOD (SM: PART 4500-S <sup>2-</sup> D)                                              | < 0.02                              | 0.02            |
| TOTAL DISSOLVED SOLIDS °    | mg/L                 | DRIED AT 180 °C (SM: PART 2540 C)                                                                    | 41,233                              | 25              |
| FAT, OIL AND GREASE °       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                        | 0.6                                 | 3               |
| CYANIDE °                   | mg/L CN <sup>-</sup> | DISTILLATION, COLOURIMETRIC METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | < 0.005                             | 0.005           |
| <b>SAMPLE CONDITION</b>     |                      |                                                                                                      |                                     |                 |
| WATER'S COLOUR/TURBID       |                      |                                                                                                      | YELLOW/CLEAR                        |                 |
| SEDIMENT                    |                      |                                                                                                      | BROWN                               |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-06-04-002

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(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
จ-145-จ-0004  
APRIL 20, 2023





## ANALYSIS REPORT

|                            |                                                            |                        |                  |
|----------------------------|------------------------------------------------------------|------------------------|------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     | <b>RECEIVED DATE</b>   | : MAY 5, 2023    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   | <b>ANALYTICAL DATE</b> | : MAY 5-16, 2023 |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          | <b>REPORT NO.</b>      | : 2023-U036761   |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com | <b>WORK NO.</b>        | : 2019-002022    |
| <b>SAMPLING SOURCE</b>     | : -                                                        | <b>ANALYSIS NO.</b>    | : T23AI006-0007  |
| <b>SAMPLE TYPE</b>         | : EFFLUENT                                                 |                        |                  |
| <b>SAMPLING DATE</b>       | : MAY 4, 2023                                              |                        |                  |
| <b>SAMPLING TIME</b>       | : 09:40 HOUR                                               |                        |                  |
| <b>SAMPLING METHOD °</b>   | : GRAB                                                     |                        |                  |
| <b>SAMPLING BY °</b>       | : MR THANADET WANSANOR จ-145-จ-0056                        |                        |                  |
| <b>ANALYZED BY</b>         | : MISS KANNIKAR SUMLEETHA จ-145-จ-0074                     |                        |                  |

| PARAMETER                   | UNIT                 | METHOD OF ANALYSIS                                                                                                 | RESULT                              | DETECTION LIMIT |
|-----------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                             |                      |                                                                                                                    | LBW004 : OP OUTLET<br>T23AI006-0007 |                 |
| pH <sup>a</sup>             | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                              | 7.7 (25°C)                          | -               |
| TEMPERATURE °               | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                              | 32                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND ° | mg/L                 | MEMBRANE ELECTRODE METHOD<br>(SM: PART 5210 B AND PART 4500-O G)                                                   | < 2.0                               | 2.0             |
| CHEMICAL OXYGEN DEMAND °    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD<br>(SM: PART 5220 C)                                                             | 74.4                                | 25.0            |
| TOTAL SUSPENDED SOLIDS °    | mg/L                 | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C<br>(SM: PART 2540 D)                                                    | < 5.0                               | 5.0             |
| SULPHIDE °                  | mg/L                 | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                                                             | < 0.02                              | 0.02            |
| TOTAL DISSOLVED SOLIDS °    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C<br>(SM: PART 2540 C)                                                        | 35,942                              | 25              |
| FAT, OIL AND GREASE °       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD<br>(SM: PART 5520 B)                                                   | 0.9                                 | 3               |
| CYANIDE °                   | mg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD<br>(SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | < 0.005                             | 0.005           |
| <b>SAMPLE CONDITION</b>     |                      |                                                                                                                    |                                     |                 |
| WATER'S COLOUR/TURBID       |                      |                                                                                                                    | YELLOW/CLEAR                        |                 |
| SEDIMENT                    |                      |                                                                                                                    | YELLOW                              |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-04-05-002

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR  
จ-145-จ-0004  
MAY 19, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : MAY 4, 2023  
**SAMPLING TIME** : 09:40 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS NADNAPA KAMOLBOON ๓-145-๓-0066

**RECEIVED DATE** : MAY 5, 2023  
**ANALYTICAL DATE** : MAY 5-12, 2023  
**REPORT NO.** : 2023-U036766  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AI006-0008

| PARAMETER             | UNIT    | METHOD OF ANALYSIS                       | RESULT                              | DETECTION LIMIT |
|-----------------------|---------|------------------------------------------|-------------------------------------|-----------------|
|                       |         |                                          | LBW004 : OP OUTLET<br>T23AI006-0008 |                 |
| METALS                |         |                                          |                                     |                 |
| MERCURY               | mg/L Hg | COLD VAPOUR AAS METHOD (SM: PART 3112 B) | 0.0010                              | 0.0005          |
| SAMPLE CONDITION      |         |                                          |                                     |                 |
| WATER'S COLOUR/TURBID |         |                                          | COLOURLESS/CLEAR                    |                 |
| SEDIMENT              |         |                                          | WHITE                               |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-04-05-002

(MR BHUCHONK PANICHLERTUMPI)  
LABORATORY SUPERVISOR  
๓-145-๓-0020  
MAY 19, 2023





## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JUNE 1, 2023  
**SAMPLING TIME** : 09:35 HOUR  
**SAMPLING METHOD °** : GRAB  
**SAMPLING BY °** : MR THANADET WANSANOR ๓-145-๓-0056  
**ANALYZED BY** : MISS KANNIKAR SUMLEETHA ๓-145-๓-0074

**RECEIVED DATE** : JUNE 2, 2023  
**ANALYTICAL DATE** : JUNE 2-9, 2023  
**REPORT NO.** : 2023-U046619  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AK197-0006

| PARAMETER                   | UNIT                 | METHOD OF ANALYSIS                                                                                              | RESULT                              | DETECTION LIMIT |
|-----------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------|
|                             |                      |                                                                                                                 | LBW004 : OP OUTLET<br>T23AK197-0006 |                 |
| pH <sup>a</sup>             | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                           | 7.8 (25°C)                          | -               |
| TEMPERATURE °               | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                           | 32                                  | -               |
| BIOCHEMICAL OXYGEN DEMAND ° | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                                                   | < 2.0                               | 2.0             |
| CHEMICAL OXYGEN DEMAND °    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                             | 51.2                                | 25.0            |
| TOTAL SUSPENDED SOLIDS °    | mg/L                 | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)                                                    | < 5.0                               | 5.0             |
| SULPHIDE °                  | mg/L                 | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                                                          | < 0.02                              | 0.02            |
| TOTAL DISSOLVED SOLIDS °    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)                                                        | 38,000                              | 25              |
| FAT, OIL AND GREASE °       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                                   | 0.7                                 | 3               |
| CYANIDE °                   | mg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E) | < 0.005                             | 0.005           |
| <b>SAMPLE CONDITION</b>     |                      |                                                                                                                 |                                     |                 |
| WATER'S COLOUR/TURBID       |                      |                                                                                                                 | YELLOW/CLEAR                        |                 |
| SEDIMENT                    |                      |                                                                                                                 | BROWN                               |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-01-06-001

(MRS PIYAPAT SUTTAMANTWONG)  
LABORATORY SUPERVISOR  
๓-145-๓-0004  
JUNE 16, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : JUNE 1, 2023  
**SAMPLING TIME** : 09:35 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS ARIYA THARAROM

**RECEIVED DATE** : JUNE 2, 2023  
**ANALYTICAL DATE** : JUNE 2-7, 2023  
**REPORT NO.** : 2023-U046620  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AK197-0007

| PARAMETER                                                    | UNIT | METHOD OF ANALYSIS                                 | RESULT                              | DETECTION LIMIT |
|--------------------------------------------------------------|------|----------------------------------------------------|-------------------------------------|-----------------|
|                                                              |      |                                                    | LBW004 : OP OUTLET<br>T23AK197-0007 |                 |
| TOTAL SOLIDS                                                 | mg/L | TOTAL SOLIDS DRIED AT 103-105 °C (SM: PART 2540 B) | 39,720                              | 25              |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |      |                                                    | YELLOW/CLEAR<br>BROWN               |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-01-06-001

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

JUNE 16, 2023



## ANALYSIS REPORT

|                                     |                                                            |                        |                      |
|-------------------------------------|------------------------------------------------------------|------------------------|----------------------|
| <b>PROJECT NAME</b>                 | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     |                        |                      |
| <b>CUSTOMER NAME</b>                | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   |                        |                      |
| <b>ADDRESS</b>                      | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          |                        |                      |
| <b>CONTACT INFORMATION</b>          | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com |                        |                      |
| <b>SAMPLING SOURCE</b>              | : -                                                        |                        |                      |
| <b>SAMPLE TYPE</b>                  | : EFFLUENT                                                 | <b>RECEIVED DATE</b>   | : JANUARY 4, 2023    |
| <b>SAMPLING DATE</b>                | : JANUARY 4, 2023                                          | <b>ANALYTICAL DATE</b> | : JANUARY 4-10, 2023 |
| <b>SAMPLING TIME</b>                | : 11:08 HOUR                                               | <b>REPORT NO.</b>      | : 2023-U003196       |
| <b>SAMPLING METHOD <sup>c</sup></b> | : GRAB                                                     | <b>WORK NO.</b>        | : 2019-002022        |
| <b>SAMPLING BY <sup>c</sup></b>     | : MR THANADET WANSANOR                                     | <b>ANALYSIS NO.</b>    | : T23AA059-0006      |
| <b>ANALYZED BY</b>                  | : MISS AMONRAT PUTTALEE                                    |                        |                      |

| PARAMETER                              | UNIT                              | METHOD OF ANALYSIS                                                   | RESULT                                 | DETECTION LIMIT |
|----------------------------------------|-----------------------------------|----------------------------------------------------------------------|----------------------------------------|-----------------|
|                                        |                                   |                                                                      | LBW005 : REFINERY MIX<br>T23AA059-0006 |                 |
| pH <sup>a</sup>                        | -                                 | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                     | 7.9 (25°C)                             | -               |
| TEMPERATURE <sup>c</sup>               | °C                                | LABORATORY AND FIELD METHODS (SM: 2550 B)                            | 32                                     | -               |
| BIOCHEMICAL OXYGEN DEMAND <sup>c</sup> | mg/L                              | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: 5210 B AND 4500-O G)  | < 2.0                                  | 2.0             |
| SALINITY <sup>c</sup>                  | ppt                               | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: 2520 B)                  | 32.0                                   | 0.1             |
| CHEMICAL OXYGEN DEMAND <sup>c</sup>    | mg/L                              | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                       | 78.4                                   | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup>    | mg/L                              | DRIED AT 103-105 °C (SM: 2540 D)                                     | 6.1                                    | 5.0             |
| NITRATE <sup>c</sup>                   | mg/L NO <sub>3</sub> <sup>-</sup> | CADMIUM REDUCTION METHOD (SM: 4500-NO <sub>3</sub> <sup>-</sup> E)   | 3.01                                   | 0.09            |
| SULPHIDE <sup>c</sup>                  | mg/L                              | METHYLENE BLUE METHOD (SM: 4500-S <sup>2-</sup> D)                   | < 0.02                                 | 0.02            |
| TOTAL DISSOLVED SOLIDS <sup>c</sup>    | mg/L                              | DRIED AT 180 °C (SM: 2540 C)                                         | 36,701                                 | 25              |
| FAT, OIL AND GREASE <sup>c</sup>       | mg/L                              | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)             | 0.8                                    | 3               |
| <b>METALS</b>                          |                                   |                                                                      |                                        |                 |
| LEAD <sup>c</sup>                      | mg/L Pb                           | DIGESTION, DIRECT AIR-ACETYLENE FLAME METHOD (SM: 3030 E AND 3111 B) | < 0.015                                | 0.015           |
| <b>SAMPLE CONDITION</b>                |                                   |                                                                      |                                        |                 |
| WATER'S COLOUR/TURBID                  |                                   |                                                                      | YELLOW/CLEAR                           |                 |
| SEDIMENT                               |                                   |                                                                      | YELLOW                                 |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-04-01-002

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

JANUARY 26, 2023



## ANALYSIS REPORT

|                            |                                                            |                        |                       |
|----------------------------|------------------------------------------------------------|------------------------|-----------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     |                        |                       |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   |                        |                       |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          |                        |                       |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com |                        |                       |
| <b>SAMPLING SOURCE</b>     | : -                                                        |                        |                       |
| <b>SAMPLE TYPE</b>         | : EFFLUENT                                                 | <b>RECEIVED DATE</b>   | : FEBRUARY 1, 2023    |
| <b>SAMPLING DATE</b>       | : FEBRUARY 1, 2023                                         | <b>ANALYTICAL DATE</b> | : FEBRUARY 1-10, 2023 |
| <b>SAMPLING TIME</b>       | : 10:45 HOUR                                               | <b>REPORT NO.</b>      | : 2023-U009494        |
| <b>SAMPLING METHOD °</b>   | : GRAB                                                     | <b>WORK NO.</b>        | : 2019-002022         |
| <b>SAMPLING BY °</b>       | : MR THANADET WANSANOR                                     | <b>ANALYSIS NO.</b>    | : T23AB655-0006       |
| <b>ANALYZED BY</b>         | : MISS AMONRAT PUTTALEE                                    |                        |                       |

| PARAMETER                   | UNIT                              | METHOD OF ANALYSIS                                                   | RESULT                                 | DETECTION LIMIT |
|-----------------------------|-----------------------------------|----------------------------------------------------------------------|----------------------------------------|-----------------|
|                             |                                   |                                                                      | LBW005 : REFINERY MIX<br>T23AB655-0006 |                 |
| pH <sup>a</sup>             | -                                 | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                     | 7.9 (25°C)                             | -               |
| TEMPERATURE °               | °C                                | LABORATORY AND FIELD METHODS (SM: 2550 B)                            | 31                                     | -               |
| BIOCHEMICAL OXYGEN DEMAND ° | mg/L                              | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: 5210 B AND 4500-O G)  | < 2.0                                  | 2.0             |
| SALINITY °                  | ppt                               | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: 2520 B)                  | 30.0                                   | 0.1             |
| CHEMICAL OXYGEN DEMAND °    | mg/L                              | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                       | 44.8                                   | 25.0            |
| TOTAL SUSPENDED SOLIDS °    | mg/L                              | DRIED AT 103-105 °C (SM: 2540 D)                                     | < 5.0                                  | 5.0             |
| NITRATE °                   | mg/L NO <sub>3</sub> <sup>-</sup> | CADMIUM REDUCTION METHOD (SM: 4500-NO <sub>3</sub> <sup>-</sup> E)   | 7.09                                   | 0.09            |
| SULPHIDE °                  | mg/L                              | METHYLENE BLUE METHOD (SM: 4500-S <sup>2-</sup> D)                   | < 0.02                                 | 0.02            |
| TOTAL DISSOLVED SOLIDS °    | mg/L                              | DRIED AT 180 °C (SM: 2540 C)                                         | 36,820                                 | 25              |
| FAT, OIL AND GREASE °       | mg/L                              | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)             | 0.6                                    | 3               |
| <b>METALS</b>               |                                   |                                                                      |                                        |                 |
| LEAD °                      | mg/L Pb                           | DIGESTION, DIRECT AIR-ACETYLENE FLAME METHOD (SM: 3030 E AND 3111 B) | < 0.015                                | 0.015           |
| <b>SAMPLE CONDITION</b>     |                                   |                                                                      |                                        |                 |
| WATER'S COLOUR/TURBID       |                                   |                                                                      | YELLOW/CLEAR                           |                 |
| SEDIMENT                    |                                   |                                                                      | YELLOW                                 |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.  
RELEASE ORDER NO. : EV-01-02-001

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

FEBRUARY 10, 2023



## ANALYSIS REPORT

|                            |                                                            |                        |                    |
|----------------------------|------------------------------------------------------------|------------------------|--------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     | <b>RECEIVED DATE</b>   | : MARCH 2, 2023    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   | <b>ANALYTICAL DATE</b> | : MARCH 2-10, 2023 |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          | <b>REPORT NO.</b>      | : 2023-U017563     |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com | <b>WORK NO.</b>        | : 2019-002022      |
| <b>SAMPLING SOURCE</b>     | : -                                                        | <b>ANALYSIS NO.</b>    | : T23AD649-0008    |
| <b>SAMPLE TYPE</b>         | : EFFLUENT                                                 |                        |                    |
| <b>SAMPLING DATE</b>       | : MARCH 2, 2023                                            |                        |                    |
| <b>SAMPLING TIME</b>       | : 10:25 HOUR                                               |                        |                    |
| <b>SAMPLING METHOD °</b>   | : GRAB                                                     |                        |                    |
| <b>SAMPLING BY °</b>       | : MR THANADET WANSANOR                                     |                        |                    |
| <b>ANALYZED BY</b>         | : MISS AMONRAT PUTTALEE                                    |                        |                    |

| PARAMETER                           | UNIT                              | METHOD OF ANALYSIS                                                            | RESULT                                 | DETECTION LIMIT |
|-------------------------------------|-----------------------------------|-------------------------------------------------------------------------------|----------------------------------------|-----------------|
|                                     |                                   |                                                                               | LBW005 : REFINERY MIX<br>T23AD649-0008 |                 |
| pH <sup>a</sup>                     | -                                 | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                         | 7.7 (25°C)                             | -               |
| TEMPERATURE °                       | °C                                | LABORATORY AND FIELD METHODS (SM: PART 2550 B)                                | 33                                     | -               |
| BIOCHEMICAL OXYGEN DEMAND °         | mg/L                              | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G) | < 2.0                                  | 2.0             |
| SALINITY °                          | ppt                               | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)                      | 31.8                                   | 0.1             |
| CHEMICAL OXYGEN DEMAND °            | mg/L                              | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                           | 53.3                                   | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup> | mg/L                              | DRIED AT 103-105 °C (SM: PART 2540 D)                                         | 6.3                                    | 5.0             |
| NITRATE °                           | mg/L NO <sub>3</sub> <sup>-</sup> | CADMIUM REDUCTION METHOD (SM: PART 4500-NO <sub>3</sub> <sup>-</sup> E)       | 0.71                                   | 0.09            |
| SULPHIDE °                          | mg/L                              | METHYLENE BLUE METHOD (SM: PART 4500-S <sup>2-</sup> D)                       | < 0.02                                 | 0.02            |
| TOTAL DISSOLVED SOLIDS °            | mg/L                              | DRIED AT 180 °C (SM: PART 2540 C)                                             | 37,920                                 | 25              |
| FAT, OIL AND GREASE °               | mg/L                              | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                 | 0.7                                    | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                | RESULT                                 | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------|----------------------------------------|-----------------|
|                       |         |                                                                                   | LBW005 : REFINERY MIX<br>T23AD649-0008 |                 |
| METALS                |         |                                                                                   |                                        |                 |
| LEAD <sup>c</sup>     | mg/L Pb | DIGESTION, DIRECT AIR-ACETYLENE FLAME METHOD<br>(SM: PART 3030 E AND PART 3111 B) | < 0.015                                | 0.015           |
| SAMPLE CONDITION      |         |                                                                                   |                                        |                 |
| WATER'S COLOUR/TURBID |         |                                                                                   | YELLOW/CLEAR                           |                 |
| SEDIMENT              |         |                                                                                   | BROWN                                  |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-02-03-001

.....  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

MARCH 14, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : EFFLUENT **RECEIVED DATE** : -  
**MEASURING DATE** : MARCH 2, 2023 **ANALYTICAL DATE** : -  
**MEASURING TIME** : 10:25 HOUR **REPORT NO.** : 2023-U017564  
**SAMPLING METHOD** : GRAB **WORK NO.** : 2019-002022  
**MEASURED BY** : MR THANADET WANSANOR **ANALYSIS NO.** : T23AD649-0009

| PARAMETER                                                    | UNIT | METHOD OF ANALYSIS                                    | RESULT                                 | DETECTION LIMIT |
|--------------------------------------------------------------|------|-------------------------------------------------------|----------------------------------------|-----------------|
|                                                              |      |                                                       | LBW005 : REFINERY MIX<br>T23AD649-0009 |                 |
| DISSOLVED OXYGEN                                             | mg/L | MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G) | 5.0                                    | 0.5             |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |      |                                                       | COLOURLESS/CLEAR<br>WHITE              |                 |

RELEASE ORDER NO. : EV-02-03-001

(MR THEERAWAT CHOMMING)  
LABORATORY SUPERVISOR

MARCH 14, 2023





## ANALYSIS REPORT

|                            |                                                            |                        |                    |
|----------------------------|------------------------------------------------------------|------------------------|--------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     |                        |                    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   |                        |                    |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          |                        |                    |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com |                        |                    |
| <b>SAMPLING SOURCE</b>     | : -                                                        |                        |                    |
| <b>SAMPLE TYPE</b>         | : EFFLUENT                                                 | <b>RECEIVED DATE</b>   | : APRIL 7, 2023    |
| <b>SAMPLING DATE</b>       | : APRIL 6, 2023                                            | <b>ANALYTICAL DATE</b> | : APRIL 7-18, 2023 |
| <b>SAMPLING TIME</b>       | : 11:25 HOUR                                               | <b>REPORT NO.</b>      | : 2023-U028431     |
| <b>SAMPLING METHOD °</b>   | : GRAB                                                     | <b>WORK NO.</b>        | : 2019-002022      |
| <b>SAMPLING BY °</b>       | : MR THANADET WANSANOR                                     | <b>ANALYSIS NO.</b>    | : T23AG235-0006    |
| <b>ANALYZED BY</b>         | : MISS AMONRAT PUTTALEE                                    |                        |                    |

| PARAMETER                           | UNIT                              | METHOD OF ANALYSIS                                                            | RESULT                                 | DETECTION LIMIT |
|-------------------------------------|-----------------------------------|-------------------------------------------------------------------------------|----------------------------------------|-----------------|
|                                     |                                   |                                                                               | LBW005 : REFINERY MIX<br>T23AG235-0006 |                 |
| pH <sup>a</sup>                     | -                                 | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                         | 8.1 (25°C)                             | -               |
| TEMPERATURE °                       | °C                                | LABORATORY AND FIELD METHODS (SM: PART 2550 B)                                | 35                                     | -               |
| BIOCHEMICAL OXYGEN DEMAND °         | mg/L                              | 5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G) | < 2.0                                  | 2.0             |
| SALINITY °                          | ppt                               | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)                      | 36.6                                   | 0.1             |
| CHEMICAL OXYGEN DEMAND °            | mg/L                              | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                           | 59.2                                   | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup> | mg/L                              | DRIED AT 103-105 °C (SM: PART 2540 D)                                         | 8.9                                    | 5.0             |
| NITRATE °                           | mg/L NO <sub>3</sub> <sup>-</sup> | CADMIUM REDUCTION METHOD (SM: PART 4500-NO <sub>3</sub> <sup>-</sup> E)       | 0.75                                   | 0.09            |
| SULPHIDE °                          | mg/L                              | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                        | < 0.02                                 | 0.02            |
| TOTAL DISSOLVED SOLIDS °            | mg/L                              | DRIED AT 180 °C (SM: PART 2540 C)                                             | 44,094                                 | 25              |
| FAT, OIL AND GREASE °               | mg/L                              | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                 | 0.6                                    | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                | RESULT                                 | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------|----------------------------------------|-----------------|
|                       |         |                                                                                   | LBW005 : REFINERY MIX<br>T23AG235-0006 |                 |
| METALS                |         |                                                                                   |                                        |                 |
| LEAD °                | mg/L Pb | DIGESTION, DIRECT AIR-ACETYLENE FLAME METHOD<br>(SM: PART 3030 E AND PART 3111 B) | < 0.015                                | 0.015           |
| SAMPLE CONDITION      |         |                                                                                   |                                        |                 |
| WATER'S COLOUR/TURBID |         |                                                                                   | YELLOW/CLEAR                           |                 |
| SEDIMENT              |         |                                                                                   | BROWN                                  |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-06-04-002

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

APRIL 20, 2023

## ANALYSIS REPORT

|                            |                                                            |                        |                  |
|----------------------------|------------------------------------------------------------|------------------------|------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     | <b>RECEIVED DATE</b>   | : MAY 5, 2023    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   | <b>ANALYTICAL DATE</b> | : MAY 5-19, 2023 |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          | <b>REPORT NO.</b>      | : 2023-U036768   |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com | <b>WORK NO.</b>        | : 2019-002022    |
| <b>SAMPLING SOURCE</b>     | : -                                                        | <b>ANALYSIS NO.</b>    | : T23AI006-0009  |
| <b>SAMPLE TYPE</b>         | : EFFLUENT                                                 |                        |                  |
| <b>SAMPLING DATE</b>       | : MAY 4, 2023                                              |                        |                  |
| <b>SAMPLING TIME</b>       | : 10:00 HOUR                                               |                        |                  |
| <b>SAMPLING METHOD °</b>   | : GRAB                                                     |                        |                  |
| <b>SAMPLING BY °</b>       | : MR THANADET WANSANOR                                     |                        |                  |
| <b>ANALYZED BY</b>         | : MISS NAPAPORN KHUNNOKKHUM                                |                        |                  |

| PARAMETER                           | UNIT                              | METHOD OF ANALYSIS                                                      | RESULT                                 | DETECTION LIMIT |
|-------------------------------------|-----------------------------------|-------------------------------------------------------------------------|----------------------------------------|-----------------|
|                                     |                                   |                                                                         | LBW005 : REFINERY MIX<br>T23AI006-0009 |                 |
| pH <sup>a</sup>                     | -                                 | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                   | 7.8 (25°C)                             | -               |
| TEMPERATURE °                       | °C                                | THERMOMETER AT SITE (SM: PART 2550 B)                                   | 35                                     | -               |
| BIOCHEMICAL OXYGEN DEMAND °         | mg/L                              | MEMBRANE ELECTRODE METHOD<br>(SM: PART 5210 B AND PART 4500-O G)        | < 2.0                                  | 2.0             |
| SALINITY °                          | ppt                               | ELECTRICAL CONDUCTIVITY METHOD AT SITE<br>(SM: PART 2520 B)             | 34.8                                   | 0.1             |
| CHEMICAL OXYGEN DEMAND °            | mg/L                              | CLOSED REFLUX, TITRIMETRIC METHOD<br>(SM: PART 5220 C)                  | 76.0                                   | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup> | mg/L                              | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C<br>(SM: PART 2540 D)         | 12.3                                   | 5.0             |
| NITRATE °                           | mg/L NO <sub>3</sub> <sup>-</sup> | CADMIUM REDUCTION METHOD (SM: PART 4500-NO <sub>3</sub> <sup>-</sup> E) | 17.3                                   | 0.09            |
| SULPHIDE °                          | mg/L                              | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                  | < 0.02                                 | 0.02            |
| TOTAL DISSOLVED SOLIDS °            | mg/L                              | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C<br>(SM: PART 2540 C)             | 36,000                                 | 25              |
| FAT, OIL AND GREASE °               | mg/L                              | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD<br>(SM: PART 5520 B)        | 1.1                                    | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                           | RESULT                                 | DETECTION LIMIT |
|-----------------------|---------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------|
|                       |         |                                                                                                                              | LBW005 : REFINERY MIX<br>T23A1006-0009 |                 |
| METALS                |         |                                                                                                                              |                                        |                 |
| LEAD °                | mg/L Pb | IN-HOUSE METHOD: UAE.TP.IW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B | < 0.015                                | 0.015           |
| SAMPLE CONDITION      |         |                                                                                                                              |                                        |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                              | YELLOW/CLEAR                           |                 |
| SEDIMENT              |         |                                                                                                                              | YELLOW                                 |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-04-05-002

[REDACTED SIGNATURE]

(MRS. PATTARA SUTTHANONTWONG)  
LABORATORY SUPERVISOR

MAY 19, 2023

## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JUNE 1, 2023  
**SAMPLING TIME** : 09:55 HOUR  
**SAMPLING METHOD °** : GRAB  
**SAMPLING BY °** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS NAPAPORN KHUNNOKKHUM

**RECEIVED DATE** : JUNE 2, 2023  
**ANALYTICAL DATE** : JUNE 2-14, 2023  
**REPORT NO.** : 2023-U046621  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AK197-0008

| PARAMETER                           | UNIT                              | METHOD OF ANALYSIS                                                      | RESULT                                 | DETECTION LIMIT |
|-------------------------------------|-----------------------------------|-------------------------------------------------------------------------|----------------------------------------|-----------------|
|                                     |                                   |                                                                         | LBW005 : REFINERY MIX<br>T23AK197-0008 |                 |
| pH <sup>a</sup>                     | -                                 | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                   | 7.9 (25°C)                             | -               |
| TEMPERATURE °                       | °C                                | THERMOMETER AT SITE (SM: PART 2550 B)                                   | 35                                     | -               |
| BIOCHEMICAL OXYGEN DEMAND °         | mg/L                              | MEMBRANE ELECTRODE METHOD<br>(SM: PART 5210 B AND PART 4500-O G)        | < 2.0                                  | 2.0             |
| SALINITY °                          | ppt                               | ELECTRICAL CONDUCTIVITY METHOD AT SITE<br>(SM: PART 2520 B)             | 35.5                                   | 0.1             |
| CHEMICAL OXYGEN DEMAND °            | mg/L                              | CLOSED REFLUX, TITRIMETRIC METHOD<br>(SM: PART 5220 C)                  | 54.4                                   | 25.0            |
| TOTAL SUSPENDED SOLIDS <sup>a</sup> | mg/L                              | TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C<br>(SM: PART 2540 D)         | 12.9                                   | 5.0             |
| NITRATE °                           | mg/L NO <sub>3</sub> <sup>-</sup> | CADMIUM REDUCTION METHOD (SM: PART 4500-NO <sub>3</sub> <sup>-</sup> E) | 5.09                                   | 0.09            |
| SULPHIDE °                          | mg/L                              | METHYLENE BLUE METHOD(SM: PART 4500-S <sup>2-</sup> D)                  | < 0.02                                 | 0.02            |
| TOTAL DISSOLVED SOLIDS °            | mg/L                              | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C<br>(SM: PART 2540 C)             | 38,300                                 | 25              |
| FAT, OIL AND GREASE °               | mg/L                              | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD<br>(SM: PART 5520 B)        | 1.0                                    | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                           | RESULT                                 | DETECTION LIMIT |
|-----------------------|---------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------|
|                       |         |                                                                                                                              | LBW005 : REFINERY MIX<br>T23AK197-0008 |                 |
| METALS                |         |                                                                                                                              |                                        |                 |
| LEAD °                | mg/L Pb | IN-HOUSE METHOD: UAE.TP.IW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B | < 0.015                                | 0.015           |
| SAMPLE CONDITION      |         |                                                                                                                              |                                        |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                              | YELLOW/CLEAR                           |                 |
| SEDIMENT              |         |                                                                                                                              | BROWN                                  |                 |

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-01-06-001

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

JUNE 16, 2023

## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : EFFLUENT  
**MEASURING DATE** : JUNE 1, 2023  
**MEASURING TIME** : 09:55 HOUR  
**SAMPLING METHOD** : GRAB  
**MEASURED BY** : MR THANADET WANSANOR

**RECEIVED DATE** : -  
**ANALYTICAL DATE** : -  
**REPORT NO.** : 2023-U046622  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AK197-0009

| PARAMETER                                                    | UNIT | METHOD OF ANALYSIS                                    | RESULT                                 | DETECTION LIMIT |
|--------------------------------------------------------------|------|-------------------------------------------------------|----------------------------------------|-----------------|
|                                                              |      |                                                       | LBW005 : REFINERY MIX<br>T23AK197-0009 |                 |
| DISSOLVED OXYGEN                                             | mg/L | MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G) | 4.4                                    | 0.5             |
| <b>SAMPLE CONDITION</b><br>WATER'S COLOUR/TURBID<br>SEDIMENT |      |                                                       | YELLOW/CLEAR<br>BROWN                  |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

RELEASE ORDER NO. : EV-01-06-001

(MR THEERAWAT CHOMMING)  
LABORATORY SUPERVISOR

JUNE 16, 2023





## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : SEAWATER  
**SAMPLING DATE** : JANUARY 4, 2023  
**SAMPLING TIME** : 10:11 HOUR  
**SAMPLING METHOD** : COMPOSITE  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS AMONRAT PUTTALEE

**RECEIVED DATE** : JANUARY 4, 2023  
**ANALYTICAL DATE** : JANUARY 4-10, 2023  
**REPORT NO.** : 2023-U003797  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AA061-0001

| PARAMETER                 | UNIT                 | METHOD OF ANALYSIS                                                                                                                      | RESULT                                             | DETECTION LIMIT |
|---------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------|
|                           |                      |                                                                                                                                         | LBW006. 500 M<br>OFFSHORE (JETTY)<br>T23AA061-0001 |                 |
| pH                        | -                    | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                                                                                        | 7.9 (25°C)                                         | -               |
| PHENOLS                   | mg/L                 | DISTILLATION, 4-AMINOANTIPYRINE METHOD<br>(SM: 5530 B AND 5530 C)                                                                       | 0.008                                              | 0.005           |
| TEMPERATURE               | °C                   | THERMOMETER AT SITE (SM: 2550 B)                                                                                                        | 27                                                 | -               |
| SALINITY                  | ppt                  | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: 2520 B)                                                                                     | 28.3                                               | 0.1             |
| DISSOLVED OXYGEN          | mg/L                 | MEMBRANE ELECTRODE METHOD AT SITE (SM: 4500-O G)                                                                                        | 5.1                                                | 0.5             |
| BIOCHEMICAL OXYGEN DEMAND | mg/L                 | MEMBRANE ELECTRODE METHOD<br>(SM: 4500-O G AND 5210 B)                                                                                  | 1.1                                                | 0.5             |
| CHEMICAL OXYGEN DEMAND    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                                                                                          | 73.7                                               | 25.0            |
| SUSPENDED SOLIDS          | mg/L                 | GRAVIMETRIC METHOD (SM: 2540 D)                                                                                                         | 8.2                                                | 1.0             |
| TOTAL DISSOLVED SOLIDS    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)                                                                                     | 35,748                                             | 25              |
| CYANIDE                   | µg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD<br>(SM: 4500-CN <sup>-</sup> C AND 4500-CN <sup>-</sup> E)                                | < 5                                                | 5               |
| NITRATE-NITROGEN          | µg/L N               | CADMIUM REDUCTION AND COLOURIMETRIC METHOD<br>(BASED ON PRACTICAL HANDBOOK OF SEAWATER<br>ANALYSIS (STRICKLAND AND PARSON, 1972, II.6)) | 18.8                                               | 0.50            |
| SULPHIDE                  | µg/L                 | METHYLENE BLUE COLOURIMETRIC METHOD<br>(METHOD OF SEAWATER ANALYSIS, GRASSHOFF,<br>1999, CHAPTER 5)                                     | < 10                                               | 10              |
| FAT, OIL AND GREASE       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD<br>(SM: 5520 B)                                                                             | 0.4                                                | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                                | RESULT                                          | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------|
|                       |         |                                                                                                                                   | LBW006. 500 M OFFSHORE (JETTY)<br>T23AA061-0001 |                 |
| METALS                |         |                                                                                                                                   |                                                 |                 |
| LEAD                  | µg/L Pb | PRE-CONCENTRATION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (BASED ON METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 12) | 0.740                                           | 0.100           |
| SAMPLE CONDITION      |         |                                                                                                                                   |                                                 |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                                   | COLOURLESS/CLEAR                                |                 |
| SEDIMENT              |         |                                                                                                                                   | BROWN                                           |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-04-01-002

[REDACTED]

LABORATORY SUPERVISOR

JANUARY 26, 2023

## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : SEAWATER  
**SAMPLING DATE** : FEBRUARY 1, 2023  
**SAMPLING TIME** : 11:00 HOUR  
**SAMPLING METHOD** : COMPOSITE  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS AMONRAT PUTTALEE

**RECEIVED DATE** : FEBRUARY 1, 2023  
**ANALYTICAL DATE** : FEBRUARY 1-16, 2023  
**REPORT NO.** : 2023-U009853  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AB656-0001

| PARAMETER                 | UNIT                 | METHOD OF ANALYSIS                                                                                                                      | RESULT                                             | DETECTION LIMIT |
|---------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------|
|                           |                      |                                                                                                                                         | LBW006. 500 M<br>OFFSHORE (JETTY)<br>T23AB656-0001 |                 |
| pH                        | -                    | ELECTROMETRIC METHOD (SM: 4500-H <sup>+</sup> B)                                                                                        | 7.9 (25°C)                                         | -               |
| PHENOLS                   | mg/L                 | DISTILLATION, 4-AMINOANTIPYRINE METHOD<br>(SM: 5530 B AND 5530 C)                                                                       | 0.007                                              | 0.005           |
| TEMPERATURE               | °C                   | THERMOMETER AT SITE (SM: 2550 B)                                                                                                        | 26                                                 | -               |
| SALINITY                  | ppt                  | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: 2520 B)                                                                                     | 27.6                                               | 0.1             |
| DISSOLVED OXYGEN          | mg/L                 | MEMBRANE ELECTRODE METHOD AT SITE (SM: 4500-O G)                                                                                        | 4.6                                                | 0.5             |
| BIOCHEMICAL OXYGEN DEMAND | mg/L                 | MEMBRANE ELECTRODE METHOD<br>(SM: 4500-O G AND 5210 B)                                                                                  | 1.2                                                | 0.5             |
| CHEMICAL OXYGEN DEMAND    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: 5220 C)                                                                                          | 41.6                                               | 25.0            |
| SUSPENDED SOLIDS          | mg/L                 | GRAVIMETRIC METHOD (SM: 2540 D)                                                                                                         | 6.7                                                | 1.0             |
| TOTAL DISSOLVED SOLIDS    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)                                                                                     | 33,720                                             | 25              |
| CYANIDE                   | µg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD<br>(SM: 4500-CN <sup>-</sup> C AND 4500-CN <sup>-</sup> E)                                | < 5                                                | 5               |
| NITRATE-NITROGEN          | µg/L N               | CADMIUM REDUCTION AND COLOURIMETRIC METHOD<br>(BASED ON PRACTICAL HANDBOOK OF SEAWATER<br>ANALYSIS (STRICKLAND AND PARSON, 1972, II.6)) | 30.6                                               | 0.50            |
| SULPHIDE                  | µg/L                 | METHYLENE BLUE COLOURIMETRIC METHOD<br>(METHOD OF SEAWATER ANALYSIS, GRASSHOFF,<br>1999, CHAPTER 5)                                     | < 10                                               | 10              |
| FAT, OIL AND GREASE       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD<br>(SM: 5520 B)                                                                             | 0.5                                                | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                                | RESULT                                             | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------|
|                       |         |                                                                                                                                   | LBW006. 500 M<br>OFFSHORE (JETTY)<br>T23AB656-0001 |                 |
| METALS                |         |                                                                                                                                   |                                                    |                 |
| LEAD                  | µg/L Pb | PRE-CONCENTRATION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (BASED ON METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 12) | 0.300                                              | 0.100           |
| SAMPLE CONDITION      |         |                                                                                                                                   |                                                    |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                                   | COLOURLESS/CLEAR                                   |                 |
| SEDIMENT              |         |                                                                                                                                   | YELLOW                                             |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-01-02-001

.....  
(MR. TITAPAT SUTTHAKHONGWONG)  
LABORATORY SUPERVISOR

FEBRUARY 17, 2023

## ANALYSIS REPORT

|                            |                                                            |                        |                    |
|----------------------------|------------------------------------------------------------|------------------------|--------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     |                        |                    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   |                        |                    |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          |                        |                    |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com |                        |                    |
| <b>SAMPLING SOURCE</b>     | : -                                                        |                        |                    |
| <b>SAMPLE TYPE</b>         | : SEAWATER                                                 | <b>RECEIVED DATE</b>   | : MARCH 2, 2023    |
| <b>SAMPLING DATE</b>       | : MARCH 2, 2023                                            | <b>ANALYTICAL DATE</b> | : MARCH 2-19, 2023 |
| <b>SAMPLING TIME</b>       | : 10:35 HOUR                                               | <b>REPORT NO.</b>      | : 2023-U019855     |
| <b>SAMPLING METHOD</b>     | : COMPOSITE                                                | <b>WORK NO.</b>        | : 2019-002022      |
| <b>SAMPLING BY</b>         | : MR THANADET WANSANOR                                     | <b>ANALYSIS NO.</b>    | : T23AD651-0001    |
| <b>ANALYZED BY</b>         | : MISS AMONRAT PUTTALEE                                    |                        |                    |

| PARAMETER                 | UNIT                 | METHOD OF ANALYSIS                                                                                                                | RESULT                                       | DETECTION LIMIT |
|---------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------|
|                           |                      |                                                                                                                                   | LBW006. 500 M OFFSHORE (JETTY) T23AD651-0001 |                 |
| pH                        | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                                             | 7.7 (25°C)                                   | -               |
| PHENOLS                   | mg/L                 | DISTILLATION, 4-AMINOANTIPYRINE METHOD (SM: 5530 B AND 5530 C)                                                                    | 0.009                                        | 0.005           |
| TEMPERATURE               | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                                             | 28                                           | -               |
| SALINITY                  | ppt                  | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)                                                                          | 27.3                                         | 0.1             |
| DISSOLVED OXYGEN          | mg/L                 | MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)                                                                             | 5.2                                          | 0.5             |
| BIOCHEMICAL OXYGEN DEMAND | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 4500-O G AND PART 5210 B)                                                                     | 2.2                                          | 0.5             |
| CHEMICAL OXYGEN DEMAND    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                                               | 51.7                                         | 25.0            |
| SUSPENDED SOLIDS          | mg/L                 | GRAVIMETRIC METHOD (SM: PART 2540 D)                                                                                              | 8.0                                          | 1.0             |
| TOTAL DISSOLVED SOLIDS    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)                                                                          | 36,300                                       | 25              |
| CYANIDE                   | µg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E)                   | < 5                                          | 5               |
| NITRATE-NITROGEN          | µg/L N               | CADMIUM REDUCTION AND COLOURIMETRIC METHOD (BASED ON PRACTICAL HANDBOOK OF SEAWATER ANALYSIS (STRICKLAND AND PARSON, 1972, II.6)) | 3.41                                         | 0.50            |
| SULPHIDE                  | µg/L                 | METHYLENE BLUE COLOURIMETRIC METHOD (METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 5)                                     | < 10                                         | 10              |
| FAT, OIL AND GREASE       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                                                     | 0.6                                          | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                                | RESULT                                          | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------|
|                       |         |                                                                                                                                   | LBW006. 500 M OFFSHORE (JETTY)<br>T23AD651-0001 |                 |
| METALS                |         |                                                                                                                                   |                                                 |                 |
| LEAD                  | µg/L Pb | PRE-CONCENTRATION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (BASED ON METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 12) | 0.450                                           | 0.100           |
| SAMPLE CONDITION      |         |                                                                                                                                   |                                                 |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                                   | COLOURLESS/CLEAR                                |                 |
| SEDIMENT              |         |                                                                                                                                   | YELLOW                                          |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-02-03-001

.....  
(MRS PIYAPAT SUT TAMANUTWONG)  
LABORATORY SUPERVISOR

MARCH 22, 2023

## ANALYSIS REPORT

|                            |                                                            |                        |                    |
|----------------------------|------------------------------------------------------------|------------------------|--------------------|
| <b>PROJECT NAME</b>        | : ENVIRONMENTAL & SOCIOECONOMIC SURVEY                     |                        |                    |
| <b>CUSTOMER NAME</b>       | : ESSO (THAILAND) PUBLIC COMPANY LIMITED                   |                        |                    |
| <b>ADDRESS</b>             | : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230          |                        |                    |
| <b>CONTACT INFORMATION</b> | : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com |                        |                    |
| <b>SAMPLING SOURCE</b>     | : -                                                        |                        |                    |
| <b>SAMPLE TYPE</b>         | : SEAWATER                                                 | <b>RECEIVED DATE</b>   | : APRIL 7, 2023    |
| <b>SAMPLING DATE</b>       | : APRIL 6, 2023                                            | <b>ANALYTICAL DATE</b> | : APRIL 7-21, 2023 |
| <b>SAMPLING TIME</b>       | : 11:35 HOUR                                               | <b>REPORT NO.</b>      | : 2023-U029369     |
| <b>SAMPLING METHOD</b>     | : COMPOSITE                                                | <b>WORK NO.</b>        | : 2019-002022      |
| <b>SAMPLING BY</b>         | : MR THANADET WANSANOR                                     | <b>ANALYSIS NO.</b>    | : T23AG236-0001    |
| <b>ANALYZED BY</b>         | : MISS KANNIKAR SUMLEETHA                                  |                        |                    |

| PARAMETER                 | UNIT                 | METHOD OF ANALYSIS                                                                                                                      | RESULT                                             | DETECTION LIMIT |
|---------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------|
|                           |                      |                                                                                                                                         | LBW006. 500 M<br>OFFSHORE (JETTY)<br>T23AG236-0001 |                 |
| pH                        | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                                                   | 8.0 (25°C)                                         | -               |
| PHENOLS                   | mg/L                 | DISTILLATION, 4-AMINOANTIPYRINE METHOD<br>(SM: PART 5530 B AND PART 5530 C)                                                             | 0.009                                              | 0.005           |
| TEMPERATURE               | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                                                   | 31                                                 | -               |
| SALINITY                  | ppt                  | ELECTRICAL CONDUCTIVITY METHOD AT SITE<br>(SM: PART 2520 B)                                                                             | 32.2                                               | 0.1             |
| DISSOLVED OXYGEN          | mg/L                 | MEMBRANE ELECTRODE METHOD AT SITE<br>(SM: PART 4500-O G)                                                                                | 5.3                                                | 0.5             |
| BIOCHEMICAL OXYGEN DEMAND | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B<br>AND PART 4500-O G)                                                                        | 0.8                                                | 0.5             |
| CHEMICAL OXYGEN DEMAND    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD<br>(SM: PART 5220 C)                                                                                  | 62.4                                               | 25.0            |
| SUSPENDED SOLIDS          | mg/L                 | GRAVIMETRIC METHOD (SM: PART 2540 D)                                                                                                    | 4.6                                                | 1.0             |
| TOTAL DISSOLVED SOLIDS    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C<br>(SM: PART 2540 C)                                                                             | 45,444                                             | 25              |
| CYANIDE                   | µg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD<br>(SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E)                      | < 5                                                | 5               |
| NITRATE-NITROGEN          | µg/L N               | CADMIUM REDUCTION AND COLOURIMETRIC METHOD<br>(BASED ON PRACTICAL HANDBOOK OF SEAWATER<br>ANALYSIS (STRICKLAND AND PARSON, 1972, II.6)) | 5.33                                               | 0.50            |
| SULPHIDE                  | µg/L                 | METHYLENE BLUE COLOURIMETRIC METHOD<br>(METHOD OF SEAWATER ANALYSIS, GRASSHOFF,<br>1999, CHAPTER 5)                                     | < 10                                               | 10              |
| FAT, OIL AND GREASE       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD<br>(SM: PART 5520 B)                                                                        | 0.6                                                | 3               |





| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                                | RESULT                                       | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------|
|                       |         |                                                                                                                                   | LBW006. 500 M OFFSHORE (JETTY) T23AG236-0001 |                 |
| METALS                |         |                                                                                                                                   |                                              |                 |
| LEAD                  | µg/L Pb | PRE-CONCENTRATION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (BASED ON METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 12) | 0.460                                        | 0.100           |
| SAMPLE CONDITION      |         |                                                                                                                                   |                                              |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                                   | COLOURLESS/CLEAR                             |                 |
| SEDIMENT              |         |                                                                                                                                   | YELLOW                                       |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-06-04-002

.....  
(MRS PIPAPAT SUTTHANONTWONG)  
LABORATORY SUPERVISOR

APRIL 24, 2023

## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : SEAWATER **RECEIVED DATE** : MAY 5, 2023  
**SAMPLING DATE** : MAY 4, 2023 **ANALYTICAL DATE** : MAY 5-17, 2023  
**SAMPLING TIME** : 10:20 HOUR **REPORT NO.** : 2023-U037824  
**SAMPLING METHOD** : COMPOSITE **WORK NO.** : 2019-002022  
**SAMPLING BY** : MR THANADET WANSANOR **ANALYSIS NO.** : T23AI004-0001  
**ANALYZED BY** : MISS KANNIKAR SUMLEETHA

| PARAMETER                 | UNIT                 | METHOD OF ANALYSIS                                                                                                                | RESULT                                       | DETECTION LIMIT |
|---------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------|
|                           |                      |                                                                                                                                   | LBW006. 500 M OFFSHORE (JETTY) T23AI004-0001 |                 |
| pH                        | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H+ B)                                                                                         | 8.0 (25°C)                                   | -               |
| PHENOLS                   | mg/L                 | DISTILLATION, 4-AMINOANTIPYRINE METHOD (SM: PART 5530 B AND PART 5530 C)                                                          | 0.007                                        | 0.005           |
| TEMPERATURE               | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                                             | 32                                           | -               |
| SALINITY                  | ppt                  | ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)                                                                          | 32.0                                         | 0.1             |
| DISSOLVED OXYGEN          | mg/L                 | MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)                                                                             | 4.6                                          | 0.5             |
| BIOCHEMICAL OXYGEN DEMAND | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)                                                                     | 1.2                                          | 0.5             |
| CHEMICAL OXYGEN DEMAND    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD (SM: PART 5220 C)                                                                               | 55.4                                         | 25.0            |
| SUSPENDED SOLIDS          | mg/L                 | GRAVIMETRIC METHOD (SM: PART 2540 D)                                                                                              | 7.4                                          | 1.0             |
| TOTAL DISSOLVED SOLIDS    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)                                                                          | 34,700                                       | 25              |
| CYANIDE                   | µg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E)                   | < 5                                          | 5               |
| NITRATE-NITROGEN          | µg/L N               | CADMIUM REDUCTION AND COLOURIMETRIC METHOD (BASED ON PRACTICAL HANDBOOK OF SEAWATER ANALYSIS (STRICKLAND AND PARSON, 1972, II.6)) | 5.63                                         | 0.50            |
| SULPHIDE                  | µg/L                 | METHYLENE BLUE COLOURIMETRIC METHOD (METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 5)                                     | < 10                                         | 10              |
| FAT, OIL AND GREASE       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)                                                                     | 0.8                                          | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                                | RESULT                                       | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------|
|                       |         |                                                                                                                                   | LBW006. 500 M OFFSHORE (JETTY) T23A1004-0001 |                 |
| METALS                |         |                                                                                                                                   |                                              |                 |
| LEAD                  | µg/L Pb | PRE-CONCENTRATION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (BASED ON METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 12) | 0.460                                        | 0.100           |
| SAMPLE CONDITION      |         |                                                                                                                                   |                                              |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                                   | COLOURLESS/CLEAR                             |                 |
| SEDIMENT              |         |                                                                                                                                   | YELLOW                                       |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-04-05-002

(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

MAY 19, 2023

## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : SEAWATER  
**SAMPLING DATE** : MAY 4, 2023  
**SAMPLING TIME** : 10:20 HOUR  
**SAMPLING METHOD** : COMPOSITE  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MR KORNVIT CHIASIRISAKUL

**RECEIVED DATE** : MAY 5, 2023  
**ANALYTICAL DATE** : MAY 5-17, 2023  
**REPORT NO.** : 2023-U037825  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AI004-0002

| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                           | RESULT                                              | DETECTION LIMIT |
|-----------------------|---------|------------------------------------------------------------------------------|-----------------------------------------------------|-----------------|
|                       |         |                                                                              | LBW006 : 500 M<br>OFFSHORE (JETTY)<br>T23AI004-0002 |                 |
| METALS                |         |                                                                              |                                                     |                 |
| MERCURY               | µg/L Hg | COLD-VAPOUR ATOMIC FLUORESCENCE<br>SPECTROMETRIC METHOD (US EPA 2005: 245.7) | < 0.020                                             | 0.020           |
| SAMPLE CONDITION      |         |                                                                              |                                                     |                 |
| WATER'S COLOUR/TURBID |         |                                                                              | COLOURLESS/CLEAR                                    |                 |
| SEDIMENT              |         |                                                                              | WHITE                                               |                 |

RELEASE ORDER NO. : EV-04-05-002

(MR BHUCHONK PANICHLERTUMPI)  
LABORATORY SUPERVISOR

MAY 19, 2023



## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2891 e-mail : wanlop.boongor@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : SEAWATER  
**SAMPLING DATE** : JUNE 1, 2023  
**SAMPLING TIME** : 10:05 HOUR  
**SAMPLING METHOD** : COMPOSITE  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS KANNIKAR SUMLEETHA

**RECEIVED DATE** : JUNE 2, 2023  
**ANALYTICAL DATE** : JUNE 2-20, 2023  
**REPORT NO.** : 2023-U047784  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AK195-0001

| PARAMETER                 | UNIT                 | METHOD OF ANALYSIS                                                                                                                      | RESULT                                             | DETECTION LIMIT |
|---------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------|
|                           |                      |                                                                                                                                         | LBW006. 500 M<br>OFFSHORE (JETTY)<br>T23AK195-0001 |                 |
| pH                        | -                    | ELECTROMETRIC METHOD (SM: PART 4500-H <sup>+</sup> B)                                                                                   | 8.1 (25°C)                                         | -               |
| PHENOLS                   | mg/L                 | DISTILLATION, 4-AMINOANTIPYRINE METHOD<br>(SM: PART 5530 B AND PART 5530 C)                                                             | < 0.005                                            | 0.005           |
| TEMPERATURE               | °C                   | THERMOMETER AT SITE (SM: PART 2550 B)                                                                                                   | 33                                                 | -               |
| SALINITY                  | ppt                  | ELECTRICAL CONDUCTIVITY METHOD AT SITE<br>(SM: PART 2520 B)                                                                             | 31.1                                               | 0.1             |
| DISSOLVED OXYGEN          | mg/L                 | MEMBRANE ELECTRODE METHOD AT SITE<br>(SM: PART 4500-O G)                                                                                | 4.8                                                | 0.5             |
| BIOCHEMICAL OXYGEN DEMAND | mg/L                 | MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND<br>PART 4500-O G)                                                                        | 1.2                                                | 0.5             |
| CHEMICAL OXYGEN DEMAND    | mg/L                 | CLOSED REFLUX, TITRIMETRIC METHOD<br>(SM: PART 5220 C)                                                                                  | 46.4                                               | 25.0            |
| SUSPENDED SOLIDS          | mg/L                 | GRAVIMETRIC METHOD (SM: PART 2540 D)                                                                                                    | 13.8                                               | 1.0             |
| TOTAL DISSOLVED SOLIDS    | mg/L                 | TOTAL DISSOLVED SOLIDS DRIED AT 180 °C<br>(SM: PART 2540 C)                                                                             | 34,120                                             | 25              |
| CYANIDE                   | µg/L CN <sup>-</sup> | DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD<br>(SM: PART 4500-CN <sup>-</sup> C AND PART 4500-CN <sup>-</sup> E)                      | < 5                                                | 5               |
| NITRATE-NITROGEN          | µg/L N               | CADMIUM REDUCTION AND COLOURIMETRIC METHOD<br>(BASED ON PRACTICAL HANDBOOK OF SEAWATER<br>ANALYSIS (STRICKLAND AND PARSON, 1972, II.6)) | 6.41                                               | 0.50            |
| SULPHIDE                  | µg/L                 | METHYLENE BLUE COLOURIMETRIC METHOD<br>(METHOD OF SEAWATER ANALYSIS, GRASSHOFF,<br>1999, CHAPTER 5)                                     | < 10                                               | 10              |
| FAT, OIL AND GREASE       | mg/L                 | LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD<br>(SM: PART 5520 B)                                                                        | 0.4                                                | 3               |



| PARAMETER             | UNIT    | METHOD OF ANALYSIS                                                                                                                | RESULT                                          | DETECTION LIMIT |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------|
|                       |         |                                                                                                                                   | LBW006. 500 M OFFSHORE (JETTY)<br>T23AK195-0001 |                 |
| METALS                |         |                                                                                                                                   |                                                 |                 |
| LEAD                  | µg/L Pb | PRE-CONCENTRATION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (BASED ON METHOD OF SEAWATER ANALYSIS, GRASSHOFF, 1999, CHAPTER 12) | 0.150                                           | 0.100           |
| SAMPLE CONDITION      |         |                                                                                                                                   |                                                 |                 |
| WATER'S COLOUR/TURBID |         |                                                                                                                                   | COLOURLESS/CLEAR                                |                 |
| SEDIMENT              |         |                                                                                                                                   | YELLOW                                          |                 |

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

FAT, OIL AND GREASE : THIS REPORTED VALUE IS BELOW LIMIT OF DETECTION. ITS USE IS SUBJECT TO CUSTOMER JUSTIFICATION.

RELEASE ORDER NO. : EV-01-06-001

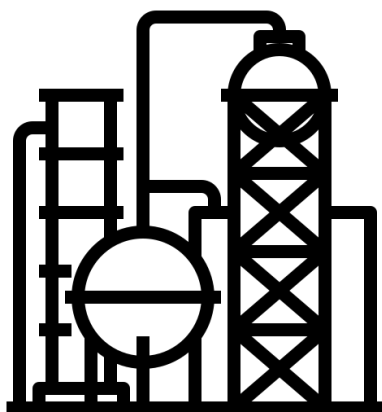


(MRS THIRAT SUTTHAKONGWONG)  
LABORATORY SUPERVISOR

JUNE 23, 2023

## นิเวศวิทยาทางทะเล

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## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHILA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2416 e-mail : sitanun.chayochaichana@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : SEAWATER **RECEIVED DATE** : APRIL 27, 2023  
**SAMPLING DATE** : APRIL 27, 2023 **ANALYTICAL DATE** : APRIL 27-28, 2023  
**SAMPLING TIME** : \* **REPORT NO.** : 2023-U033499  
**SAMPLING METHOD** : PLANKTON NET **WORK NO.** : 2019-002022  
**SAMPLING BY** : MR THANADET WANSANOR **ANALYSIS NO.** : T23AH539-0001, T23AH539-0003  
**ANALYZED BY** : MISS NAPAPORN PURATAKO

| PHYTOPLANKTON<br>(UNITS/m3)   | COUNTING<br>UNIT | RESULT                                        |                                               |
|-------------------------------|------------------|-----------------------------------------------|-----------------------------------------------|
|                               |                  | SAMPLE NO. 1<br>10:15 HOUR *<br>T23AH539-0001 | SAMPLE NO. 2<br>09:48 HOUR *<br>T23AH539-0003 |
| Division Cyanophyta           |                  |                                               |                                               |
| Class Cyanophyceae            |                  |                                               |                                               |
| Family Oscillatoriaceae       |                  |                                               |                                               |
| <i>Oscillatoria</i> spp.      | FILAMENT         | 16,842                                        | 0                                             |
| Division Chromophyta          |                  |                                               |                                               |
| Class Bacillariophyceae       |                  |                                               |                                               |
| Family Thalassiosiraceae      |                  |                                               |                                               |
| <i>Detonula</i> spp.          | FILAMENT         | 48,127                                        | 0                                             |
| <i>Lauderia annulata</i>      | FILAMENT         | 375,856                                       | 157,509                                       |
| <i>Thalassiosira</i> spp.     | CELL             | 450,446                                       | 106,216                                       |
| Family Melosiraceae           |                  |                                               |                                               |
| <i>Paralia sulcata</i>        | CELL             | 31,279                                        | 0                                             |
| <i>Stephanopyxis</i> spp.     | CELL             | 0                                             | 2,424                                         |
| Family Leptocylindraceae      |                  |                                               |                                               |
| <i>Corethron criophilum</i>   | CELL             | 18,769                                        | 0                                             |
| <i>Leptocylindrus danicus</i> | FILAMENT         | 582,310                                       | 132,471                                       |
| Family Coscinodiscaceae       |                  |                                               |                                               |
| <i>Coscinodiscus</i> spp.     | CELL             | 51,491                                        | 27,062                                        |
| <i>Palmeria hardmaniana</i>   | CELL             | 2,888                                         | 2,424                                         |
| Family Rhizosoleniaceae       |                  |                                               |                                               |
| <i>Dactylosolen</i> spp.      | CELL             | 923,508                                       | 2,646,555                                     |
| <i>Guinardia</i> spp.         | CELL             | 3,717,139                                     | 831,163                                       |
| <i>Proboscia alata</i>        | CELL             | 2,300,357                                     | 3,530,216                                     |
| <i>Rhizosolenia</i> spp.      | CELL             | 1,621,317                                     | 1,535,106                                     |
| Family Hemiaulaceae           |                  |                                               |                                               |
| <i>Cerataulina</i> spp.       | CELL             | 1,247,389                                     | 49,270                                        |
| <i>Eucampia</i> spp.          | CELL             | 2,032,782                                     | 3,837,964                                     |
| <i>Hemiaulus</i> spp.         | CELL             | 5,969,368                                     | 3,210,758                                     |

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• THIS ANALYSIS REPORT APPROVES ONLY FOR SUBMITTED SAMPLES.



| PHYTOPLANKTON<br>(UNITS/m3)  | COUNTING<br>UNIT | RESULT                                        |                                               |
|------------------------------|------------------|-----------------------------------------------|-----------------------------------------------|
|                              |                  | SAMPLE NO. 1<br>10:15 HOUR *<br>T23AH539-0001 | SAMPLE NO. 2<br>09:48 HOUR *<br>T23AH539-0003 |
| Family Chaetocerotaceae      |                  |                                               |                                               |
| <i>Bacteriastrum</i> spp.    | FILAMENT         | 472,102                                       | 13,734                                        |
| <i>Chaetoceros</i> spp.      | CELL             | 27,158,616                                    | 3,957,913                                     |
| Family Lithodismaceae        |                  |                                               |                                               |
| <i>Ditylum</i> spp.          | CELL             | 81,333                                        | 85,619                                        |
| <i>Helicotheca tamesis</i>   | CELL             | 84,221                                        | 0                                             |
| Family Eupodiscaceae         |                  |                                               |                                               |
| <i>Odontella</i> spp.        | CELL             | 87,108                                        | 26,250                                        |
| Family Naviculaceae          |                  |                                               |                                               |
| <i>Amphora</i> spp.          | CELL             | 197,792                                       | 27,062                                        |
| <i>Diploneis</i> spp.        | CELL             | 22,140                                        | 0                                             |
| <i>Meuniera membranacea</i>  | CELL             | 73,147                                        | 26,250                                        |
| <i>Navicula</i> spp.         | CELL             | 16,842                                        | 0                                             |
| <i>Pleurosigma</i> spp.      | CELL             | 473,546                                       | 332,387                                       |
| <i>Trachyneis</i> spp.       | CELL             | 2,888                                         | 1,212                                         |
| Family Bacillariaceae        |                  |                                               |                                               |
| <i>Bacillaria paxillifer</i> | CELL             | 169,401                                       | 27,462                                        |
| <i>Nitzschia longissima</i>  | CELL             | 357,564                                       | 190,629                                       |
| <i>Pseudo-nitzschia</i> spp. | CELL             | 475,950                                       | 109,451                                       |
| Family Surirellaceae         |                  |                                               |                                               |
| <i>Entomoneis</i> spp.       | CELL             | 56,306                                        | 2,424                                         |
| <i>Surirella</i> spp.        | CELL             | 1,417,266                                     | 349,749                                       |
| Class Dinophyceae            |                  |                                               |                                               |
| Family Dinophysiaceae        |                  |                                               |                                               |
| <i>Dinophysis</i> spp.       | CELL             | 0                                             | 5,653                                         |
| Family Ceratiaceae           |                  |                                               |                                               |
| <i>Ceratium</i> spp.         | CELL             | 2,888                                         | 24,639                                        |
| <i>C. furca</i>              | CELL             | 0                                             | 2,424                                         |
| <i>C. fusus</i>              | CELL             | 0                                             | 2,424                                         |
| Family Pyrophacaceae         |                  |                                               |                                               |
| <i>Pyrophacus</i> spp.       | CELL             | 0                                             | 5,253                                         |
| Family Peridiniaceae         |                  |                                               |                                               |
| <i>Peridinium</i> spp.       | CELL             | 26,948                                        | 0                                             |

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| PHYTOPLANKTON<br>(UNITS/m <sup>3</sup> )                 | COUNTING<br>UNIT | RESULT                                        |                                               |
|----------------------------------------------------------|------------------|-----------------------------------------------|-----------------------------------------------|
|                                                          |                  | SAMPLE NO. 1<br>10:15 HOUR *<br>T23AH539-0001 | SAMPLE NO. 2<br>09:48 HOUR *<br>T23AH539-0003 |
| Family Protoperidiniaceae<br><i>Protoperidinium</i> spp. | CELL             | 173,249                                       | 32,714                                        |
| TOTAL ABUNDANCE (UNITS/m <sup>3</sup> )                  |                  | 50,739,175                                    | 21,292,387                                    |
| AMOUNT OF SPECIES                                        |                  | 35                                            | 32                                            |
| SAMPLE CONDITION<br>WATER'S COLOUR/TURBID<br>SEDIMENT    |                  | COLOURLESS/CLEAR<br>GREEN                     | COLOURLESS/CLEAR<br>GREEN                     |

REMARK : PLANKTON COUNTING TECHNIQUES IS NATURAL UNIT COUNT. REFERENCE : AMERICAN PUBLIC HEALTH ASSOCIATION, AMERICAN WATER WORKS ASSOCIATION ENVIRONMENT AND WATER FEDERATION (APHA, AWWA AND WEF) 2017 . STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER. AMERICAN PUBLIC HEALTH ASSOCIATION WASHINGTON, DC., U.S.A.

| ZOOPLANKTON<br>(UNITS/m <sup>3</sup> ) | COUNTING<br>UNIT | RESULT                                        |                                               |
|----------------------------------------|------------------|-----------------------------------------------|-----------------------------------------------|
|                                        |                  | SAMPLE NO. 1<br>10:15 HOUR *<br>T23AH539-0001 | SAMPLE NO. 2<br>09:48 HOUR *<br>T23AH539-0003 |
| <b>Phylum Protozoa</b>                 |                  |                                               |                                               |
| Class Sarcodina                        |                  |                                               |                                               |
| Family Actinommididae                  |                  |                                               |                                               |
| <i>Actinomma leptoderma</i>            | CELL             | 484                                           | 0                                             |
| Class Ciliata                          |                  |                                               |                                               |
| Family Vorticellidae                   |                  |                                               |                                               |
| <i>Vorticella</i> sp.                  | CELL             | 0                                             | 12,681                                        |
| Family Codonellidae                    |                  |                                               |                                               |
| <i>Tintinnopsis</i> sp.                | CELL             | 239                                           | 791                                           |
| Family Cyrtarocylindae                 |                  |                                               |                                               |
| <i>Favella</i> sp.                     | CELL             | 6,014                                         | 1,588                                         |
| <b>Phylum Chaetognatha</b>             |                  |                                               |                                               |
| Class Sagittoidea                      |                  |                                               |                                               |
| Family Sagittidae                      |                  |                                               |                                               |
| <i>Sagitta</i> sp.                     | INDIVIDUAL       | 0                                             | 2,777                                         |
| <b>Phylum Annelida</b>                 |                  |                                               |                                               |
| Class Polychaeta                       |                  |                                               |                                               |
| Polychaete Larva                       | INDIVIDUAL       | 15,398                                        | 3,169                                         |
| <b>Phylum Arthropoda</b>               |                  |                                               |                                               |
| Class Crustacea                        |                  |                                               |                                               |
| Cyclopoid Copepod                      | INDIVIDUAL       | 22,378                                        | 25,961                                        |
| Calanoid Copepod                       | INDIVIDUAL       | 19,975                                        | 7,925                                         |
| Harpacticoid Copepod                   | INDIVIDUAL       | 12,272                                        | 8,127                                         |
| Nauplius of Copepod                    | INDIVIDUAL       | 44,756                                        | 66,184                                        |
| Cerriperdia Nauplius                   | INDIVIDUAL       | 12,272                                        | 1,189                                         |
| Zoea                                   | INDIVIDUAL       | 0                                             | 399                                           |
| <b>Phylum Mollusca</b>                 |                  |                                               |                                               |
| Class Gastropoda                       |                  |                                               |                                               |
| Gastropod Larva                        | INDIVIDUAL       | 961                                           | 0                                             |
| Class Bivalvia                         |                  |                                               |                                               |
| Bivalvia Larva                         | INDIVIDUAL       | 6,014                                         | 5,351                                         |

| ZOOPLANKTON<br>(UNITS/m <sup>3</sup> )                                             | COUNTING<br>UNIT | RESULT                                        |                                               |
|------------------------------------------------------------------------------------|------------------|-----------------------------------------------|-----------------------------------------------|
|                                                                                    |                  | SAMPLE NO. 1<br>10:15 HOUR *<br>T23AH539-0001 | SAMPLE NO. 2<br>09:48 HOUR *<br>T23AH539-0003 |
| Phylum Chordata<br>Class Larvacea<br>Family Oikopleuridae<br><i>Oikopleura</i> sp. | INDIVIDUAL       | 21,895                                        | 14,666                                        |
| TOTAL ABUNDANCE (UNITS/m <sup>3</sup> )                                            |                  | 162,658                                       | 150,808                                       |
| AMOUNT OF SPECIES                                                                  |                  | 12                                            | 13                                            |
| SAMPLE CONDITION<br>WATER'S COLOUR/TURBID<br>SEDIMENT                              |                  | COLOURLESS/CLEAR<br>GREEN                     | COLOURLESS/CLEAR<br>GREEN                     |

SAMPLE NO. 1 500 m OFFSHORE (JETTY)

SAMPLE NO. 2 BERTH ISLAND

.....  
(MISS CHAWEEWAN BOONLA)  
LABORATORY SUPERVISOR

MAY 15, 2023

## ANALYSIS REPORT

**PROJECT NAME** : ENVIRONMENTAL & SOCIOECONOMIC SURVEY  
**CUSTOMER NAME** : ESSO (THAILAND) PUBLIC COMPANY LIMITED  
**ADDRESS** : 118 MOO 2 THUNG SUKHLA SI RACHA CHON BURI 20230  
**CONTACT INFORMATION** : TEL : 0 3314 2416 e-mail : sitanun.chayochaichana@exxonmobil.com  
**SAMPLING SOURCE** : -  
**SAMPLE TYPE** : SEDIMENT  
**SAMPLING DATE** : APRIL 27, 2023  
**SAMPLING TIME** : \*  
**SAMPLING METHOD** : PETERSEN GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PATCHAREE KONGCHUMNAN  
**RECEIVED DATE** : APRIL 27, 2023  
**ANALYTICAL DATE** : APRIL 27-28, 2023  
**REPORT NO.** : 2023-U033500  
**WORK NO.** : 2019-002022  
**ANALYSIS NO.** : T23AH539-0002, T23AH539-0004

| BENTHOS<br>(INDIVIDUALS/m <sup>2</sup> )    | RESULT                                        |                                               |
|---------------------------------------------|-----------------------------------------------|-----------------------------------------------|
|                                             | SAMPLE NO. 1<br>10:30 HOUR *<br>T23AH539-0002 | SAMPLE NO. 2<br>09:58 HOUR *<br>T23AH539-0004 |
| Phylum Annelida                             |                                               |                                               |
| Class Polychaeta                            |                                               |                                               |
| Family Capitellidae                         | 0                                             | 7                                             |
| Family Nereididae                           | 0                                             | 7                                             |
| Family Spionidae                            | 14                                            | 21                                            |
| Phylum Chordata                             |                                               |                                               |
| Class Leptocardii                           |                                               |                                               |
| Family Branchiomidae                        |                                               |                                               |
| <i>Branchiostoma</i> sp.                    | 14                                            | 0                                             |
| TOTAL DENSITY (INDIVIDUALS/m <sup>2</sup> ) | 28                                            | 35                                            |
| AMOUNT OF SPECIES                           | 2                                             | 3                                             |
| SAMPLE CONDITION                            | SAND                                          | SAND                                          |

SAMPLE NO. 1 500 m OFFSHORE (JETTY)

SAMPLE NO. 2 BERTH ISLAND

(MISS CHAWEEWAN BOONLA)  
LABORATORY SUPERVISOR

MAY 15, 2023

