

ภาคผนวก ค-6

นิเวศวิทยาในน้ำ



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Gulf NC Co., Ltd.

Address : 418 Moo 1 Nontree, Kabin Buri, Prachinburi, Thailand, 25110

Project Name : Monitoring EIA

Project Location : GNC

รายงานผลการวิเคราะห์แพลงก์ตอนพืช

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
Division Cyanophyta					
Class Cyanophyceae					
Order Chroococcales					
Family Chroococcaceae					
1. <i>Microcystis aeruginosa</i>	18	-	13	-	-
Order Nostocales					
Family Oscillatoriaceae					
2. <i>Oscillatoria limnetica</i>	-	19	-	-	-
3. <i>Oscillatoria</i> sp.	-	-	26	-	-
4. <i>Spirulina platensis</i>	-	-	-	13	12
Family Nostocaceae					
5. <i>Anabaena azollae</i>	-	-	-	13	-
6. <i>Raphidiopsis</i> sp.	-	-	102	1,600	931

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
Division Chlorophyta					
Class Chlorophyceae					
Order Volvocales					
Family Volvocaceae					
7. <i>Eudorina elegans</i>	80	150	51	63	49
8. <i>Pandorina morum</i>	9	-	-	-	-
Order Tetrasporales					
Family Palmellaceae					
9. <i>Sphaerocystis shroeteri</i>	27	-	-	-	-
Order Chlorococcales					
Family Chlorrococcaceae					
10. <i>Golenkinia radiata</i>	9	-	-	-	-
Family Coelastraceae					
11. <i>Coelastrum microporum</i>	-	-	-	25	25
Family Oocystaceae					
12. <i>Ankistrodesmus falcatus</i>	27	66	38	-	-
13. <i>Chlorella vulgaris</i>	-	19	-	-	37
14. <i>Dictyosphaerium pulchellum</i>	18	-	51	-	12
15. <i>Kirchneriella subsolitaria</i>	18	-	-	-	-
16. <i>Tetraedron trigonum</i>	53	56	26	-	12
17. <i>Tetraedron victoriae</i>	18	-	-	-	-
Family Scenedesmaceae					
18. <i>Actinastrum hantzschii</i>	9	-	-	-	12
19. <i>Scenedesmus dimorphus</i>	-	-	-	63	-
20. <i>Scenedesmus</i> sp.	-	-	13	-	25

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
Order Zygomatales					
Family Desmidiaceae					
21. <i>Closterium acerosum</i>	9	9	-	-	-
22. <i>Closterium calosporum</i>	-	28	-	-	-
23. <i>Closterium gracile</i>	9	-	13	38	25
24. <i>Closterium ralfsii</i>	-	9	-	-	37
25. <i>Closterium</i> sp.	-	38	51	88	-
26. <i>Cosmarium</i> sp.	-	19	13	38	-
27. <i>Staurastrum gracile</i>	-	-	26	38	110
28. <i>Staurastrum manfeldtii</i>	-	28	-	-	-
29. <i>Staurastrum</i> sp.	-	-	-	113	147
Class Euglenophyceae					
Order Euglenales					
Family Euglenaceae					
30. <i>Euglena acus</i>	212	423	153	163	196
31. <i>Euglena oxyuris</i>	-	28	13	-	37
32. <i>Euglena</i> sp.	133	19	-	-	-
33. <i>Euglena viridis</i>	27	47	89	38	25
34. <i>Lepocinclis ovum</i>	389	75	77	13	184
35. <i>Phacus angulatus</i>	97	47	-	-	-
36. <i>Phacus hamatus</i>	-	56	-	50	37
37. <i>Phacus horridus</i>	71	-	-	-	-
38. <i>Phacus longicauda</i>	44	9	13	-	-
39. <i>Phacus myersi</i>	-	9	-	-	-
40. <i>Phacus platalea</i>	-	47	-	38	-
41. <i>Phacus ranula</i>	-	38	-	25	-
42. <i>Phacus</i> sp.	142	188	-	-	86

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
43. <i>Phacus tortus</i>	106	75	64	13	61
44. <i>Strombomonas australica</i>	27	47	-	25	49
45. <i>Strombomonas deflandrei</i>	44	113	-	150	135
46. <i>Strombomonas fluviatilis</i>	-	28	-	-	-
47. <i>Strombomonas gibberosa</i>	9	-	-	-	12
48. <i>Strombomonas girardiana</i>	-	-	-	-	74
49. <i>Strombomonas</i> sp.	-	-	-	38	-
50. <i>Trachelomonas crabae</i>	44	38	-	50	86
51. <i>Trachelomonas duagerdiana</i>	18	9	38	-	12
52. <i>Trachelomonas hispida</i>	3,186	10,415	867	300	1,519
53. <i>Trachelomonas lacustris</i>	53	-	-	-	-
54. <i>Trachelomonas mirabilis</i>	18	66	-	-	-
55. <i>Trachelomonas rugulosa</i>	62	38	-	-	37
56. <i>Trachelomonas similis</i>	-	75	-	-	-
57. <i>Trachelomonas</i> sp.	248	-	38	-	-
58. <i>Trachelomonas superba</i>	35	-	-	-	-
59. <i>Trachelomonas volzii</i>	-	-	-	25	86
Division Chromophyta					
Class Bacillariophyceae					
Order Biddulphiales					
Suborder Coscinodiscineae					
Family Aulacoseiraceae					
60. <i>Aulacoseira granulata</i>	-	-	-	138	184
Order Bacillariales					
Suborder Fragilariineae					
Family Fragilariaceae					
61. <i>Synedra rumpens</i>	177	103	-	75	49

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
62. <i>Synedra ulna</i>	35	47	51	-	98
Suborder Bacillariineae					
Family Eunotiaceae					
63. <i>Eunotia lineolata</i>	-	-	-	13	-
64. <i>Eunotia pectinalis</i>	-	-	-	-	12
Family Cymbellaceae					
65. <i>Gomphonema parvulum</i>	106	38	64	-	-
Family Naviculaceae					
66. <i>Amphora</i> sp.	-	-	-	-	12
67. <i>Navicula</i> sp.	-	47	-	-	-
68. <i>Pinnularia</i> sp.	18	-	-	-	-
Family Surirellaceae					
69. <i>Surirella elegans</i>	-	-	-	-	49
Class Crysophyceae					
OrderOchromonales					
Family Dinobryaceae					
70. <i>Dinobryon</i> sp.	-	169	-	-	-
Order Synurales					
Family Mallomonadaceae					
71. <i>Mallomonas acaroides</i>	18	-	26	-	-
72. <i>Mallomonas litomesa</i>	115	273	166	13	61
Class Dinophyceae					
Order Peridiniales					
Family Peridiniaceae					
73. <i>Peridinium gatunense</i>	974	263	204	13	208
74. <i>Peridinium</i> sp.	27	-	38	100	98

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
ชนิดแพลงก์ตอนพืช	41	40	27	30	38
ปริมาณแพลงก์ตอนพืช	6,739	13,271	2,324	3,372	4,841
ดัชนีความหลากหลายแพลงก์ตอนพืช	2.2076	1.2071	2.5013	2.2550	2.6331
ดัชนีความสม่ำเสมอแพลงก์ตอนพืช	0.5945	0.3272	0.7589	0.6630	0.7239

- Sample Location :**
1. สถานี 23107271-1 : จุดที่ 1 : บริเวณคลองชุมพลเหนือจุดระบายน้ำทิ้งขึ้นไป 500 เมตร
 2. สถานี 23107271-2 : จุดที่ 2 : บริเวณคลองชุมพล ณ จุดระบายน้ำทิ้ง (บริเวณฝ่ายทยายศร)
 3. สถานี 23107271-3 : จุดที่ 3 : บริเวณจุดบรรจบระหว่างคลองชุมพลกับแควหนุมาน
 4. สถานี 23107271-4 : จุดที่ 4 : บริเวณแควหนุมานเหนือจุดบรรจบระหว่างคลองชุมพลกับ
แควหนุมานขึ้นไป 500 เมตร
 5. สถานี 23107271-5 : จุดที่ 5 : บริเวณแควหนุมานท้ายจุดบรรจบระหว่างคลองชุมพลกับ
แควหนุมานลงไป 500 เมตร

Condition of Sample : contained in one plastic bottle, sample containers comply to pretreatment-preservation standards (APHA, USEPA)



(นางสาวกนกวรรณ ขาวค่อน)
ผู้วิเคราะห์



(นายอลงกต อินทชาติ)
หัวหน้าสถานีวิจัยประมงศรีราชา

รายงานผลการวิเคราะห์แพลงก์ตอนพืช (Phytoplankton)

1. สถานี 23107271-1 : จุดที่ 1 : บริเวณคลองชุมพลเหนือจุดระบายน้ำทั้งขึ้นไป 500 เมตร

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนพืชใน Division Cyanophyta จำนวน 1 ชนิด ใน Division Chlorophyta จำนวน 32 ชนิด และใน Division Chromophyta จำนวน 8 ชนิด รวมทั้งหมด 41 ชนิด มีปริมาณ 6,739 หน่วยต่อลิตร แพลงก์ตอนพืชที่พบมากที่สุดคือ *Trachelomonas hispida* มีค่าดัชนีความหลากหลายของแพลงก์ตอนพืชเท่ากับ 2.2076 และมีค่าดัชนีความสม่ำเสมอของแพลงก์ตอนพืชเท่ากับ 0.5945 รายละเอียดชนิดและปริมาณแพลงก์ตอนพืช ดังแสดงไว้ในตาราง

2. สถานี 23107271-2 : จุดที่ 2 : บริเวณคลองชุมพล ณ จุดระบายน้ำทั้ง (บริเวณฝายทดยายศร)

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนพืชใน Division Cyanophyta จำนวน 1 ชนิด ใน Division Chlorophyta จำนวน 32 ชนิด และใน Division Chromophyta จำนวน 7 ชนิด รวมทั้งหมด 40 ชนิด มีปริมาณ 13,271 หน่วยต่อลิตร แพลงก์ตอนพืชที่พบมากที่สุดคือ *Trachelomonas hispida* มีค่าดัชนีความหลากหลายของแพลงก์ตอนพืชเท่ากับ 1.2071 และมีค่าดัชนีความสม่ำเสมอของแพลงก์ตอนพืชเท่ากับ 0.3272 รายละเอียดชนิดและปริมาณแพลงก์ตอนพืช ดังแสดงไว้ในตาราง

3. สถานี 23107271-3 : จุดที่ 3 : บริเวณจุดบรรจบระหว่างคลองชุมพลกับแควหนุมาน

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนพืชใน Division Cyanophyta จำนวน 3 ชนิด ใน Division Chlorophyta จำนวน 18 ชนิด และใน Division Chromophyta จำนวน 6 ชนิด รวมทั้งหมด 27 ชนิด มีปริมาณ 2,324 หน่วยต่อลิตร แพลงก์ตอนพืชที่พบมากที่สุดคือ *Trachelomonas hispida* มีค่าดัชนีความหลากหลายของแพลงก์ตอนพืชเท่ากับ 2.5013 และมีค่าดัชนีความสม่ำเสมอของแพลงก์ตอนพืชเท่ากับ 0.7589 รายละเอียดชนิดและปริมาณแพลงก์ตอนพืช ดังแสดงไว้ในตาราง

4. สถานี 23107271-4 : จุดที่ 4 : บริเวณแควหนุมานเหนือจุดบรรจบระหว่างคลองชุมพลกับแควหนุมานขึ้นไป 500 เมตร

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนพืชใน Division Cyanophyta จำนวน 3 ชนิด ใน Division Chlorophyta จำนวน 21 ชนิด และใน Division Chromophyta จำนวน 6 ชนิด รวมทั้งหมด 30 ชนิด มีปริมาณ 3,372 หน่วยต่อลิตร แพลงก์ตอนพืชที่พบมากที่สุดคือ *Raphidiopsis* sp. มีค่าดัชนีความหลากหลายของแพลงก์ตอนพืชเท่ากับ 2.2550 และมีค่าดัชนีความสม่ำเสมอของแพลงก์ตอนพืชเท่ากับ 0.6630 รายละเอียดชนิดและปริมาณแพลงก์ตอนพืช ดังแสดงไว้ในตาราง

5. สถานี 23107271-5 : จุดที่ 5 : บริเวณแควหนุมานท้ายจุดบรรจบระหว่างคลองชุมพลกับแควหนุมานลงไป 500 เมตร

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนพืชใน Division Cyanophyta จำนวน 2 ชนิด ใน Division Chlorophyta จำนวน 27 ชนิด และใน Division Chromophyta จำนวน 9 ชนิด รวมทั้งหมด 38 ชนิด มีปริมาณ 4,814 หน่วยต่อลิตร แพลงก์ตอนพืชที่พบมากที่สุดคือ *Trachelomonas hispida* มีค่าดัชนีความหลากหลายของแพลงก์ตอนพืชเท่ากับ 2.6331 และมีค่าดัชนีความสม่ำเสมอของแพลงก์ตอนพืชเท่ากับ 0.7239 รายละเอียดชนิดและปริมาณแพลงก์ตอนพืช ดังแสดงไว้ในตาราง



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Gulf NC Co., Ltd.

Address : 418 Moo 1 Nontree, Kabin Buri, Prachinburi, Thailand, 25110

Project Name : Monitoring EIA

Project Location : GNC

รายงานผลการวิเคราะห์แพลงก์ตอนสัตว์

ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
Phylum Protozoa					
Subphylum Plasmodroma					
Class Sarcodina					
Subclass Rhizopoda					
Order Testacida					
Family Arcellidae					
1. <i>Arcella vulgaris</i>	35	56	26	13	-
Family Euglyphidae					
2. <i>Euglypha acanthophora</i>	-	-	13	13	25
3. <i>Euglypha rotunda</i>	-	-	-	-	37

ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
Subphylum Ciliophora					
Class Ciliata					
Subclass Holotricha					
Order Gymnostomatida					
4. <i>Coleps</i> sp.	-	-	-	-	12
5. <i>Didinium</i> sp.	9	9	-	-	-
Subclass Spirotricha					
Order Tintinnida					
Family Tintinnididae					
6. <i>Tintinnidium</i> sp.	-	-	-	13	-
Family Codonellidae					
7. <i>Tintinnopsis</i> sp.	-	-	-	63	37
Subclass Peritricha					
Order Peritrichida					
8. <i>Vorticella</i> sp.	9	-	-	-	-
Phylum Rotifera					
Class Monogononta					
Order Ploima					
Family Brachionidae					
9. <i>Anuraeopsis navicula</i>	9	-	-	-	-
10. <i>Lepadella acuminata</i>	-	9	-	-	-
Family Lecanidae					
11. <i>Lecane decipiens</i>	-	-	-	-	12
Family Tricercidae					
12. <i>Trichocerca pusilla</i>	9	-	13	13	-
Family Asplanchnidae					
13. <i>Asplanchna priodonta</i>	18	-	-	-	-

ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

(ต่อ)

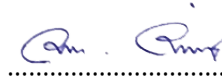
ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลิตร)				
	23107271-1	23107271-2	23107271-3	23107271-4	23107271-5
Family Synchaetidae					
14. <i>Polyarthra dolichoptera</i>	9	-	-	-	-
15. <i>Polyarthra vulgaris</i>	62	19	-	13	25
Order Flosculariaceae					
Family Hexarthridae					
16. <i>Hexarthra mira</i>	-	-	-	-	12
Class Digononta					
Family Philodinidae					
17. <i>Rotaria rotatoria</i>	-	19	-	-	-
Phylum Arthropoda					
Class Crustacea					
Subclass Copepoda					
18. Copepod nauplii	9	19	-	-	-
ชนิดแพลงก์ตอนสัตว์	9	6	3	6	7
ปริมาณแพลงก์ตอนสัตว์	169	131	52	128	160
ดัชนีความหลากหลายแพลงก์ตอนสัตว์	1.8696	1.5714	1.0397	1.5103	1.8401
ดัชนีความสม่ำเสมอแพลงก์ตอนสัตว์	0.8509	0.8770	0.9464	0.8429	0.9456

- Sample Location :**
1. สถานี 23107271-1 : จุดที่ 1 : บริเวณคลองชุมพลเหนือจุดระบายน้ำทิ้งขึ้นไป 500 เมตร
 2. สถานี 23107271-2 : จุดที่ 2 : บริเวณคลองชุมพล ณ จุดระบายน้ำทิ้ง (บริเวณฝ่ายทศบาล)
 3. สถานี 23107271-3 : จุดที่ 3 : บริเวณจุดบรรจบระหว่างคลองชุมพลกับแควหนุมาน
 4. สถานี 23107271-4 : จุดที่ 4 : บริเวณแควหนุมานเหนือจุดบรรจบระหว่างคลองชุมพลกับแควหนุมานขึ้นไป 500 เมตร
 5. สถานี 23107271-5 : จุดที่ 5 : บริเวณแควหนุมานท้ายจุดบรรจบระหว่างคลองชุมพลกับแควหนุมานลงไป 500 เมตร

Condition of Sample : contained in one plastic bottle, sample containers comply to pretreatment-preservation standards (APHA, USEPA)



(นางสาวกนกวรรณ ขวาค่อน)
ผู้วิเคราะห์



(นายอลงกต อินทรชาติ)
หัวหน้าสถานีวิจัยประมงศรีราชา

รายงานผลการวิเคราะห์แพลงก์ตอนสัตว์ (Zooplankton)

1. สถานี 23107271-1 : จุดที่ 1 : บริเวณคลองชุมพลเหนือจุดระบายน้ำทั้งขึ้นไป 500 เมตร

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนสัตว์ใน Phylum Protozoa จำนวน 3 ชนิด ใน Phylum Rotifera จำนวน 5 ชนิด และใน Phylum Arthropoda จำนวน 1 ชนิด รวมทั้งหมด 9 ชนิด มีปริมาณ 169 หน่วยต่อลิตร แพลงก์ตอนสัตว์ที่พบมากที่สุดคือ *Polyarthra vulgaris* มีค่าดัชนีความหลากหลายของแพลงก์ตอนสัตว์เท่ากับ 1.8696 และมีค่าดัชนีดัชนีความสม่ำเสมอของแพลงก์ตอนสัตว์เท่ากับ 0.8509 รายละเอียดชนิดและปริมาณแพลงก์ตอนสัตว์ที่วิเคราะห์ ดังแสดงไว้ในตาราง

2. สถานี 23107271-2 : จุดที่ 2 : บริเวณคลองชุมพล ณ จุดระบายน้ำทั้ง (บริเวณฝายทดยายศร)

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนสัตว์ใน Phylum Protozoa จำนวน 2 ชนิด ใน Phylum Rotifera จำนวน 3 ชนิด และใน Phylum Arthropoda จำนวน 1 ชนิด รวมทั้งหมด 6 ชนิด มีปริมาณ 131 หน่วยต่อลิตร แพลงก์ตอนสัตว์ที่พบมากที่สุดคือ *Arcella vulgaris* มีค่าดัชนีความหลากหลายของแพลงก์ตอนสัตว์เท่ากับ 1.5714 และมีค่าดัชนีดัชนีความสม่ำเสมอของแพลงก์ตอนสัตว์เท่ากับ 0.8770 รายละเอียดชนิดและปริมาณแพลงก์ตอนสัตว์ที่วิเคราะห์ ดังแสดงไว้ในตาราง

3. สถานี 23107271-3 : จุดที่ 3 : บริเวณจุดบรรจบระหว่างคลองชุมพลกับแควหนุมาน

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนสัตว์ใน Phylum Protozoa จำนวน 2 ชนิด และใน Phylum Rotifera จำนวน 1 ชนิด รวมทั้งหมด 3 ชนิด มีปริมาณ 52 หน่วยต่อลิตร แพลงก์ตอนสัตว์ที่พบมากที่สุดคือ *Arcella vulgaris* มีค่าดัชนีความหลากหลายของแพลงก์ตอนสัตว์เท่ากับ 1.0397 และมีค่าดัชนีดัชนีความสม่ำเสมอของแพลงก์ตอนสัตว์เท่ากับ 0.9464 รายละเอียดชนิดและปริมาณแพลงก์ตอนสัตว์ที่วิเคราะห์ ดังแสดงไว้ในตาราง

4. สถานี 23107271-4 : จุดที่ 4 : บริเวณแควหนุมานเหนือจุดบรรจบระหว่างคลองชุมพลกับแควหนุมานขึ้นไป 500 เมตร

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนสัตว์ใน Phylum Protozoa จำนวน 4 ชนิด และใน Phylum Rotifera จำนวน 2 ชนิด รวมทั้งหมด 6 ชนิด มีปริมาณ 128 หน่วยต่อลิตร แพลงก์ตอนสัตว์ที่พบมากที่สุดคือ *Tintinnopsis* sp. มีค่าดัชนีความหลากหลายของแพลงก์ตอนสัตว์เท่ากับ 1.5103 และมีค่าดัชนีดัชนีความสม่ำเสมอของแพลงก์ตอนสัตว์เท่ากับ 0.8429 รายละเอียดชนิดและปริมาณแพลงก์ตอนสัตว์ที่วิเคราะห์ ดังแสดงไว้ในตาราง

5. สถานี 23107271-5 : จุดที่ 5 : บริเวณแควหนุมานท้ายจุดบรรจบระหว่างคลองชุมพลกับแควหนุมานลงไป 500 เมตร

ทำการเก็บตัวอย่างแพลงก์ตอนเมื่อวันที่ 30 ตุลาคม 2566 จากการศึกษาวิเคราะห์ตัวอย่างพบแพลงก์ตอนสัตว์ใน Phylum Protozoa จำนวน 4 ชนิด และใน Phylum Rotifera จำนวน 3 ชนิด รวมทั้งหมด 7 ชนิด มีปริมาณ 160 หน่วยต่อลิตร แพลงก์ตอนสัตว์ที่พบมากที่สุดคือ *Euglypha rotunda* และ *Tintinnopsis* sp. มีค่าดัชนีความหลากหลายของแพลงก์ตอนสัตว์เท่ากับ 1.8401 และมีค่าดัชนีดัชนีความสม่ำเสมอของแพลงก์ตอนสัตว์เท่ากับ 0.9456 รายละเอียดชนิดและปริมาณแพลงก์ตอนสัตว์ที่วิเคราะห์ ดังแสดงไว้ในตาราง



สถานีวิจัยประมงศรีราชา
101/12 หมู่ 9 ต. บางพระ
อ. ศรีราชา จ. ชลบุรี 20110
โทร./โทรสาร. (038) 311379

Client : Gulf NC Co., Ltd.

Address : 418 Moo 1, Nontree, Kabin Buri, Prachinburi, Thailand 25110

Project Name : Monitoring EIA

Project Location : GNC

รายงานผลการวิเคราะห์สัตว์หน้าดิน

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 30 ตุลาคม 2566)

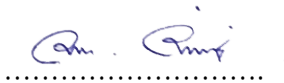
สกุลสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)				
	23107270-1	23107270-2	23107270-3	23107270-4	23107270-5
Phylum Annelida Class Clitellata Order Tubificida Family Naididae <i>Branchiura</i> sp. (ไส้เดือนน้ำ)	-	104	-	-	45
Phylum Arthropoda Class Insecta Order Diptera Family Chironomidae <i>Chironomus</i> sp. (หนอนแดง)	252	15	-	15	30
สกุลสัตว์หน้าดิน	1	2	-	1	2
ปริมาณสัตว์หน้าดิน	252	119	-	15	75
ค่าดัชนีความหลากหลายสัตว์หน้าดิน	0.0000	0.3788	-	0.0000	0.6730

Sample Location : 1. สถานี 23107270-1 : จุดที่ 1 : บริเวณคลองชุมพลเหนือจุดระบายน้ำที่ขึ้นไป 500 เมตร
2. สถานี 23107270-2 : จุดที่ 2 : บริเวณคลองชุมพล ณ จุดระบายน้ำที่
(บริเวณฝ่ายทตยาศร)
3. สถานี 23107270-3 : จุดที่ 3 : บริเวณจุดบรรจบระหว่างคลองชุมพลกับแควหนุมาน
4. สถานี 23107270-4 : จุดที่ 4 : บริเวณแควหนุมานเหนือจุดบรรจบระหว่างคลองชุมพลกับ
แควหนุมานขึ้นไป 500 เมตร
5. สถานี 23107270-5 : จุดที่ 5 : บริเวณแควหนุมานท้ายจุดบรรจบระหว่างคลองชุมพลกับ
แควหนุมานลงไป 500 เมตร

Condition of Sample : contained in one plastic zip bag



(นายอรรถวุฒิ กันทะวงศ์)
ผู้วิเคราะห์



(นายอลงกต อินทรชาติ)
หัวหน้าสถานีวิจัยประมงศรีราชา

รายงานผลการวิเคราะห์สัตว์หน้าดิน (Benthos)

จากการวิเคราะห์ตัวอย่างสัตว์หน้าดิน เก็บตัวอย่างมาเมื่อวันที่ 30 ตุลาคม 2566 (จำนวน 5 สถานี) พบสัตว์หน้าดินจำนวน 2 Phylum ประกอบด้วย Phylum Annelida และ Arthropoda ปริมาณสัตว์หน้าดินมีค่าอยู่ในช่วง 0-252 ตัวต่อตารางเมตร รายละเอียดการกระจายและปริมาณสัตว์หน้าดินในแต่ละสถานีมีดังนี้

1. สถานี 23107270-1 : จุดที่ 1 : บริเวณคลองชุมพลเหนือจุดระบายน้ำทั้งขึ้นไป 500 เมตร

พบสัตว์หน้าดินจำนวน 1 Phylum ประกอบด้วย Phylum Arthropoda พบ 1 สกุล ได้แก่ *Chironomus* sp. (หนอนแดง) จำนวน 252 ตัวต่อตารางเมตร ค่าดัชนีความหลากหลายของสัตว์หน้าดินในสถานีนี้มีค่าเท่ากับ 0.0000

2. สถานี 23107270-2 : จุดที่ 2 : บริเวณคลองชุมพล ณ จุดระบายน้ำทั้ง (บริเวณฝายทดยายสร)

พบสัตว์หน้าดินจำนวน 2 Phylum ประกอบด้วย Phylum Annelida พบ 1 สกุล ได้แก่ *Branchiura* sp. (ไส้เดือนน้ำ) จำนวน 104 ตัวต่อตารางเมตร และ Phylum Arthropoda พบ 1 สกุล ได้แก่ *Chironomus* sp. (หนอนแดง) จำนวน 15 ตัวต่อตารางเมตร ค่าดัชนีความหลากหลายของสัตว์หน้าดินในสถานีนี้มีค่าเท่ากับ 0.3788

3. สถานี 23107270-3 : จุดที่ 3 : บริเวณจุดบรรจบระหว่างคลองชุมพลกับแควหุมนาน

จากการร่อนตัวอย่างดินผ่านตะแกรงขนาดตา 2, 0.85 และ 0.425 มิลลิเมตร ที่วางซ้อนกันตามลำดับ ผลปรากฏว่าไม่พบสัตว์หน้าดินขนาดกลาง (meiofauna) และสัตว์หน้าดินขนาดใหญ่ (macrofauna)

4. สถานี 23107270-4 : จุดที่ 4 : บริเวณแควหุมนานเหนือจุดบรรจบระหว่างคลองชุมพลกับแควหุมนานขึ้นไป 500 เมตร

พบสัตว์หน้าดินจำนวน 1 Phylum ประกอบด้วย Phylum Arthropoda พบ 1 สกุล ได้แก่ *Chironomus* sp. (หนอนแดง) จำนวน 15 ตัวต่อตารางเมตร ค่าดัชนีความหลากหลายของสัตว์หน้าดินในสถานีนี้มีค่าเท่ากับ 0.0000

5. สถานี 23107270-5 : จุดที่ 5 : บริเวณแควหุมนานท้ายจุดบรรจบระหว่างคลองชุมพลกับแควหุมนานลงไป 500 เมตร

พบสัตว์หน้าดินจำนวน 2 Phylum ประกอบด้วย Phylum Annelida พบ 1 สกุล ได้แก่ *Branchiura* sp. (ไส้เดือนน้ำ) จำนวน 45 ตัวต่อตารางเมตร และ Phylum Arthropoda พบ 1 สกุล ได้แก่ *Chironomus* sp. (หนอนแดง) จำนวน 30 ตัวต่อตารางเมตร ค่าดัชนีความหลากหลายของสัตว์หน้าดินในสถานีนี้มีค่าเท่ากับ 0.6730

ภาคผนวก ค-7

คุณภาพน้ำใต้ดิน



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 23107268

Date Received : Oct 17, 2023

Date Reported : Oct 26, 2023

Report Number : 2817040-1

Page 1 of 1

Sample Number	23107268-1
Sampled Date	Oct 16, 2023 2:35 PM
Sample Description	Ground water
Location	Down gradient well no.1
Date Analysis Commenced	Oct 17, 2023
Condition of Sample	Contained in one amber glass bottle, one BOD bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	7.3	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างให้เปรียบเทียบผลวิเคราะห์ค่าพีเอชจากจุดเก็บตัวอย่างบ่อน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อน้ำที่ใช้เป็นบ่ออ้างอิงบนทิศทางแหล่งไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่บริโภคคือ 6.5-9.2

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-9476

Remark :

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

Technical Management

N. Banchongkit

Narumon Banchongkit

Supervisor

ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 23107268

Date Received : Oct 17, 2023

Date Reported : Oct 26, 2023

Report Number : 2817040-2

Page 1 of 1

Sample Number	23107268-1						
Sampled Date	Oct 16, 2023 2:35 PM						
Sample Description	Ground water						
Location	Down gradient well no.1						
Date Analysis Commenced	Oct 17, 2023						
Condition of Sample	Contained in one amber glass bottle, one BOD bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Chlorite	mg/L	0.05	0.1	Not Detected	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	2.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Oil & Grease	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
Temperature	Degree C	-	-	33.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	464	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Paramet Sattayakun

Remark :

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

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Approved by

Dej Changchon
Senior Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 23107268

Date Received : Oct 17, 2023

Date Reported : Oct 26, 2023

Report Number : 2817041-1

Page 1 of 1

Sample Number	23107268-2
Sampled Date	Oct 16, 2023 2:00 PM
Sample Description	Ground water
Location	Down gradient well no.2
Date Analysis Commenced	Oct 17, 2023
Condition of Sample	Contained in one amber glass bottle, one BOD bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	7.6	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างให้เปรียบเทียบผลวิเคราะห์ค่าพีเอชจากจุดเก็บตัวอย่างบ่อน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อน้ำที่เป็นบ่อน้ำทิ้งบนที่ศทางารไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่บริโภคคือ 6.5-9.2

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-9476

Remark :

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

Technical Management

N. Banongkit

Narumon Banchongkit

Supervisor

ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 23107268

Date Received : Oct 17, 2023

Date Reported : Oct 26, 2023

Report Number : 2817041-2

Page 1 of 1

Sample Number	23107268-2						
Sampled Date	Oct 16, 2023 2:00 PM						
Sample Description	Ground water						
Location	Down gradient well no.2						
Date Analysis Commenced	Oct 17, 2023						
Condition of Sample	Contained in one amber glass bottle, one BOD bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Chlorite	mg/L	0.05	0.1	Not Detected	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	5.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Oil & Grease	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
Temperature	Degree C	-	-	33.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	350	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Paramet Sattayakun

Remark :

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Approved by

Dej Changchon
Senior Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 23107268

Date Received : Oct 17, 2023

Date Reported : Oct 26, 2023

Report Number : 2817042-1

Page 1 of 1

Sample Number	23107268-3
Sampled Date	Oct 16, 2023 3:15 PM
Sample Description	Ground water
Location	Up gradient well
Date Analysis Commenced	Oct 17, 2023
Condition of Sample	Contained in one amber glass bottle, one BOD bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	7.5	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างให้เปรียบเทียบผลวิเคราะห์ค่าพีเอชจากจุดเก็บตัวอย่างบ่อน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อน้ำที่ใช้เป็นบ่ออ้างอิงบนทิศทางการไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่บริโภคคือ 6.5-9.2

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-9476

Remark :

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

Technical Management

N. Banchongkit

Narumon Banchongkit

Supervisor

ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 23107268

Date Received : Oct 17, 2023

Date Reported : Oct 26, 2023

Report Number : 2817042-2

Page 1 of 1

Sample Number	23107268-3						
Sampled Date	Oct 16, 2023 3:15 PM						
Sample Description	Ground water						
Location	Up gradient well						
Date Analysis Commenced	Oct 17, 2023						
Condition of Sample	Contained in one amber glass bottle, one BOD bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Chlorite	mg/L	0.05	0.1	Not Detected	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	2.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Oil & Grease	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
Temperature	Degree C	-	-	29.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	996	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	10	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Paramet Sattayakun

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Dej Changchon
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ระดับเสียงในบริเวณการทำงาน



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376147

Date Received : Aug 29, 2023

Date Reported : Sep 02, 2023

Report Number: 2765028-1

Page 1 of 1

Sample Number 2376147-1
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Cooling Tower
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:50 AM - 11:50 AM	82.9	107.5	82.3
11:50 AM - 12:50 PM	82.4	84.8	82.3
12:50 PM - 01:50 PM	82.4	84.5	82.2
01:50 PM - 02:50 PM	82.3	84.3	82.2
02:50 PM - 03:50 PM	82.3	84.2	82.2
03:50 PM - 04:50 PM	82.4	84.1	82.3
04:50 PM - 05:50 PM	82.5	84.0	82.4
05:50 PM - 06:50 PM	82.7	84.2	82.7

Leq Average 8 hrs. (dB(A))

82.5

Lmax (dB(A))

107.5

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ. ๒๕๔๖

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376147

Date Received : Aug 29, 2023

Date Reported : Sep 02, 2023

Report Number: 2765029-1

Page 1 of 1

Sample Number 2376147-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Compressor
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:13 AM - 12:13 PM	77.9	87.7	74.5
12:13 PM - 01:13 PM	78.4	81.3	75.5
01:13 PM - 02:13 PM	78.0	81.1	75.3
02:13 PM - 03:13 PM	77.4	80.8	74.4
03:13 PM - 04:13 PM	77.4	80.0	74.5
04:13 PM - 05:13 PM	78.0	81.5	75.0
05:13 PM - 06:13 PM	78.0	81.2	74.4
06:13 PM - 07:13 PM	78.4	81.2	75.7

Leq Average 8 hrs. (dB(A))

78.0

Lmax (dB(A))

87.7

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376147

Date Received : Aug 29, 2023

Date Reported : Sep 02, 2023

Report Number: 2765030-1

Page 1 of 1

Sample Number 2376147-3
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Boiler Feed Pump
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:21 AM - 12:21 PM	83.2	85.1	83.0
12:21 PM - 01:21 PM	83.2	84.2	82.9
01:21 PM - 02:21 PM	83.0	83.8	82.8
02:21 PM - 03:21 PM	83.0	91.5	82.7
03:21 PM - 04:21 PM	83.0	85.5	82.7
04:21 PM - 05:21 PM	83.0	84.0	82.8
05:21 PM - 06:21 PM	83.0	83.8	82.8
06:21 PM - 07:21 PM	82.9	83.9	82.7

Leq Average 8 hrs. (dB(A))

83.0

Lmax (dB(A))

91.5

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376147

Date Received : Aug 29, 2023

Date Reported : Sep 02, 2023

Report Number: 2765031-1

Page 1 of 1

Sample Number 2376147-4
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine Accessories System GT1
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:48 AM - 11:48 AM	85.2	93.0	85.0
11:48 AM - 12:48 PM	85.2	85.7	85.1
12:48 PM - 01:48 PM	85.0	85.6	84.9
01:48 PM - 02:48 PM	84.9	85.4	84.8
02:48 PM - 03:48 PM	85.0	85.5	84.8
03:48 PM - 04:48 PM	84.9	85.5	84.8
04:48 PM - 05:48 PM	84.9	85.3	84.8
05:48 PM - 06:48 PM	85.0	85.5	84.9

Leq Average 8 hrs. (dB(A))

85.0

Lmax (dB(A))

93.0

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376147

Date Received : Aug 29, 2023

Date Reported : Sep 02, 2023

Report Number: 2765032-1

Page 1 of 1

Sample Number 2376147-5
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine Accessories System GT2
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:04 AM - 12:04 PM	83.6	85.1	82.6
12:04 PM - 01:04 PM	83.8	84.8	82.5
01:04 PM - 02:04 PM	83.0	83.9	82.3
02:04 PM - 03:04 PM	82.6	83.6	82.1
03:04 PM - 04:04 PM	82.6	83.8	82.1
04:04 PM - 05:04 PM	82.9	84.7	82.1
05:04 PM - 06:04 PM	83.5	84.8	83.0
06:04 PM - 07:04 PM	83.0	83.8	82.7

Leq Average 8 hrs. (dB(A))

83.1

Lmax (dB(A))

85.1

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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Thanita Kulsuriwong
Scientist (4)

Approved by

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Supot Salamteh
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P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376147

Date Received : Aug 29, 2023

Date Reported : Sep 02, 2023

Report Number: 2765033-1

Page 1 of 1

Sample Number 2376147-6
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Steam Turbine Generator
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:25 AM - 12:25 PM	81.9	109.1	77.4
12:25 PM - 01:25 PM	77.8	81.9	77.5
01:25 PM - 02:25 PM	78.0	79.4	77.7
02:25 PM - 03:25 PM	78.0	82.0	77.7
03:25 PM - 04:25 PM	77.9	79.1	77.6
04:25 PM - 05:25 PM	78.0	81.9	77.7
05:25 PM - 06:25 PM	78.0	83.2	77.7
06:25 PM - 07:25 PM	77.9	80.2	77.6

Leq Average 8 hrs. (dB(A))

78.7

Lmax (dB(A))

109.1

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

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P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376147

Date Received : Aug 29, 2023

Date Reported : Sep 02, 2023

Report Number: 2765034-1

Page 1 of 1

Sample Number 2376147-7
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Steam Turbine Lube Oil Skid
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:38 AM - 12:38 PM	79.3	108.2	71.8
12:38 PM - 01:38 PM	72.1	79.0	71.8
01:38 PM - 02:38 PM	72.3	75.0	71.9
02:38 PM - 03:38 PM	72.2	79.2	71.8
03:38 PM - 04:38 PM	72.5	75.6	72.0
04:38 PM - 05:38 PM	72.6	79.7	72.1
05:38 PM - 06:38 PM	72.6	82.1	72.3
06:38 PM - 07:38 PM	72.5	77.5	72.2

Leq Average 8 hrs. (dB(A))

74.1

Lmax (dB(A))

108.2

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110
P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124357

Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2852739-1

Page 1 of 1

Sample Number 23124357-1
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Cooling Tower
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:11 AM - 11:11 AM	82.3	84.0	82.1
11:11 AM - 12:11 PM	82.2	84.0	82.1
12:11 PM - 01:11 PM	82.2	83.9	82.1
01:11 PM - 02:11 PM	82.2	83.9	82.1
02:11 PM - 03:11 PM	82.2	83.8	82.1
03:11 PM - 04:11 PM	82.3	83.9	82.2
04:11 PM - 05:11 PM	82.4	84.2	82.3
05:11 PM - 06:11 PM	82.2	83.8	82.1

Leq Average 8 hrs. (dB(A))

82.3

Lmax (dB(A))

84.2

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

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P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124357

Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2852740-1

Page 1 of 1

Sample Number 23124357-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Compressor
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:01 AM - 11:01 AM	70.3	72.0	69.8
11:01 AM - 12:01 PM	81.8	107.7	69.3
12:01 PM - 01:01 PM	77.2	81.7	74.2
01:01 PM - 02:01 PM	77.9	81.7	75.0
02:01 PM - 03:01 PM	77.6	81.5	75.0
03:01 PM - 04:01 PM	76.9	81.0	74.0
04:01 PM - 05:01 PM	77.4	81.1	74.9
05:01 PM - 06:01 PM	77.6	81.5	75.0

Leq Average 8 hrs. (dB(A))

77.9

Lmax (dB(A))

107.7

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124357

Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2852741-1

Page 1 of 1

Sample Number 23124357-3
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Boiler Feed Pump
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:30 AM - 11:30 AM	78.1	80.0	77.8
11:30 AM - 12:30 PM	81.6	86.4	78.0
12:30 PM - 01:30 PM	82.3	85.2	81.6
01:30 PM - 02:30 PM	81.9	82.9	81.6
02:30 PM - 03:30 PM	81.8	82.9	81.5
03:30 PM - 04:30 PM	81.6	85.5	81.4
04:30 PM - 05:30 PM	81.8	82.9	81.5
05:30 PM - 06:30 PM	81.9	82.9	81.6

Leq Average 8 hrs. (dB(A))

81.5

Lmax (dB(A))

86.4

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

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P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124357

Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2852742-1

Page 1 of 1

Sample Number 23124357-4
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine Accessories System GT1
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:13 AM - 11:13 AM	78.1	85.8	77.5
11:13 AM - 12:13 PM	82.2	92.3	77.6
12:13 PM - 01:13 PM	84.6	86.9	82.7
01:13 PM - 02:13 PM	83.5	84.7	83.1
02:13 PM - 03:13 PM	83.2	84.5	83.0
03:13 PM - 04:13 PM	83.3	84.6	83.0
04:13 PM - 05:13 PM	83.9	87.2	83.3
05:13 PM - 06:13 PM	83.7	93.8	79.1

Leq Average 8 hrs. (dB(A))

83.1

Lmax (dB(A))

93.8

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124357

Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2852743-1

Page 1 of 1

Sample Number 23124357-5
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine Accessories System GT2
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:40 AM - 11:40 AM	79.9	80.7	79.6
11:40 AM - 12:40 PM	80.4	82.4	79.6
12:40 PM - 01:40 PM	81.3	82.5	80.8
01:40 PM - 02:40 PM	80.6	81.5	80.3
02:40 PM - 03:40 PM	80.6	81.3	80.4
03:40 PM - 04:40 PM	81.2	82.5	80.5
04:40 PM - 05:40 PM	81.5	82.3	81.3
05:40 PM - 06:40 PM	81.3	82.5	80.8

Leq Average 8 hrs. (dB(A))

80.9

Lmax (dB(A))

82.5

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124357

Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2852744-1

Page 1 of 1

Sample Number 23124357-6
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Steam Turbine Generator
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:40 AM - 11:40 AM	81.0	81.8	80.7
11:40 AM - 12:40 PM	80.6	82.6	79.8
12:40 PM - 01:40 PM	80.8	82.0	80.3
01:40 PM - 02:40 PM	80.1	81.0	79.8
02:40 PM - 03:40 PM	80.1	80.8	79.9
03:40 PM - 04:40 PM	80.7	82.0	80.0
04:40 PM - 05:40 PM	80.6	81.3	80.4
05:40 PM - 06:40 PM	80.8	82.0	80.3

Leq Average 8 hrs. (dB(A))

80.6

Lmax (dB(A))

82.6

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124357

Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2852745-1

Page 1 of 1

Sample Number 23124357-7
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Steam Turbine Lube Oil Skid
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:10 AM - 11:10 AM	72.4	78.8	72.0
11:10 AM - 12:10 PM	72.5	84.1	71.9
12:10 PM - 01:10 PM	72.9	79.1	72.4
01:10 PM - 02:10 PM	72.5	77.8	72.3
02:10 PM - 03:10 PM	72.6	79.4	72.3
03:10 PM - 04:10 PM	72.7	85.2	72.4
04:10 PM - 05:10 PM	72.6	80.5	72.2
05:10 PM - 06:10 PM	72.5	77.8	72.3

Leq Average 8 hrs. (dB(A))

72.6

Lmax (dB(A))

85.2

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
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ระดับความร้อนในบริเวณการทำงาน



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376150

Date Received : Aug 29, 2023

Date Reported : Sep 01, 2023

Report Number: 2701151-1

Page 1 of 6

Sample Number 2376150-1
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Condenser Exhaust Unit	120	30.5	27.5	37.5	37.5
Average (WBGT)		30.5			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

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Wichan Choonharat
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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376150

Date Received : Aug 29, 2023

Date Reported : Sep 01, 2023

Report Number: 2701151-1

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Sample Number 2376150-2
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณท่อลำเลียงไอน้ำ	120	30.7	28.0	37.0	36.9
Average (WBGT)		30.7			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management

Supot Salamteh
Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376150

Date Received : Aug 29, 2023

Date Reported : Sep 01, 2023

Report Number: 2701151-1

Page 3 of 6

Sample Number 2376150-3
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator Area 11	120	30.0	27.0	37.0	36.5
Average (WBGT)		30.0			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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Technical Management

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376150

Date Received : Aug 29, 2023

Date Reported : Sep 01, 2023

Report Number: 2701151-1

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Sample Number 2376150-4
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Gas Turbine Area 11	120	31.1	27.9	39.0	37.8
Average (WBGT)		31.1			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

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Analysis / Test Report

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P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376150

Date Received : Aug 29, 2023

Date Reported : Sep 01, 2023

Report Number: 2701151-1

Page 5 of 6

Sample Number 2376150-5
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator Area 12	120	31.8	28.8	38.9	38.8
Average (WBGT)		31.8			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management

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Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2376150

Date Received : Aug 29, 2023

Date Reported : Sep 01, 2023

Report Number: 2701151-1

Page 6 of 6

Sample Number 2376150-6
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)
Measurement Date Aug 28, 2023
Measurement by Norranon Tathongkham
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Gas Turbine Area 12	120	32.2	28.6	40.8	39.8
Average (WBGT)		32.2			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management

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Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110
P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124362
Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2816367-1

Page 1 of 6

Sample Number 23124362-1
Parameter Heat Stress (Sampling Time : 12.00 PM - 02.00 PM)
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
Condenser Exhaust Unit	120	26.2	24.3	30.5	30.3
Average (WBGT)		26.2			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management


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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110
P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124362
Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2816367-1

Page 2 of 6

Sample Number 23124362-2
Parameter Heat Stress (Sampling Time : 12.00 PM - 02.00 PM)
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
ท่าอากาศยานนานาชาติ	120	24.6	21.7	31.2	31.2
Average (WBGT)		24.6			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management


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Section Head

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Assistant Manager



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110
P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124362
Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2816367-1

Page 3 of 6

Sample Number 23124362-3
Parameter Heat Stress (Sampling Time : 12.00 PM - 02.00 PM)
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
Generator Area 11	120	27.9	24.1	37.1	36.1
Average (WBGT)		27.9			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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Technical Management


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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110
P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124362
Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2816367-1

Page 4 of 6

Sample Number 23124362-4
Parameter Heat Stress (Sampling Time : 12.00 PM - 02.00 PM)
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
Gas Turbine 11	120	30.0	26.8	37.5	37.3
Average (WBGT)		30.0			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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Technical Management


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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110
P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124362
Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2816367-1

Page 5 of 6

Sample Number 23124362-5
Parameter Heat Stress (Sampling Time : 12.00 PM - 02.00 PM)
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
Generator Area 12	120	29.0	25.3	37.5	37.5
Average (WBGT)		29.0			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management


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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110
P/O : 4210601898
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 23124362
Date Received : Nov 30, 2023
Date Reported : Dec 04, 2023
Report Number: 2816367-1

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Sample Number 23124362-6
Parameter Heat Stress (Sampling Time : 12.00 PM - 02.00 PM)
Measurement Date Nov 28, 2023
Measurement by Natthapon Jiengwareewong
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
Gas Turbine 12	120	30.6	27.3	38.3	38.2
Average (WBGT)		30.6			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management


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Section Head

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Assistant Manager

ภาคผนวก ค-10

ความเข้มแสงสว่างในบริเวณการทำงาน



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (1)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (1)-1

Page 1 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Illuminance (Lux)	Average	Spot/Min	Average	
1	Area : Administration Building : Canteen and Pantry Kitchen	2375089 (1)-1	28-Aug-23	Day time	1	731	689	150	300	Pass
		2375089 (1)-2	28-Aug-23	Day time	2	647				
2	Area : Administration Building : Women Toilets	2375089 (1)-3	28-Aug-23	Day time	1	263	229	50	100	Pass
		2375089 (1)-4	28-Aug-23	Day time	2	288				
		2375089 (1)-5	28-Aug-23	Day time	3	315				
		2375089 (1)-6	28-Aug-23	Day time	4	193				
		2375089 (1)-7	28-Aug-23	Day time	5	151				
		2375089 (1)-8	28-Aug-23	Day time	6	164				
3	Area : Administration Building : Men Toilets	2375089 (1)-9	28-Aug-23	Day time	1	338	274	50	100	Pass
		2375089 (1)-10	28-Aug-23	Day time	2	549				
		2375089 (1)-11	28-Aug-23	Day time	3	207				
		2375089 (1)-12	28-Aug-23	Day time	4	222				
		2375089 (1)-13	28-Aug-23	Day time	5	193				
		2375089 (1)-14	28-Aug-23	Day time	6	135				
4	Area : Administration Building : Walkway in Front of Reception	2375089 (1)-15	28-Aug-23	Day time	1	2,000	812	50	100	Pass
		2375089 (1)-16	28-Aug-23	Day time	2	174				
		2375089 (1)-17	28-Aug-23	Day time	3	263				
5	Spot : Administration Building : Admin Office Table	2375089 (1)-18	28-Aug-23	Day time	1	454	-	400-500	-	Pass
6	Spot : Administration Building : Purchasing Officer Table	2375089 (1)-19	28-Aug-23	Day time	1	683	-	400-500	-	Pass
7	Spot : Administration Building : Admin Manager Table	2375089 (1)-20	28-Aug-23	Day time	1	402	-	400-500	-	Pass
8	Spot : Administration Building : Photocopier	2375089 (1)-21	28-Aug-23	Day time	1	329	-	300-400	-	Pass
9	Area : Administration Building : Master document Room	2375089 (1)-22	28-Aug-23	Day time	1	498	550	150	300	Pass
		2375089 (1)-23	28-Aug-23	Day time	2	595				
		2375089 (1)-24	28-Aug-23	Day time	3	389				
		2375089 (1)-25	28-Aug-23	Day time	4	596				
		2375089 (1)-26	28-Aug-23	Day time	5	688				
		2375089 (1)-27	28-Aug-23	Day time	6	533				

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

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Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (1)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (1)-1

Page 2 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Illuminance (Lux)	Average	Spot/Min	Average	
10	Area : Administration Building : Admin Walkway	2375089 (1)-28	28-Aug-23	Day time	1	95	162	50	100	Pass
		2375089 (1)-29	28-Aug-23	Day time	2	93				
		2375089 (1)-30	28-Aug-23	Day time	3	286				
		2375089 (1)-31	28-Aug-23	Day time	4	95				
		2375089 (1)-32	28-Aug-23	Day time	5	115				
		2375089 (1)-33	28-Aug-23	Day time	6	62				
		2375089 (1)-34	28-Aug-23	Day time	7	564				
		2375089 (1)-35	28-Aug-23	Day time	8	94				
		2375089 (1)-36	28-Aug-23	Day time	9	55				
11	Area : Administration Building : Meeting Room 2	2375089 (1)-37	28-Aug-23	Day time	1	229	322	150	300	Pass
		2375089 (1)-38	28-Aug-23	Day time	2	315				
		2375089 (1)-39	28-Aug-23	Day time	3	340				
		2375089 (1)-40	28-Aug-23	Day time	4	394				
		2375089 (1)-41	28-Aug-23	Day time	5	310				
		2375089 (1)-42	28-Aug-23	Day time	6	346				
12	Spot : Administration Building : Plant Manager Table	2375089 (1)-43	28-Aug-23	Day time	1	419	-	400-500	-	Pass
13	Spot : Administration Building : EHS Room Tabel 1	2375089 (1)-44	28-Aug-23	Day time	1	438	-	400-500	-	Pass
14	Area : Administration Building : Meeting Room 1	2375089 (1)-45	28-Aug-23	Day time	1	263	315	150	300	Pass
		2375089 (1)-46	28-Aug-23	Day time	2	309				
		2375089 (1)-47	28-Aug-23	Day time	3	376				
		2375089 (1)-48	28-Aug-23	Day time	4	294				
		2375089 (1)-49	28-Aug-23	Day time	5	286				
		2375089 (1)-50	28-Aug-23	Day time	6	213				
		2375089 (1)-51	28-Aug-23	Day time	7	256				
		2375089 (1)-52	28-Aug-23	Day time	8	302				
		2375089 (1)-53	28-Aug-23	Day time	9	372				
		2375089 (1)-54	28-Aug-23	Day time	10	268				
		2375089 (1)-55	28-Aug-23	Day time	11	474				
		2375089 (1)-56	28-Aug-23	Day time	12	372				

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supt S

Supot Salamteh
Section Head

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Wichan Choonharat

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Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (2)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (2)-1

Page 1 of 1

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average			
1	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 1	2375089 (2)-1	28-Aug-23	Night time	1	522	-	200-300	-			Pass
2	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 2	2375089 (2)-2	28-Aug-23	Night time	1	535	-	200-300	-			Pass
3	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 3	2375089 (2)-3	28-Aug-23	Night time	1	247	-	200-300	-			Pass
4	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 4	2375089 (2)-4	28-Aug-23	Night time	1	201	-	200-300	-			Pass
5	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 5	2375089 (2)-5	28-Aug-23	Night time	1	223	-	200-300	-			Pass
6	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.1	2375089 (2)-6	28-Aug-23	Day time	1	255	-	200-300	-			Pass
7	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.2	2375089 (2)-7	28-Aug-23	Day time	1	234	-	200-300	-			Pass
8	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.3	2375089 (2)-8	28-Aug-23	Day time	1	216	-	200-300	-			Pass
9	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.4	2375089 (2)-9	28-Aug-23	Day time	1	203	-	200-300	-			Pass
10	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.5	2375089 (2)-10	28-Aug-23	Day time	1	242	-	200-300	-			Pass
11	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.6	2375089 (2)-11	28-Aug-23	Day time	1	228	-	200-300	-			Pass
12	Area : Control Building : 1st Floor : Stairs	2375089 (2)-12 2375089 (2)-13 2375089 (2)-14	28-Aug-23 28-Aug-23 28-Aug-23	Night time Night time Night time	1 2 3	812 268 61	380	50	100			Pass

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot S.

Supot Salamteh
Section Head

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Wichan Choonharat

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (3)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (3)-1

Page 1 of 3

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Control Building : 2nd Floor : Stairs	2375089 (3)-1	28-Aug-23	Night time	1	529	217	50	100	Pass
		2375089 (3)-2	28-Aug-23	Night time	2	73				
		2375089 (3)-3	28-Aug-23	Night time	3	50				
2	Area : Control Building : 2nd Floor : Walkway	2375089 (3)-4	28-Aug-23	Day time	1	292	456	50	100	Pass
		2375089 (3)-5	28-Aug-23	Day time	2	148				
		2375089 (3)-6	28-Aug-23	Day time	3	337				
		2375089 (3)-7	28-Aug-23	Day time	4	247				
		2375089 (3)-8	28-Aug-23	Day time	5	402				
		2375089 (3)-9	28-Aug-23	Day time	6	692				
		2375089 (3)-10	28-Aug-23	Day time	7	511				
		2375089 (3)-11	28-Aug-23	Day time	8	788				
		2375089 (3)-12	28-Aug-23	Day time	9	688				
		2375089 (3)-13	28-Aug-23	Night time	1	597	385	50	100	Pass
		2375089 (3)-14	28-Aug-23	Night time	2	638				
		2375089 (3)-15	28-Aug-23	Night time	3	599				
		2375089 (3)-16	28-Aug-23	Night time	4	411				
		2375089 (3)-17	28-Aug-23	Night time	5	193				
		2375089 (3)-18	28-Aug-23	Night time	6	264				
		2375089 (3)-19	28-Aug-23	Night time	7	150				
		2375089 (3)-20	28-Aug-23	Night time	8	299				
		2375089 (3)-21	28-Aug-23	Night time	9	310				
3	Area : Control Building : 2nd Floor : Men Toilets	2375089 (3)-22	28-Aug-23	Day time	1	2,580	1042	50	100	Pass
		2375089 (3)-23	28-Aug-23	Day time	2	2,441				
		2375089 (3)-24	28-Aug-23	Day time	3	480				
		2375089 (3)-25	28-Aug-23	Day time	4	200				
		2375089 (3)-26	28-Aug-23	Day time	5	294				
		2375089 (3)-27	28-Aug-23	Day time	6	257				
4	Area : Control Building : 2nd Floor : Women Toilets	2375089 (3)-28	28-Aug-23	Day time	1	713	572	50	100	Pass
		2375089 (3)-29	28-Aug-23	Day time	2	664				
		2375089 (3)-30	28-Aug-23	Day time	3	340				
5	Area : Control Building : 2nd Floor : Canteen and Pantry Room	2375089 (3)-31	28-Aug-23	Day time	1	604	745	150	300	Pass
		2375089 (3)-32	28-Aug-23	Day time	2	704				
		2375089 (3)-33	28-Aug-23	Day time	3	928				
6	Spot : Control Building : 2nd Floor : Operation Manager Table	2375089 (3)-34	28-Aug-23	Day time	1	628	-	400-500	-	Pass
		2375089 (3)-35	28-Aug-23	Night time	1	564	-	400-500	-	Pass

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (3)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (3)-1

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Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average			
7	Spot : Control Building : 2nd Floor : Control Room Desk 1	2375089 (3)-36	28-Aug-23	Night time	1	436	-	400-500	-	Pass		
8	Spot : Control Building : 2nd Floor : Control Room Desk 2	2375089 (3)-37	28-Aug-23	Night time	1	487	-	400-500	-	Pass		
9	Spot : Control Building : 2nd Floor : Control Room Desk 3	2375089 (3)-38	28-Aug-23	Night time	1	421	-	400-500	-	Pass		
10	Spot : Control Building : 2nd Floor : Control Room Desk 4	2375089 (3)-39	28-Aug-23	Night time	1	461	-	400-500	-	Pass		
11	Spot : Control Building : 2nd Floor : Control Room Desk 5	2375089 (3)-40	28-Aug-23	Night time	1	455	-	400-500	-	Pass		
12	Spot : Control Building : 2nd Floor : DSC Room Desk 1	2375089 (3)-41 2375089 (3)-42	28-Aug-23 28-Aug-23	Day time Night time	1 1	687 508	- -	400-500 400-500	- -	Pass Pass		
13	Spot : Control Building : 2nd Floor : Photocopier	2375089 (3)-43	28-Aug-23	Day time	1	486	-	300-400	-	Pass		
14	Spot : Control Building : 2nd Floor : Fax and Copy	2375089 (3)-44	28-Aug-23	Day time	1	511	-	300-400	-	Pass		
15	Spot : Control Building : 2nd Floor : Computer No.1	2375089 (3)-45	28-Aug-23	Day time	1	416	-	400-500	-	Pass		
16	Spot : Control Building : 2nd Floor : Computer No.2	2375089 (3)-46	28-Aug-23	Day time	1	428	-	400-500	-	Pass		
17	Spot : Control Building : 2nd Floor : โต๊ะทำงาน Operation Office 1	2375089 (3)-47	28-Aug-23	Night time	1	432	-	400-500	-	Pass		
18	Spot : Control Building : 2nd Floor : โต๊ะทำงาน Operation Office 2	2375089 (3)-48	28-Aug-23	Night time	1	459	-	400-500	-	Pass		
19	Spot : Control Building : 2nd Floor : CCTV Room Table	2375089 (3)-49	28-Aug-23	Day time	1	498	-	400-500	-	Pass		
20	Spot : Control Building : 2nd Floor : Control (Table No.1)	2375089 (3)-50	28-Aug-23	Day time	1	502	-	400-500	-	Pass		
21	Spot : Control Building : 2nd Floor : Control (Table No.2)	2375089 (3)-51	28-Aug-23	Day time	1	518	-	400-500	-	Pass		
22	Spot : Control Building : 2nd Floor : Computer Control No.1	2375089 (3)-52	28-Aug-23	Day time	1	501	-	400-500	-	Pass		

Technical Management

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Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average			
23	Spot : Control Building : 2nd Floor : Computer Control No.2	2375089 (3)-53	28-Aug-23	Day time	1	488	-	400-500	-			Pass
24	Spot : Control Building : 2nd Floor : Computer Control No.3	2375089 (3)-54	28-Aug-23	Day time	1	491	-	400-500	-			Pass
25	Spot : Control Building : 2nd Floor : Computer Control No.4	2375089 (3)-55	28-Aug-23	Day time	1	521	-	400-500	-			Pass
26	Spot : Control Building : 2nd Floor : Computer Control No.5	2375089 (3)-56	28-Aug-23	Day time	1	510	-	400-500	-			Pass
27	Spot : Control Building : 2nd Floor : Computer Control No.6	2375089 (3)-57	28-Aug-23	Day time	1	530	-	400-500	-			Pass
28	Spot : Control Building : 2nd Floor : Computer Control No.7	2375089 (3)-58	28-Aug-23	Day time	1	509	-	400-500	-			Pass
29	Spot : Control Building : 2nd Floor : ตู้ควบคุม 3 (10MKA10GH001 Generator Control Panel)	2375089 (3)-59	28-Aug-23	Night time	1	243	-	200-300	-			Pass
30	Area : Control Building : 2nd Floor : ทางเดินภายในห้อง #1	2375089 (3)-60	28-Aug-23	Night time	1	190	132	50	100			Pass
		2375089 (3)-61	28-Aug-23	Night time	2	75						
31	Area : Control Building : 2nd Floor : ทางเดินภายในห้อง #2	2375089 (3)-62	28-Aug-23	Night time	1	182	136	50	100			Pass
		2375089 (3)-63	28-Aug-23	Night time	2	90						

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Analysis / Test Report

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P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (5)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (5)-1

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Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Illuminance (Lux)	Average	Spot/Min	Average	
2	Area : Control Building : 1st Floor : Walkway	2375089 (5)-1	28-Aug-23	Night time	1	605	355	50	100	Pass
		2375089 (5)-2	28-Aug-23	Night time	2	655				
		2375089 (5)-3	28-Aug-23	Night time	3	391				
		2375089 (5)-4	28-Aug-23	Night time	4	175				
		2375089 (5)-5	28-Aug-23	Night time	5	132				
		2375089 (5)-6	28-Aug-23	Night time	6	171				

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (8)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (8)-1

Page 1 of 1

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Illuminance (Lux)	Average	Spot/Min	Average	
1	Spot : Terminal & Switchyard Control Building : Terminal Control Room No.1	2375089 (8)-1	28-Aug-23	Day time	1	835	-	300-400	-	Pass
2	Spot : Terminal & Switchyard Control Building : Terminal Control Room No.2	2375089 (8)-2	28-Aug-23	Day time	1	814	-	300-400	-	Pass
3	Spot : Terminal & Switchyard Control Building : Battery Room No.1	2375089 (8)-3	28-Aug-23	Day time	1	568	-	200-300	-	Pass
4	Spot : Terminal & Switchyard Control Building : Switchgear Room No.1	2375089 (8)-4	28-Aug-23	Day time	1	339	-	300-400	-	Pass
5	Spot : Terminal & Switchyard Control Building : Switchgear Room No.2	2375089 (8)-5	28-Aug-23	Day time	1	340	-	300-400	-	Pass
6	Spot : Terminal & Switchyard Control Building : Switchyard Control Room No.1	2375089 (8)-6	28-Aug-23	Day time	1	354	-	300-400	-	Pass
7	Spot : Terminal & Switchyard Control Building : Switchyard Control Room No.2	2375089 (8)-7	28-Aug-23	Day time	1	362	-	300-400	-	Pass
8	Spot : Terminal & Switchyard Control Building : Battery Room No.2	2375089 (8)-8	28-Aug-23	Day time	1	324	-	200-300	-	Pass

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Analysis / Test Report

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P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (9)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (9)-1

Page 1 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Warehouse and Workshop Building : 1st Floor : Reception Room	2375089 (9)-1	28-Aug-23	Day time	1	193	126	50	100	Pass
		2375089 (9)-2	28-Aug-23	Day time	2	54				
		2375089 (9)-3	28-Aug-23	Day time	3	79				
		2375089 (9)-4	28-Aug-23	Day time	4	83				
		2375089 (9)-5	28-Aug-23	Day time	5	89				
		2375089 (9)-6	28-Aug-23	Day time	6	193				
		2375089 (9)-7	28-Aug-23	Day time	7	84				
		2375089 (9)-8	28-Aug-23	Day time	8	173				
		2375089 (9)-9	28-Aug-23	Day time	9	184				
2	Area : Warehouse and Workshop Building : 1st Floor : Warehouse Canteen and Pantry	2375089 (9)-10	28-Aug-23	Day time	1	413	495	150	300	Pass
		2375089 (9)-11	28-Aug-23	Day time	2	699				
		2375089 (9)-12	28-Aug-23	Day time	3	374				
3	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.1	2375089 (9)-13	28-Aug-23	Day time	1	401	-	400-500	-	Pass
4	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.2	2375089 (9)-14	28-Aug-23	Day time	1	516	-	400-500	-	Pass
5	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.3	2375089 (9)-15	28-Aug-23	Day time	1	402	-	400-500	-	Pass
6	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.4	2375089 (9)-16	28-Aug-23	Day time	1	415	-	400-500	-	Pass
7	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.5	2375089 (9)-17	28-Aug-23	Day time	1	460	-	400-500	-	Pass
8	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.6	2375089 (9)-18	28-Aug-23	Day time	1	429	-	400-500	-	Pass
9	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.7	2375089 (9)-19	28-Aug-23	Day time	1	514	-	400-500	-	Pass
10	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.8	2375089 (9)-20	28-Aug-23	Day time	1	460	-	400-500	-	Pass

Technical Management

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P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (9)

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Report Number: 2375089 (9)-1

Page 2 of 2

GNC											
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment	
						Spot	Average	Spot/Min	Average		
11	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.9	2375089 (9)-21	28-Aug-23	Day time	1	539	-	400-500	-	Pass	
12	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.10	2375089 (9)-22	28-Aug-23	Day time	1	856	-	400-500	-	Pass	
13	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.11	2375089 (9)-23	28-Aug-23	Day time	1	430	-	400-500	-	Pass	
14	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.12	2375089 (9)-24	28-Aug-23	Day time	1	914	-	400-500	-	Pass	
15	Spot : Warehouse and Workshop Building : 1st Floor : Photocopier	2375089 (9)-25	28-Aug-23	Day time	1	541	-	300-400	-	Pass	
16	Spot : Warehouse and Workshop Building : 1st Floor : Maintenance Manager Table	2375089 (9)-26	28-Aug-23	Day time	1	629	-	400-500	-	Pass	
17	Area : Warehouse and Workshop Building : 1st Floor : Meeting Room	2375089 (9)-27	28-Aug-23	Day time	1	1,350	1327	150	300	Pass	
		2375089 (9)-28	28-Aug-23	Day time	2	2,800					
		2375089 (9)-29	28-Aug-23	Day time	3	1,380					
		2375089 (9)-30	28-Aug-23	Day time	4	2,880					
		2375089 (9)-31	28-Aug-23	Day time	5	921					
		2375089 (9)-32	28-Aug-23	Day time	6	546					
		2375089 (9)-33	28-Aug-23	Day time	7	309					
		2375089 (9)-34	28-Aug-23	Day time	8	432					

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (10)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (10)-1

Page 1 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Warehouse and Workshop Building : Ground Floor : Warehouse Room	2375089 (10)-1	28-Aug-23	Day time	1	967	862	100	200	Pass
		2375089 (10)-2	28-Aug-23	Day time	2	597				
		2375089 (10)-3	28-Aug-23	Day time	3	460				
		2375089 (10)-4	28-Aug-23	Day time	4	500				
		2375089 (10)-5	28-Aug-23	Day time	5	949				
		2375089 (10)-6	28-Aug-23	Day time	6	908				
		2375089 (10)-7	28-Aug-23	Day time	7	2,830				
		2375089 (10)-8	28-Aug-23	Day time	8	670				
		2375089 (10)-9	28-Aug-23	Day time	9	593				
		2375089 (10)-10	28-Aug-23	Day time	10	540				
		2375089 (10)-11	28-Aug-23	Day time	11	972				
		2375089 (10)-12	28-Aug-23	Day time	12	988				
		2375089 (10)-13	28-Aug-23	Day time	13	890				
		2375089 (10)-14	28-Aug-23	Day time	14	690				
		2375089 (10)-15	28-Aug-23	Day time	15	711				
		2375089 (10)-16	28-Aug-23	Day time	16	760				
		2375089 (10)-17	28-Aug-23	Day time	17	740				
		2375089 (10)-18	28-Aug-23	Day time	18	750				
2	Area : Warehouse and Workshop Building : Ground Floor : Walkway	2375089 (10)-19	28-Aug-23	Day time	1	99	131	50	100	Pass
		2375089 (10)-20	28-Aug-23	Day time	2	95				
		2375089 (10)-21	28-Aug-23	Day time	3	458				
		2375089 (10)-22	28-Aug-23	Day time	4	72				
		2375089 (10)-23	28-Aug-23	Day time	5	98				
		2375089 (10)-24	28-Aug-23	Day time	6	89				
		2375089 (10)-25	28-Aug-23	Day time	7	93				
		2375089 (10)-26	28-Aug-23	Day time	8	84				
		2375089 (10)-27	28-Aug-23	Day time	9	94				
3	Area : Warehouse and Workshop Building : Ground Floor : Electrical Room/Fitness Room	2375089 (10)-28	28-Aug-23	Day time	1	573	387	150	300	Pass
		2375089 (10)-29	28-Aug-23	Day time	2	321				
		2375089 (10)-30	28-Aug-23	Day time	3	433				
		2375089 (10)-31	28-Aug-23	Day time	4	287				
		2375089 (10)-32	28-Aug-23	Day time	5	312				
		2375089 (10)-33	28-Aug-23	Day time	6	396				
4	Spot : Warehouse and Workshop Building : Ground Floor : C&I Cabinet	2375089 (10)-34	28-Aug-23	Day time	1	905	-	400-500	-	Pass
5	Spot : Warehouse and Workshop Building : Ground Floor : C&I Table	2375089 (10)-35	28-Aug-23	Day time	1	819	-	400-500	-	Pass

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (10)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (10)-1

Page 2 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Illuminance (Lux)	Average	Spot/Min	Average	
6	Spot : Warehouse and Workshop Building : Ground Floor : Instrument and Control	2375089 (10)-36	28-Aug-23	Day time	1	430	-	400-500	-	Pass
7	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #1	2375089 (10)-37	28-Aug-23	Day time	1	456	-	400-500	-	Pass
8	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #2	2375089 (10)-38	28-Aug-23	Day time	1	454	-	400-500	-	Pass
9	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #3	2375089 (10)-39	28-Aug-23	Day time	1	461	-	400-500	-	Pass
10	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical Workshop Room (Table No.3)	2375089 (10)-40	28-Aug-23	Day time	1	401	-	400-500	-	Pass

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh
Section Head

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Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 2375089 (11)

Date Received : Aug 30, 2023

Date Reported : Sep 11, 2023

Report Number: 2375089 (11)-1

Page 1 of 1

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average			
1	Spot : Water Treatment Control Building : Laboratory (หน้า Hood)	2375089 (11)-1	28-Aug-23	Night time	1	685	-	300-400	-			Pass
2	Spot : Water Treatment Control Building : Laboratory (หน้า Spectrophotometer)	2375089 (11)-2	28-Aug-23	Night time	1	680	-	400-500	-			Pass
3	Spot : Water Treatment Control Building : Laboratory (หน้าโต๊ะวัด pH)	2375089 (11)-3	28-Aug-23	Night time	1	462	-	400-500	-			Pass
4	Area : Water Treatment Control Building : ทางเดินหน้าห้อง Laboratory	2375089 (11)-4	28-Aug-23	Night time	1	86	74	25	50			Pass
		2375089 (11)-5	28-Aug-23	Night time	2	73						
		2375089 (11)-6	28-Aug-23	Night time	3	59						
		2375089 (11)-7	28-Aug-23	Night time	4	62						
		2375089 (11)-8	28-Aug-23	Night time	5	84						
		2375089 (11)-9	28-Aug-23	Night time	6	81						
		2375089 (11)-10	28-Aug-23	Night time	7	85						
		2375089 (11)-11	28-Aug-23	Night time	8	61						
		2375089 (11)-12	28-Aug-23	Night time	9	72						

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Section Head

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (1)

Date Received : Nov 30, 2023
Date Reported : Dec 11, 2023
Report Number: 23124364 (1)-1 Rev. No.1

Page 1 of 2

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Administration Building : Canteen and Pantry Kitchen	23124364 (1)-1	28-Nov-23	Day time	1	510	548	150	300	Pass
		23124364 (1)-2	28-Nov-23	Day time	2	585				
2	Area : Administration Building : Women Toilets	23124364 (1)-3	28-Nov-23	Day time	1	479	469	50	100	Pass
		23124364 (1)-4	28-Nov-23	Day time	2	410				
		23124364 (1)-5	28-Nov-23	Day time	3	470				
		23124364 (1)-6	28-Nov-23	Day time	4	499				
		23124364 (1)-7	28-Nov-23	Day time	5	486				
		23124364 (1)-8	28-Nov-23	Day time	6	471				
3	Area : Administration Building : Men Toilets	23124364 (1)-9	28-Nov-23	Day time	1	592	502	50	100	Pass
		23124364 (1)-10	28-Nov-23	Day time	2	411				
		23124364 (1)-11	28-Nov-23	Day time	3	423				
		23124364 (1)-12	28-Nov-23	Day time	4	570				
		23124364 (1)-13	28-Nov-23	Day time	5	504				
		23124364 (1)-14	28-Nov-23	Day time	6	511				
4	Area : Administration Building : Walkway in Front of Reception	23124364 (1)-15	28-Nov-23	Day time	1	930	1052	50	100	Pass
		23124364 (1)-16	28-Nov-23	Day time	2	1,150				
		23124364 (1)-17	28-Nov-23	Day time	3	1,077				
5	Spot : Administration Building : Admin Office Table	23124364 (1)-18	28-Nov-23	Day time	1	426	-	400-500	-	Pass
6	Spot : Administration Building : Purchasing Officer Table	23124364 (1)-19	28-Nov-23	Day time	1	407	-	400-500	-	Pass
7	Spot : Administration Building : Admin Manager Table	23124364 (1)-20	28-Nov-23	Day time	1	416	-	400-500	-	Pass
8	Spot : Administration Building : Photocopier	23124364 (1)-21	28-Nov-23	Day time	1	418	-	300-400	-	Pass
9	Area : Administration Building : Master document Room	23124364 (1)-22	28-Nov-23	Day time	1	497	490	150	300	Pass
		23124364 (1)-23	28-Nov-23	Day time	2	479				
		23124364 (1)-24	28-Nov-23	Day time	3	522				
		23124364 (1)-25	28-Nov-23	Day time	4	516				
		23124364 (1)-26	28-Nov-23	Day time	5	453				
		23124364 (1)-27	28-Nov-23	Day time	6	472				

Technical Management

Supot S.

Supot Salamteh
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Wichan Choonharat

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (1)

Date Received : Nov 30, 2023
Date Reported : Dec 11, 2023
Report Number: 23124364 (1)-1 Rev. No.1

Page 2 of 2

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
10	Area : Administration Building : Admin Walkway	23124364 (1)-28	28-Nov-23	Day time	1	1,171	563	50	100	Pass
		23124364 (1)-29	28-Nov-23	Day time	2	611				
		23124364 (1)-30	28-Nov-23	Day time	3	107				
		23124364 (1)-31	28-Nov-23	Day time	4	201				
		23124364 (1)-32	28-Nov-23	Day time	5	1,009				
		23124364 (1)-33	28-Nov-23	Day time	6	1,170				
		23124364 (1)-34	28-Nov-23	Day time	7	168				
		23124364 (1)-35	28-Nov-23	Day time	8	211				
		23124364 (1)-36	28-Nov-23	Day time	9	416				
12	Spot : Administration Building : Plant Manager Table	23124364 (1)-43	28-Nov-23	Day time	1	620	-	400-500	-	Pass
13	Spot : Administration Building : EHS Room Tabel 1	23124364 (1)-44	28-Nov-23	Day time	1	411	-	400-500	-	Pass
14	Area : Administration Building : Meeting Room 1	23124364 (1)-45	28-Nov-23	Day time	1	505	618	150	300	Pass
		23124364 (1)-46	28-Nov-23	Day time	2	676				
		23124364 (1)-47	28-Nov-23	Day time	3	611				
		23124364 (1)-48	28-Nov-23	Day time	4	576				
		23124364 (1)-49	28-Nov-23	Day time	5	636				
		23124364 (1)-50	28-Nov-23	Day time	6	712				
		23124364 (1)-51	28-Nov-23	Day time	7	611				
		23124364 (1)-52	28-Nov-23	Day time	8	573				
		23124364 (1)-53	28-Nov-23	Day time	9	544				
		23124364 (1)-54	28-Nov-23	Day time	10	626				
		23124364 (1)-55	28-Nov-23	Day time	11	616				
		23124364 (1)-56	28-Nov-23	Day time	12	731				

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Note : This Analysis test report is reissued to supersede report No. 23124364 (1)-1, Date Reported : Dec 01, 2023 due to revise sample information.

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (2)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (2)-1

Page 1 of 1

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 1	23124364 (2)-1	28-Nov-23	Night time	1	281	-	200-300	-	Pass
2	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 2	23124364 (2)-2	28-Nov-23	Night time	1	299	-	200-300	-	Pass
3	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 3	23124364 (2)-3	28-Nov-23	Night time	1	307	-	200-300	-	Pass
4	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 4	23124364 (2)-4	28-Nov-23	Night time	1	269	-	200-300	-	Pass
5	Spot : Control Building : 1st Floor : MCC Room หน้าตู้ 5	23124364 (2)-5	28-Nov-23	Night time	1	307	-	200-300	-	Pass
6	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.1	23124364 (2)-6	28-Nov-23	Day time	1	265	-	200-300	-	Pass
7	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.2	23124364 (2)-7	28-Nov-23	Day time	1	266	-	200-300	-	Pass
8	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.3	23124364 (2)-8	28-Nov-23	Day time	1	267	-	200-300	-	Pass
9	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.4	23124364 (2)-9	28-Nov-23	Day time	1	312	-	200-300	-	Pass
10	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.5	23124364 (2)-10	28-Nov-23	Day time	1	231	-	200-300	-	Pass
11	Spot : Control Building : 1st Floor : Switchgear and Electrical : Room No.6	23124364 (2)-11	28-Nov-23	Day time	1	240	-	200-300	-	Pass
12	Area : Control Building : 1st Floor : Stairs	23124364 (2)-12	28-Nov-23	Night time	1	312	258	50	100	Pass
		23124364 (2)-13	28-Nov-23	Night time	2	247				
		23124364 (2)-14	28-Nov-23	Night time	3	216				

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot S.

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Wichan Choonharat

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location: GNC

Lot ID: 23124364 (3)

Date Received : Nov 30, 2023

Date Reported : Dec 01, 2023

Report Number: 23124364 (3)-1

Page 1 of 1

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
2	Area : Control Building : 1st Floor : Walkway	23124364 (3)-1	28-Nov-23	Night time	1	170	188	50	100	Pass
		23124364 (3)-2	28-Nov-23	Night time	2	195				
		23124364 (3)-3	28-Nov-23	Night time	3	87				
		23124364 (3)-4	28-Nov-23	Night time	4	122				
		23124364 (3)-5	28-Nov-23	Night time	5	243				
		23124364 (3)-6	28-Nov-23	Night time	6	308				

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (4)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (4)-1

Page 1 of 3

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Control Building : 2nd Floor : Stairs	23124364 (4)-1	28-Nov-23	Night time	1	411	310	50	100	Pass
		23124364 (4)-2	28-Nov-23	Night time	2	302				
		23124364 (4)-3	28-Nov-23	Night time	3	217				
2	Area : Control Building : 2nd Floor : Walkway	23124364 (4)-4	28-Nov-23	Day time	1	314	319	50	100	Pass
		23124364 (4)-5	28-Nov-23	Day time	2	579				
		23124364 (4)-6	28-Nov-23	Day time	3	374				
		23124364 (4)-7	28-Nov-23	Day time	4	262				
		23124364 (4)-8	28-Nov-23	Day time	5	274				
		23124364 (4)-9	28-Nov-23	Day time	6	266				
		23124364 (4)-10	28-Nov-23	Day time	7	271				
		23124364 (4)-11	28-Nov-23	Day time	8	274				
		23124364 (4)-12	28-Nov-23	Day time	9	255				
		23124364 (4)-13	28-Nov-23	Night time	1	731	396	50	100	Pass
		23124364 (4)-14	28-Nov-23	Night time	2	703				
		23124364 (4)-15	28-Nov-23	Night time	3	576				
		23124364 (4)-16	28-Nov-23	Night time	4	405				
		23124364 (4)-17	28-Nov-23	Night time	5	205				
		23124364 (4)-18	28-Nov-23	Night time	6	241				
		23124364 (4)-19	28-Nov-23	Night time	7	229				
		23124364 (4)-20	28-Nov-23	Night time	8	231				
		23124364 (4)-21	28-Nov-23	Night time	9	242				
3	Area : Control Building : 2nd Floor : Men Toilets	23124364 (4)-22	28-Nov-23	Day time	1	180	154	50	100	Pass
		23124364 (4)-23	28-Nov-23	Day time	2	175				
		23124364 (4)-24	28-Nov-23	Day time	3	177				
		23124364 (4)-25	28-Nov-23	Day time	4	130				
		23124364 (4)-26	28-Nov-23	Day time	5	154				
		23124364 (4)-27	28-Nov-23	Day time	6	110				
4	Area : Control Building : 2nd Floor : Women Toilets	23124364 (4)-28	28-Nov-23	Day time	1	193	157	50	100	Pass
		23124364 (4)-29	28-Nov-23	Day time	2	173				
		23124364 (4)-30	28-Nov-23	Day time	3	106				
5	Area : Control Building : 2nd Floor : Canteen and Pantry Room	23124364 (4)-31	28-Nov-23	Day time	1	468	326	150	300	Pass
		23124364 (4)-32	28-Nov-23	Day time	2	312				
		23124364 (4)-33	28-Nov-23	Day time	3	199				
6	Spot : Control Building : 2nd Floor : Operation Manager Table	23124364 (4)-34	28-Nov-23	Day time	1	733	-	400-500	-	Pass
		23124364 (4)-35	28-Nov-23	Night time	1	574	-	400-500	-	Pass

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (4)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (4)-1

Page 2 of 3

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
7	Spot : Control Building : 2nd Floor : Control Room Desk 1	23124364 (4)-36	28-Nov-23	Night time	1	417	-	400-500	-	Pass
8	Spot : Control Building : 2nd Floor : Control Room Desk 2	23124364 (4)-37	28-Nov-23	Night time	1	406	-	400-500	-	Pass
9	Spot : Control Building : 2nd Floor : Control Room Desk 3	23124364 (4)-38	28-Nov-23	Night time	1	409	-	400-500	-	Pass
10	Spot : Control Building : 2nd Floor : Control Room Desk 4	23124364 (4)-39	28-Nov-23	Night time	1	411	-	400-500	-	Pass
11	Spot : Control Building : 2nd Floor : Control Room Desk 5	23124364 (4)-40	28-Nov-23	Night time	1	410	-	400-500	-	Pass
12	Spot : Control Building : 2nd Floor : DSC Room Desk 1	23124364 (4)-41 23124364 (4)-42	28-Nov-23 28-Nov-23	Day time Night time	1 1	407 403	- -	400-500 400-500	- -	Pass Pass
13	Spot : Control Building : 2nd Floor : Photocopier	23124364 (4)-43	28-Nov-23	Day time	1	407	-	300-400	-	Pass
14	Spot : Control Building : 2nd Floor : Fax and Copy	23124364 (4)-44	28-Nov-23	Day time	1	411	-	300-400	-	Pass
15	Spot : Control Building : 2nd Floor : Computer No.1	23124364 (4)-45	28-Nov-23	Day time	1	402	-	400-500	-	Pass
16	Spot : Control Building : 2nd Floor : Computer No.2	23124364 (4)-46	28-Nov-23	Day time	1	401	-	400-500	-	Pass
17	Spot : Control Building : 2nd Floor : โต๊ะทำงาน Operation Office 1	23124364 (4)-47	28-Nov-23	Night time	1	411	-	400-500	-	Pass
18	Spot : Control Building : 2nd Floor : โต๊ะทำงาน Operation Office 2	23124364 (4)-48	28-Nov-23	Night time	1	407	-	400-500	-	Pass
19	Spot : Control Building : 2nd Floor : CCTV Room Table	23124364 (4)-49	28-Nov-23	Day time	1	416	-	400-500	-	Pass
20	Spot : Control Building : 2nd Floor : Control (Table No.1)	23124364 (4)-50	28-Nov-23	Day time	1	422	-	400-500	-	Pass
21	Spot : Control Building : 2nd Floor : Control (Table No.2)	23124364 (4)-51	28-Nov-23	Day time	1	409	-	400-500	-	Pass
22	Spot : Control Building : 2nd Floor : Computer Control No.1	23124364 (4)-52	28-Nov-23	Day time	1	407	-	400-500	-	Pass

Technical Management

Supot S.

Supot Salamteh
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Wichan Choonharat

Wichan Choonharat
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P/O :
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Project Location: GNC

Lot ID: 23124364 (4)

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Page 3 of 3

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Illuminance (Lux)	Average	Spot/Min	Average	
23	Spot : Control Building : 2nd Floor : Computer Control No.2	23124364 (4)-53	28-Nov-23	Day time	1	416	-	400-500	-	Pass
24	Spot : Control Building : 2nd Floor : Computer Control No.3	23124364 (4)-54	28-Nov-23	Day time	1	411	-	400-500	-	Pass
25	Spot : Control Building : 2nd Floor : Computer Control No.4	23124364 (4)-55	28-Nov-23	Day time	1	422	-	400-500	-	Pass
26	Spot : Control Building : 2nd Floor : Computer Control No.5	23124364 (4)-56	28-Nov-23	Day time	1	403	-	400-500	-	Pass
27	Spot : Control Building : 2nd Floor : Computer Control No.6	23124364 (4)-57	28-Nov-23	Day time	1	416	-	400-500	-	Pass
28	Spot : Control Building : 2nd Floor : Computer Control No.7	23124364 (4)-58	28-Nov-23	Day time	1	412	-	400-500	-	Pass

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (5)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (5)-1

Page 1 of 1

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : Terminal & Switchyard Control Building : Terminal Control Room No.1	23124364 (5)-1	28-Nov-23	Day time	1	310	-	200-300	-	Pass
2	Spot : Terminal & Switchyard Control Building : Terminal Control Room No.2	23124364 (5)-2	28-Nov-23	Day time	1	297	-	200-300	-	Pass
3	Spot : Terminal & Switchyard Control Building : Battery Room No.1	23124364 (5)-3	28-Nov-23	Day time	1	266	-	200-300	-	Pass
4	Spot : Terminal & Switchyard Control Building : Switchgear Room No.1	23124364 (5)-4	28-Nov-23	Day time	1	245	-	200-300	-	Pass
5	Spot : Terminal & Switchyard Control Building : Switchgear Room No.2	23124364 (5)-5	28-Nov-23	Day time	1	240	-	200-300	-	Pass
6	Spot : Terminal & Switchyard Control Building : Switchyard Control Room No.1	23124364 (5)-6	28-Nov-23	Day time	1	466	-	200-300	-	Pass
7	Spot : Terminal & Switchyard Control Building : Switchyard Control Room No.2	23124364 (5)-7	28-Nov-23	Day time	1	203	-	200-300	-	Pass
8	Spot : Terminal & Switchyard Control Building : Battery Room No.2	23124364 (5)-8	28-Nov-23	Day time	1	256	-	200-300	-	Pass

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Section Head

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P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (6)

Date Received : Nov 30, 2023
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Report Number: 23124364 (6)-1

Page 1 of 2

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Warehouse and Workshop Building : 1st Floor : Reception Room	23124364 (6)-1	28-Nov-23	Day time	1	1,692	803	50	100	Pass
		23124364 (6)-2	28-Nov-23	Day time	2	1,211				
		23124364 (6)-3	28-Nov-23	Day time	3	652				
		23124364 (6)-4	28-Nov-23	Day time	4	1,188				
		23124364 (6)-5	28-Nov-23	Day time	5	701				
		23124364 (6)-6	28-Nov-23	Day time	6	511				
		23124364 (6)-7	28-Nov-23	Day time	7	233				
		23124364 (6)-8	28-Nov-23	Day time	8	621				
		23124364 (6)-9	28-Nov-23	Day time	9	422				
2	Area : Warehouse and Workshop Building : 1st Floor : Warehouse Canteen and Pantry	23124364 (6)-10	28-Nov-23	Day time	1	711	824	150	300	Pass
		23124364 (6)-11	28-Nov-23	Day time	2	626				
		23124364 (6)-12	28-Nov-23	Day time	3	1,136				
3	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.1	23124364 (6)-13	28-Nov-23	Day time	1	499	-	400-500	-	Pass
4	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.2	23124364 (6)-14	28-Nov-23	Day time	1	505	-	400-500	-	Pass
5	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.3	23124364 (6)-15	28-Nov-23	Day time	1	511	-	400-500	-	Pass
6	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.4	23124364 (6)-16	28-Nov-23	Day time	1	530	-	400-500	-	Pass
7	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.5	23124364 (6)-17	28-Nov-23	Day time	1	527	-	400-500	-	Pass
8	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.6	23124364 (6)-18	28-Nov-23	Day time	1	546	-	400-500	-	Pass
9	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.7	23124364 (6)-19	28-Nov-23	Day time	1	553	-	400-500	-	Pass
10	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.8	23124364 (6)-20	28-Nov-23	Day time	1	526	-	400-500	-	Pass

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Nichan Chuan

Wichan Choonharat
Assistant Manager

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P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (6)

Date Received : Nov 30, 2023
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Page 2 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	GNC		Guideline Limit		Comment
						Illuminance (Lux)	Average	Spot/Min	Average	
11	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.9	23124364 (6)-21	28-Nov-23	Day time	1	571	-	400-500	-	Pass
12	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.10	23124364 (6)-22	28-Nov-23	Day time	1	533	-	400-500	-	Pass
13	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.11	23124364 (6)-23	28-Nov-23	Day time	1	529	-	400-500	-	Pass
14	Spot : Warehouse and Workshop Building : 1st Floor : Warehouse Officer Table No.12	23124364 (6)-24	28-Nov-23	Day time	1	540	-	400-500	-	Pass
15	Spot : Warehouse and Workshop Building : 1st Floor : Photocopier	23124364 (6)-25	28-Nov-23	Day time	1	625	-	300-400	-	Pass
16	Spot : Warehouse and Workshop Building : 1st Floor : Maintenance Manager Table	23124364 (6)-26	28-Nov-23	Day time	1	786	-	400-500	-	Pass
17	Area : Warehouse and Workshop Building : 1st Floor : Meeting Room	23124364 (6)-27	28-Nov-23	Day time	1	1,260	818	150	300	Pass
		23124364 (6)-28	28-Nov-23	Day time	2	881				
		23124364 (6)-29	28-Nov-23	Day time	3	711				
		23124364 (6)-30	28-Nov-23	Day time	4	609				
		23124364 (6)-31	28-Nov-23	Day time	5	779				
		23124364 (6)-32	28-Nov-23	Day time	6	812				
		23124364 (6)-33	28-Nov-23	Day time	7	732				
		23124364 (6)-34	28-Nov-23	Day time	8	760				

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (7)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (7)-1

Page 1 of 2

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Warehouse and Workshop Building : Ground Floor : Warehouse Room	23124364 (7)-1	28-Nov-23	Day time	1	521	755	100	200	Pass
		23124364 (7)-2	28-Nov-23	Day time	2	855				
		23124364 (7)-3	28-Nov-23	Day time	3	753				
		23124364 (7)-4	28-Nov-23	Day time	4	711				
		23124364 (7)-5	28-Nov-23	Day time	5	550				
		23124364 (7)-6	28-Nov-23	Day time	6	611				
		23124364 (7)-7	28-Nov-23	Day time	7	588				
		23124364 (7)-8	28-Nov-23	Day time	8	632				
		23124364 (7)-9	28-Nov-23	Day time	9	800				
		23124364 (7)-10	28-Nov-23	Day time	10	773				
		23124364 (7)-11	28-Nov-23	Day time	11	611				
		23124364 (7)-12	28-Nov-23	Day time	12	782				
		23124364 (7)-13	28-Nov-23	Day time	13	875				
		23124364 (7)-14	28-Nov-23	Day time	14	799				
		23124364 (7)-15	28-Nov-23	Day time	15	811				
		23124364 (7)-16	28-Nov-23	Day time	16	863				
		23124364 (7)-17	28-Nov-23	Day time	17	1,016				
		23124364 (7)-18	28-Nov-23	Day time	18	1,042				
2	Area : Warehouse and Workshop Building : Ground Floor : Walkway	23124364 (7)-19	28-Nov-23	Day time	1	815	448	50	100	Pass
		23124364 (7)-20	28-Nov-23	Day time	2	704				
		23124364 (7)-21	28-Nov-23	Day time	3	100				
		23124364 (7)-22	28-Nov-23	Day time	4	611				
		23124364 (7)-23	28-Nov-23	Day time	5	422				
		23124364 (7)-24	28-Nov-23	Day time	6	955				
		23124364 (7)-25	28-Nov-23	Day time	7	107				
		23124364 (7)-26	28-Nov-23	Day time	8	211				
		23124364 (7)-27	28-Nov-23	Day time	9	109				
3	Area : Warehouse and Workshop Building : Ground Floor : Electrical Room/Fitness Room	23124364 (7)-28	28-Nov-23	Day time	1	374	366	50	100	Pass
		23124364 (7)-29	28-Nov-23	Day time	2	316				
		23124364 (7)-30	28-Nov-23	Day time	3	401				
		23124364 (7)-31	28-Nov-23	Day time	4	377				
		23124364 (7)-32	28-Nov-23	Day time	5	322				
		23124364 (7)-33	28-Nov-23	Day time	6	403				
4	Spot : Warehouse and Workshop Building : Ground Floor : C&I Cabinet	23124364 (7)-34	28-Nov-23	Day time	1	1,108	-	400-500	-	Pass
		23124364 (7)-35	28-Nov-23	Day time	2	875	-	300	-	
		23124364 (7)-36	28-Nov-23	Day time	3	611	-	200	-	

Technical Management

Supot Salamteh
Section Head

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Wichan Choonharat
Assistant Manager

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P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (7)

Date Received : Nov 30, 2023
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Page 2 of 2

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
5	Spot : Warehouse and Workshop Building : Ground Floor : C&I Table	23124364 (7)-37	28-Nov-23	Day time	1	1,709	-	400-500	-	Pass
		23124364 (7)-38	28-Nov-23	Day time	2	711	-	300	-	
		23124364 (7)-39	28-Nov-23	Day time	3	604	-	200	-	
6	Spot : Warehouse and Workshop Building : Ground Floor : Instrument and Control	23124364 (7)-40	28-Nov-23	Day time	1	407	-	400-500	-	Pass
7	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #1	23124364 (7)-41	28-Nov-23	Day time	1	532	-	400-500	-	Pass
8	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #2	23124364 (7)-42	28-Nov-23	Day time	1	615	-	400-500	-	Pass
9	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical #3	23124364 (7)-43	28-Nov-23	Day time	1	614	-	400-500	-	Pass
10	Spot : Warehouse and Workshop Building : Ground Floor : Mechanical and Electrical Workshop Room (Table No.3)	23124364 (7)-44	28-Nov-23	Day time	1	416	-	400-500	-	Pass

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (8)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (8)-1

Page 1 of 1

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : Water Treatment Control Building : Laboratory (หน้า Hood)	23124364 (8)-1	28-Nov-23	Night time	1	704	-	300-400	-	Pass
2	Spot : Water Treatment Control Building : Laboratory (หน้า Spectrophotometer)	23124364 (8)-2	28-Nov-23	Night time	1	411	-	400-500	-	Pass
3	Spot : Water Treatment Control Building : Laboratory (หน้าโต๊ะวัด pH)	23124364 (8)-3	28-Nov-23	Night time	1	474	-	400-500	-	Pass
4	Area : Water Treatment Control Building : ทางเดินหน้าห้อง Laboratory	23124364 (8)-4	28-Nov-23	Night time	1	74	82	25	50	Pass
		23124364 (8)-5	28-Nov-23	Night time	2	68				
		23124364 (8)-6	28-Nov-23	Night time	3	75				
		23124364 (8)-7	28-Nov-23	Night time	4	80				
		23124364 (8)-8	28-Nov-23	Night time	5	110				
		23124364 (8)-9	28-Nov-23	Night time	6	109				
		23124364 (8)-10	28-Nov-23	Night time	7	65				
		23124364 (8)-11	28-Nov-23	Night time	8	73				
		23124364 (8)-12	28-Nov-23	Night time	9	86				

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (10)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (10)-1

Page 1 of 1

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : Electrical Building : 2nd Floor : ตู้ควบคุม 3 (10MKA10GH001 Generator Control Panel)	23124364 (10)-1	28-Nov-23	Night time	1	222	-	200-300	-	Pass
2	Area : Electrical Building : 2nd Floor : ทางเดินภายในห้อง #1	23124364 (10)-2	28-Nov-23	Night time	1	188	186	50	100	Pass
		23124364 (10)-3	28-Nov-23	Night time	2	185				
3	Area : Electrical Building : 2nd Floor : ทางเดินภายในห้อง #2	23124364 (10)-4	28-Nov-23	Night time	1	173	178	50	100	Pass
		23124364 (10)-5	28-Nov-23	Night time	2	184				

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location: GNC

Lot ID: 23124364 (11)

Date Received : Nov 30, 2023
Date Reported : Dec 01, 2023
Report Number: 23124364 (11)-1

Page 1 of 1

GNC										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : Electrical Building 1st Floor : ตู้ควบคุม 1 (SA01)	23124364 (11)-1	28-Nov-23	Night time	1	311	-	200-300	-	Pass
2	Spot : Electrical Building 1st Floor : ตู้ควบคุม 2 (10BFA)	23124364 (11)-2	28-Nov-23	Night time	1	223	-	200-300	-	Pass
3	Spot : Electrical Building 1st Floor : ตู้ควบคุม 3 (10BUA01)	23124364 (11)-3	28-Nov-23	Night time	1	217	-	200-300	-	Pass
4	Spot : Electrical Building 1st Floor : ตู้ควบคุม 4 (10BRU01)	23124364 (11)-4	28-Nov-23	Night time	1	274	-	200-300	-	Pass
5	Area : Electrical Building 1st Floor : ทางเดินบริเวณบันได #1	23124364 (11)-5	28-Nov-23	Night time	1	382	396	50	100	Pass
		23124364 (11)-6	28-Nov-23	Night time	2	411				
6	Area : Electrical Building 1st Floor : ทางเดินบริเวณบันได #2	23124364 (11)-7	28-Nov-23	Night time	1	665	688	50	100	Pass
		23124364 (11)-8	28-Nov-23	Night time	2	712				
7	Area : Electrical Building 1st Floor : ทางเดินภายในห้อง #1	23124364 (11)-9	28-Nov-23	Night time	1	314	340	50	100	Pass
		23124364 (11)-10	28-Nov-23	Night time	2	366				
8	Area : Electrical Building 1st Floor : ทางเดินภายในห้อง #2	23124364 (11)-11	28-Nov-23	Night time	1	303	282	50	100	Pass
		23124364 (11)-12	28-Nov-23	Night time	2	260				

Measurement by : Natthapon Jiengwareewong

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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ภาคผนวก ค-11

การตรวจสอบความถูกต้องของระบบ CEMs ประจำปี พ.ศ. 2566



Analysis / Test Report

Client : Gulf NC Co., Ltd.

418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received: Jun 19, 2023

Date Reported: Jul 03, 2023

Report Number: 2652755-2

Page 1 of 2

Sample Number 2355710-1
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Parameter Relative Response Audit

Relative Response Audit Test Report

No Sample	Date	Time		CEMS Values		RM Values (mg/m ³)	Allowable Range		Criterion
		Start	Stop	(%Opacity)	(mg/m ³)		Minimum	Maximum	
1	15-Jun-23	11:10	11:58	4.03	1.79	0.08	-5.21	8.79	Pass
2	15-Jun-23	12:10	12:58	4.56	2.03	0.04	-4.97	9.03	Pass
3	15-Jun-23	13:10	13:58	4.46	1.99	0.13	-5.01	8.99	Pass
4	15-Jun-23	14:10	14:58	3.96	1.76	0.22	-5.24	8.76	Pass
5	15-Jun-23	15:10	15:58	3.47	1.54	0.13	-5.46	8.54	Pass

Remark: -Relative Response Audit is refer to 40 CFR Part 60 Appendix B : Performance Specification 11 : Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Source (PS-11)
- Correlation Equation of Linear curve $Y = 0.4554X - 0.0419$
-Emission limit 28 mg/m3 from Environmental Impact Assessment Report of Gulf NC Co.,Ltd.

Technical Management

Wichan Choonharat
Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jitranont
Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-4702

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

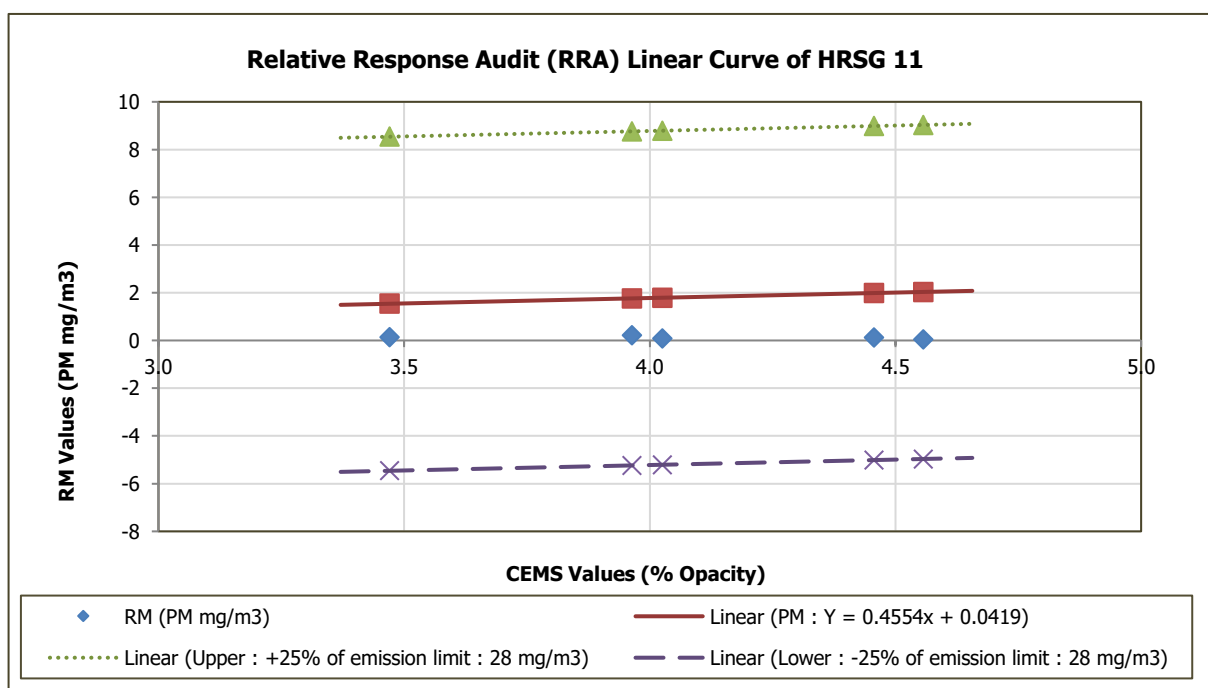
P/O :
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 2355710

Date Received: Jun 19, 2023
Date Reported: Jul 03, 2023
Report Number: 2652755-2

Page 2 of 2

Sample Number 2355710-1
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Parameter Relative Response Audit



Sampled By : Norranon Tathongkham

Technical Management

Wichan Choonharat

Wichan Choonharat
Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jittranont

Sarayuth Jittranont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-4702

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 1 of 10

Sample Number 2355710-2
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.4	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.18	%	Flow Rate (Actual O2)	379529	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O ₂	Result at 14.4 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	11:10 AM - 11:58 AM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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14494-21/ EMAIL

S:\Reports_Air Stack_O2_2GL.rpt (6:50PM)



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 2 of 10

Sample Number 2355710-2
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.4	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.18	%	Flow Rate (Actual O2)	379529	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	11:10 AM - 11:58 AM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 3 of 10

Sample Number 2355710-3
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	2.35	m	Oxygen	14.5	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.6	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.35	%	Flow Rate (Actual O2)	186503	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O ₂	Result at 14.5 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	12:10 PM - 12:58 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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14494-21/ EMAIL

S:\Reports_Air Stack_O2_2GL.rpt (6:50PM)



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 4 of 10

Sample Number 2355710-3
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	2.35	m	Oxygen	14.5	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.6	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.35	%	Flow Rate (Actual O2)	186503	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	12:10 PM - 12:58 PM	g/s	-	-	<0.03	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 5 of 10

Sample Number 2355710-4
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.5	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.37	%	Flow Rate (Actual O2)	378890	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.5 % O ₂				
Air Testing										
Total Suspended Particulate	01:10 PM - 01:58 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 6 of 10

Sample Number 2355710-4
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.5	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.37	%	Flow Rate (Actual O2)	378890	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	01:10 PM - 01:58 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 7 of 10

Sample Number 2355710-5
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.4	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.36	%	Flow Rate (Actual O2)	378928	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O ₂	Result at 14.4 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	02:10 PM - 02:58 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 8 of 10

Sample Number 2355710-5
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.4	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.36	%	Flow Rate (Actual O2)	378928	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	02:10 PM - 02:58 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 9 of 10

Sample Number 2355710-6
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.4	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.33	%	Flow Rate (Actual O2)	379035	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.4 % O ₂				
Air Testing										
Total Suspended Particulate	03:10 PM - 03:58 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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S:\Reports_Air Stack_O2_2GL.rpt (6:50PM)



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652755-1

Page 10 of 10

Sample Number 2355710-6
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Jun 21, 2023
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.4	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	113	°C	Gas Velocity	16.6	m/s
Type of Fuel	Natural Gas		Moisture	6.33	%	Flow Rate (Actual O2)	379035	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	03:10 PM - 03:58 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355710

Date Received: Jun 19, 2023

Date Reported: Jul 03, 2023

Report Number: 2652755-2

Page 1 of 2

Sample Number 2355710-1
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Parameter Relative Response Audit

Relative Response Audit Test Report

No Sample	Date	Time		CEMS Values		RM Values (mg/m ³)	Allowable Range		Criterion
		Start	Stop	(%Opacity)	(mg/m ³)		Minimum	Maximum	
1	15-Jun-23	11:10	11:58	4.03	1.79	0.08	-5.21	8.79	Pass
2	15-Jun-23	12:10	12:58	4.56	2.03	0.04	-4.97	9.03	Pass
3	15-Jun-23	13:10	13:58	4.46	1.99	0.13	-5.01	8.99	Pass
4	15-Jun-23	14:10	14:58	3.96	1.76	0.22	-5.24	8.76	Pass
5	15-Jun-23	15:10	15:58	3.47	1.54	0.13	-5.46	8.54	Pass

Remark: -Relative Response Audit is refer to 40 CFR Part 60 Appendix B : Performance Specification 11 : Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Source (PS-11)
- Correlation Equation of Linear curve $Y = 0.4554X - 0.0419$
-Emission limit 28 mg/m3 from Environmental Impact Assessment Report of Gulf NC Co.,Ltd.

Technical Management

Wichan Choonharat
Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jitranont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-4702

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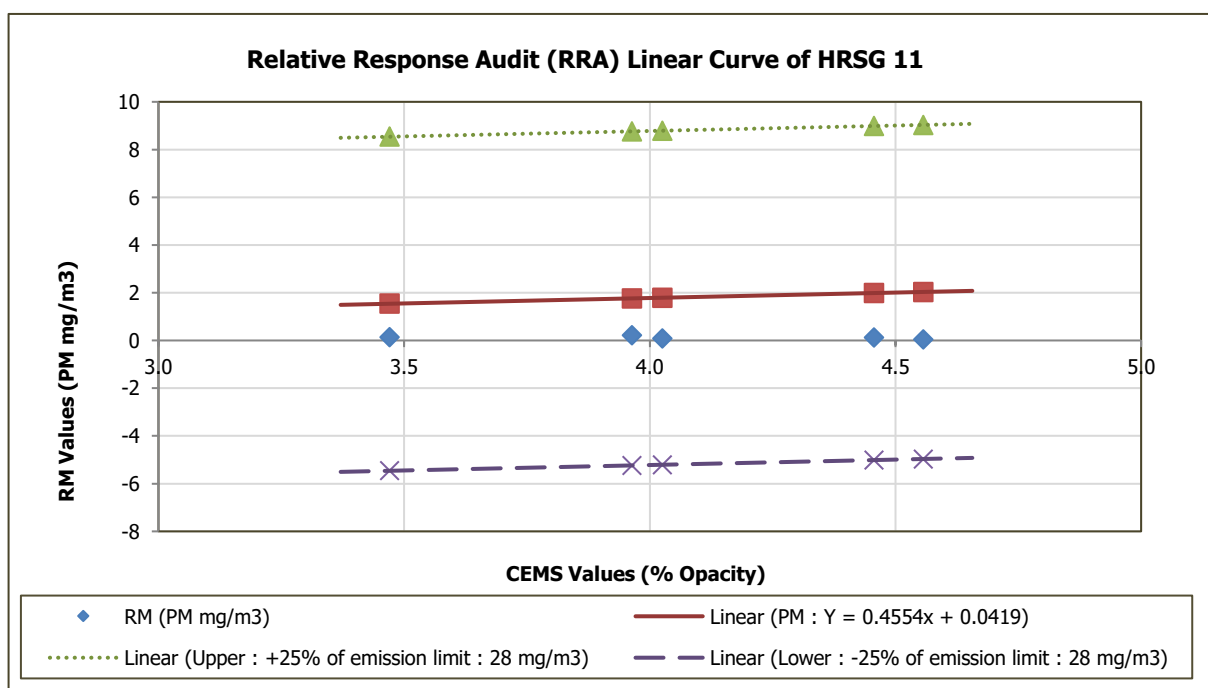
P/O :
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 2355710

Date Received: Jun 19, 2023
Date Reported: Jul 03, 2023
Report Number: 2652755-2

Page 2 of 2

Sample Number 2355710-1
Sampled Date Jun 15, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Parameter Relative Response Audit



Sampled By : Norranon Tathongkham

Technical Management

Wichan Choonharat

Wichan Choonharat
Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jittranont

Sarayuth Jittranont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-4702

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 1 of 10

Sample Number 2355720-2
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.9	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.2	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.28	%	Flow Rate (Actual O2)	349092	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.9 % O ₂				
Air Testing										
Total Suspended Particulate	10:30 AM - 11:18 AM	mg/m3	-	0.5	1.7	0.73	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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14494-21/ EMAIL

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 2 of 10

Sample Number 2355720-2
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.9	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.2	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.28	%	Flow Rate (Actual O2)	349092	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	10:30 AM - 11:18 AM	g/s	-	-	0.07	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong

Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 3 of 10

Sample Number 2355720-3
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349117	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.8 % O ₂				
Air Testing										
Total Suspended Particulate	11:30 AM - 12:18 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 4 of 10

Sample Number 2355720-3
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349117	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	11:30 AM - 12:18 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 5 of 10

Sample Number 2355720-4
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.39	%	Flow Rate (Actual O2)	348717	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.8 % O ₂				
Air Testing										
Total Suspended Particulate	12:30 PM - 01:18 PM	mg/m3	-	0.5	1.2	0.53	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 6 of 10

Sample Number 2355720-4
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.39	%	Flow Rate (Actual O2)	348717	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	12:30 PM - 01:18 PM	g/s	-	-	0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 7 of 10

Sample Number 2355720-5
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349050	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O ₂	Result at 14.6 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	01:30 PM - 02:18 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 8 of 10

Sample Number 2355720-5
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349050	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	01:30 PM - 02:18 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

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ทะเบียนเลขที่ ว-204-จ-4717

Approved by

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ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 9 of 10

Sample Number 2355720-6
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.5	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.27	%	Flow Rate (Actual O2)	348981	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.5 % O ₂				
Air Testing										
Total Suspended Particulate	02:30 PM - 03:18 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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S:\Reports_Air Stack_O2_2GL.rpt (6:53PM)



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 10 of 10

Sample Number 2355720-6
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.5	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.27	%	Flow Rate (Actual O2)	348981	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	02:30 PM - 03:18 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received: Jun 19, 2023

Date Reported: Jul 03, 2023

Report Number: 2652772-2

Page 1 of 2

Sample Number 2355720-1
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Parameter Relative Response Audit

Relative Response Audit Test Report

No Sample	Date	Time		CEMS Values		RM Values (mg/m ³)	Allowable Range		Criterion
		Start	Stop	(%Opacity)	(mg/m ³)		Minimum	Maximum	
1	16-Jun-23	10:30	11:18	2.91	1.22	0.75	-5.78	8.22	Pass
2	16-Jun-23	11:30	12:18	2.30	0.99	0.19	-6.01	7.99	Pass
3	16-Jun-23	12:30	13:18	2.54	1.08	0.54	-5.92	8.08	Pass
4	16-Jun-23	13:30	14:18	3.06	1.27	0.15	-5.73	8.27	Pass
5	16-Jun-23	14:30	15:18	2.79	1.17	0.10	-5.83	8.17	Pass

Remark: -Relative Response Audit is refer to 40 CFR Part 60 Appendix B : Performance Specification 11 : Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Source (PS-11)
- Correlation Equation of Linear curve $Y = 0.3628X + 0.1576$
-Emission limit 28 mg/m3 from Environmental Impact Assessment Report of Gulf NC Co.,Ltd.

Technical Management

Wichan Choonharat
Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jitranont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-4702

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Client : Gulf NC Co., Ltd.
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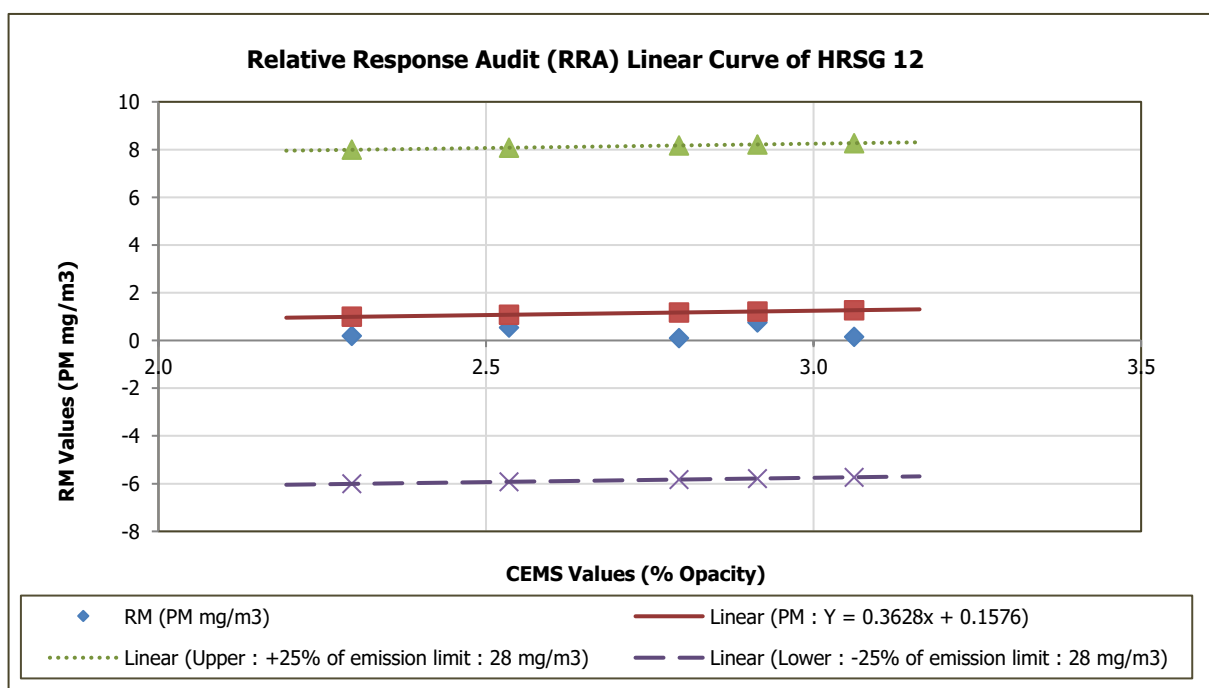
P/O :
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 2355720

Date Received: Jun 19, 2023
Date Reported: Jul 03, 2023
Report Number: 2652772-2

Page 2 of 2

Sample Number 2355720-1
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Parameter Relative Response Audit



Sampled By : Norranon Tathongkham

Technical Management

Wichan Choonharat

Wichan Choonharat
Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jittranont

Sarayuth Jittranont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-4702

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 1 of 10

Sample Number 2355720-2
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.9	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.2	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.28	%	Flow Rate (Actual O2)	349092	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.9 % O ₂				
Air Testing										
Total Suspended Particulate	10:30 AM - 11:18 AM	mg/m3	-	0.5	1.7	0.73	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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14494-21/ EMAIL

S:\Reports_Air Stack_O2_2GL.rpt (6:53PM)



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 2 of 10

Sample Number 2355720-2
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.9	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.2	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.28	%	Flow Rate (Actual O2)	349092	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	10:30 AM - 11:18 AM	g/s	-	-	0.07	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 3 of 10

Sample Number 2355720-3
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349117	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.8 % O ₂				
Air Testing										
Total Suspended Particulate	11:30 AM - 12:18 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 4 of 10

Sample Number 2355720-3
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349117	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	11:30 AM - 12:18 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 5 of 10

Sample Number 2355720-4
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.39	%	Flow Rate (Actual O2)	348717	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O ₂	Result at 14.8 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	12:30 PM - 01:18 PM	mg/m3	-	0.5	1.2	0.53	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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S:\Reports_Air Stack_O2_2GL.rpt (6:53PM)



Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 6 of 10

Sample Number 2355720-4
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.8	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.3	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.39	%	Flow Rate (Actual O2)	348717	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	12:30 PM - 01:18 PM	g/s	-	-	0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

Saranya C.

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Approved by

Kanokkorn Anek

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 7 of 10

Sample Number 2355720-5
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349050	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.6 % O ₂				
Air Testing										
Total Suspended Particulate	01:30 PM - 02:18 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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ทะเบียนเลขที่ ว-204-จ-4717

Approved by

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Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 8 of 10

Sample Number 2355720-5
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.6	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.26	%	Flow Rate (Actual O2)	349050	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	01:30 PM - 02:18 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

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Approved by

Kanokkorn Anek

Kanokkorn Anek
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ทะเบียนเลขที่ ว-204-ค-6111

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 9 of 10

Sample Number 2355720-6
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.5	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.27	%	Flow Rate (Actual O2)	348981	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 14.5 % O ₂				
Air Testing										
Total Suspended Particulate	02:30 PM - 03:18 PM	mg/m3	-	0.5	<0.5	<0.5	30	60	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

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ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355720

Date Received : Jun 19, 2023

Date Reported : Jun 30, 2023

Report Number: 2652772-1

Page 10 of 10

Sample Number 2355720-6
Sampled Date Jun 16, 2023
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Jun 21, 2023
Condition of Sample Drawn into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	755	mmHg	Diameter	3.35	m	Oxygen	14.5	%
Ambient Temperature	31.0	°C	Shape	Circle		Carbon Dioxide	3.5	%
Type of Process	Combustion		Stack Temperature	111	°C	Gas Velocity	15.7	m/s
Type of Fuel	Natural Gas		Moisture	9.27	%	Flow Rate (Actual O2)	348981	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	02:30 PM - 03:18 PM	g/s	-	-	<0.05	1.7	-	Calculated	Bangkok

Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NC Co., Ltd.

Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Sampled By : Norranon Tathongkham

Remark :

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

Technical Management

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Saranya Chalermthamrong
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ทะเบียนเลขที่ ว-204-จ-4717

Approved by

Kanokkorn Anek

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

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :

Project Name : Monitoring EIA

Project Location : GNC

Lot ID: 2355721

Date Received :Jun 19, 2023

Date Reported :Jun 21, 2023

Report Number :2652811-1

Page 1 of 1

Sample Number 2355721-1
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Measurement Date Jun 15, 2023

Stack Description

Ambient Temperature	32 °C	Diameter	3.35 m	Oxygen	14.48 %
Ambient Pressure	755 mmHg	Shape	Circle	Carbon dioxide	3.63 %
Type of Process	Combustion	Stack Temperature	113 °C	Gas Velocity	16.65 m/s
Type of Fuel	Natural Gas	Moisture	6.37 %	Flow Rate	379032 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O ₂	at 7% O ₂	at Actual O ₂	at 7% O ₂
1	12:10 PM - 12:30 PM	14.51	3.61	13.91	30.28	0.79	1.72
2	12:31 PM - 12:51 PM	14.47	3.63	16.89	36.54	0.81	1.76
3	12:52 PM - 01:12 PM	14.45	3.64	17.78	38.33	0.81	1.75
Average (ppm)		14.48	3.63	16.20	35.05	0.80	1.74
Guideline ^{1/} (ppm)				-	60	-	6
Guideline ^{2/} (ppm)				-	120	-	20
Result (mg/Nm ³)				30.47	65.94	2.11	4.56
Emission Rate at Actual O ₂ (g/s)				3.2083		0.2217	
Guideline ^{1/} (g/s)				7.40		1.00	
Method				US EPA Method 7E		US EPA Method 6C	

Sampled By : Sathapron Thakarw

Guideline : ^{1/} Environmental Impact Assessment Report of Gulf NC Co., Ltd.

^{2/} Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Wichan Choonharat
Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jittrantont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-4702

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Analysis / Test Report

Client : Gulf NC Co., Ltd.
418 Moo 1, Nontree, Kabin Buri, Prachinburi Thailand 25110

P/O :
Project Name : Monitoring EIA
Project Location : GNC

Lot ID: 2355721

Date Received : Jun 19, 2023
Date Reported : Jun 21, 2023
Report Number : 2652811-1

Page 1 of 1

Sample Number : 2355721-1
Sample Description : Emission from Stationary Source
Location : โรง HRSG 11
Measurement Date : Jun 15, 2023

Stack Description

Ambient Temperature	32 °C	Diameter	3.35 m	Oxygen	14.48 %
Ambient Pressure	755 mmHg	Shape	Circle	Carbon dioxide	3.63 %
Type of Process	Combustion	Stack Temperature	113 °C	Gas Velocity	16.65 m/s
Type of Fuel	Natural Gas	Moisture	6.37 %	Flow Rate	379032 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Carbon Monoxide (ppm)	
				at Actual O ₂	At 7% O ₂
1	12:10 PM - 12:30 PM	14.51	3.61	19.68	42.83
2	12:31 PM - 12:51 PM	14.47	3.63	19.52	42.21
3	12:52 PM - 01:12 PM	14.45	3.64	19.19	41.37
Average (ppm)		14.48	3.63	19.46	42.14
Guideline (ppm)				-	690
Result (mg/Nm ³)				22.29	48.26
Emission Rate at Actual O ₂ (g/s)				2.3467	
Method				US EPA Method 10	

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

Technical Management

Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ค-6113

Approved by

Sarayuth Jittrantont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-4702

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