

ภาคผนวกที่ 35
ใบรายงานผลการตรวจวัดคุณภาพสิ่งแวดล้อม



ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D

CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED

ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900

CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com

MEASURING SOURCE : N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี

MEASURING TYPE : AMBIENT (NOISE)

RECEIVED DATE : MARCH 18-21, 2023

MEASURING DATE : MARCH 18-21, 2023

ANALYTICAL DATE : MARCH 18-21, 2023

MEASURING TIME : *

REPORT NO. : 2023-U021824

MEASURING METHOD : INTEGRATED SOUND LEVEL METER

WORK NO. : 2023-001396

MEASURED BY : MR AUSADAWUT YONSIRI

ANALYSIS NO. : T23AF187-0001 - T23AF187-0003

TIME*	RESULT dB(A)		
	N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี		
	MARCH 18-19, 2023		
	T23AF187-0001		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	61.0	82.9	45.7
08:00-09:00 HOUR	62.5	80.3	49.9
09:00-10:00 HOUR	53.9	73.0	46.1
10:00-11:00 HOUR	46.9	69.6	42.9
11:00-12:00 HOUR	43.8	62.3	41.3
12:00-13:00 HOUR	43.6	63.5	41.4
13:00-14:00 HOUR	45.1	62.5	42.7
14:00-15:00 HOUR	45.0	64.3	42.3
15:00-16:00 HOUR	48.9	67.0	44.9
16:00-17:00 HOUR	53.1	67.4	47.4
17:00-18:00 HOUR	55.5	71.8	50.9
18:00-19:00 HOUR	55.9	83.5	48.8
19:00-20:00 HOUR	55.1	82.7	46.0
20:00-21:00 HOUR	62.7	85.5	48.0
21:00-22:00 HOUR	61.0	79.2	47.6
22:00-23:00 HOUR	53.6	72.3	45.8
23:00-00:00 HOUR	54.1	71.7	45.7
00:00-01:00 HOUR	54.3	72.8	47.7
01:00-02:00 HOUR	56.8	77.5	48.5
02:00-03:00 HOUR	56.1	81.4	50.1
03:00-04:00 HOUR	56.2	73.2	49.5
04:00-05:00 HOUR	54.3	73.8	47.6
05:00-06:00 HOUR	54.2	74.5	47.8
06:00-07:00 HOUR	49.2	64.9	45.3
L _{Aeq} 24 hours		56.4	
L _{Adn}		61.6	



TIME*	RESULT dB(A)		
	N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาร้า จ.สุพรรณบุรี		
	MARCH 19-20, 2023		
	T23AF187-0002		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	58.4	89.2	42.8
08:00-09:00 HOUR	47.5	65.7	43.3
09:00-10:00 HOUR	47.5	70.2	43.7
10:00-11:00 HOUR	53.4	71.9	45.5
11:00-12:00 HOUR	55.9	75.7	46.6
12:00-13:00 HOUR	55.3	73.1	46.5
13:00-14:00 HOUR	54.3	71.5	48.5
14:00-15:00 HOUR	56.6	77.0	47.8
15:00-16:00 HOUR	56.1	82.0	49.4
16:00-17:00 HOUR	57.3	75.2	50.7
17:00-18:00 HOUR	54.1	74.1	47.0
18:00-19:00 HOUR	55.1	76.3	48.0
19:00-20:00 HOUR	49.3	64.7	44.9
20:00-21:00 HOUR	59.1	90.1	43.3
21:00-22:00 HOUR	47.3	64.8	43.1
22:00-23:00 HOUR	46.2	70.4	42.1
23:00-00:00 HOUR	52.7	67.0	45.7
00:00-01:00 HOUR	48.4	63.3	47.0
01:00-02:00 HOUR	47.9	61.7	46.0
02:00-03:00 HOUR	49.6	75.7	45.6
03:00-04:00 HOUR	50.6	67.1	46.5
04:00-05:00 HOUR	53.7	69.5	48.5
05:00-06:00 HOUR	50.9	75.2	45.0
06:00-07:00 HOUR	53.2	72.0	47.5
L _{Aeq} 24 hours		54.0	
L _{Adn}		58.3	

TIME*	RESULT dB(A)		
	N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาร้า จ.สุพรรณบุรี		
	MARCH 20-21, 2023		
	T23AF187-0003		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	57.6	82.8	47.9
08:00-09:00 HOUR	56.9	80.7	47.7
09:00-10:00 HOUR	50.3	68.6	43.5
10:00-11:00 HOUR	47.2	70.0	42.3
11:00-12:00 HOUR	44.7	64.9	42.1
12:00-13:00 HOUR	53.3	68.0	45.7
13:00-14:00 HOUR	47.0	63.6	44.7
14:00-15:00 HOUR	48.3	63.1	45.7
15:00-16:00 HOUR	50.9	76.7	47.3
16:00-17:00 HOUR	52.5	68.3	48.4
17:00-18:00 HOUR	53.9	71.4	49.0
18:00-19:00 HOUR	50.7	74.8	45.0
19:00-20:00 HOUR	54.2	73.5	49.0
20:00-21:00 HOUR	58.0	82.8	48.3
21:00-22:00 HOUR	56.3	79.4	47.4
22:00-23:00 HOUR	50.5	68.5	44.3
23:00-00:00 HOUR	52.5	72.5	45.7
00:00-01:00 HOUR	53.0	75.1	44.7
01:00-02:00 HOUR	54.1	75.1	45.0
02:00-03:00 HOUR	52.5	69.7	44.1
03:00-04:00 HOUR	51.3	70.9	44.6
04:00-05:00 HOUR	51.3	78.8	44.2
05:00-06:00 HOUR	48.6	71.4	42.9
06:00-07:00 HOUR	49.7	76.5	43.3
L _{Aeq} 24 hours		53.1	
L _{Adn}		58.5	

Sila Banjongjairuk

(MR SILA BANJONGJAIRUK)
LABORATORY SUPERVISOR

MARCH 27, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
MEASURING SOURCE : N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี
MEASURING TYPE : AMBIENT (NOISE) **RECEIVED DATE** : MARCH 18-21, 2023
MEASURING DATE : MARCH 18-21, 2023 **ANALYTICAL DATE** : MARCH 18-21, 2023
MEASURING TIME : * **REPORT NO.** : 2023-U021824
MEASURING METHOD : INTEGRATED SOUND LEVEL METER **WORK NO.** : 2023-001396
MEASURED BY : MR AUSADAWUT YONSIRI **ANALYSIS NO.** : T23AF187-0001 - T23AF187-0003

TIME*	RESULT dB(A)		
	N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี		
	MARCH 18-19, 2023		
	T23AF187-0001		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	61.0	82.9	45.7
08:00-09:00 HOUR	62.5	80.3	49.9
09:00-10:00 HOUR	53.9	73.0	46.1
10:00-11:00 HOUR	46.9	69.6	42.9
11:00-12:00 HOUR	43.8	62.3	41.3
12:00-13:00 HOUR	43.6	63.5	41.4
13:00-14:00 HOUR	45.1	62.5	42.7
14:00-15:00 HOUR	45.0	64.3	42.3
15:00-16:00 HOUR	48.9	67.0	44.9
16:00-17:00 HOUR	53.1	67.4	47.4
17:00-18:00 HOUR	55.5	71.8	50.9
18:00-19:00 HOUR	55.9	83.5	48.8
19:00-20:00 HOUR	55.1	82.7	46.0
20:00-21:00 HOUR	62.7	85.5	48.0
21:00-22:00 HOUR	61.0	79.2	47.6
22:00-23:00 HOUR	53.6	72.3	45.8
23:00-00:00 HOUR	54.1	71.7	45.7
00:00-01:00 HOUR	54.3	72.8	47.7
01:00-02:00 HOUR	56.8	77.5	48.5
02:00-03:00 HOUR	56.1	81.4	50.1
03:00-04:00 HOUR	56.2	73.2	49.5
04:00-05:00 HOUR	54.3	73.8	47.6
05:00-06:00 HOUR	54.2	74.5	47.8
06:00-07:00 HOUR	49.2	64.9	45.3
L _{Aeq} 24 hours		56.4	
L _{Adn}		61.6	



TIME*	RESULT dB(A)		
	N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาร้า จ.สุพรรณบุรี		
	MARCH 19-20, 2023		
	T23AF187-0002		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	58.4	89.2	42.8
08:00-09:00 HOUR	47.5	65.7	43.3
09:00-10:00 HOUR	47.5	70.2	43.7
10:00-11:00 HOUR	53.4	71.9	45.5
11:00-12:00 HOUR	55.9	75.7	46.6
12:00-13:00 HOUR	55.3	73.1	46.5
13:00-14:00 HOUR	54.3	71.5	48.5
14:00-15:00 HOUR	56.6	77.0	47.8
15:00-16:00 HOUR	56.1	82.0	49.4
16:00-17:00 HOUR	57.3	75.2	50.7
17:00-18:00 HOUR	54.1	74.1	47.0
18:00-19:00 HOUR	55.1	76.3	48.0
19:00-20:00 HOUR	49.3	64.7	44.9
20:00-21:00 HOUR	59.1	90.1	43.3
21:00-22:00 HOUR	47.3	64.8	43.1
22:00-23:00 HOUR	46.2	70.4	42.1
23:00-00:00 HOUR	52.7	67.0	45.7
00:00-01:00 HOUR	48.4	63.3	47.0
01:00-02:00 HOUR	47.9	61.7	46.0
02:00-03:00 HOUR	49.6	75.7	45.6
03:00-04:00 HOUR	50.6	67.1	46.5
04:00-05:00 HOUR	53.7	69.5	48.5
05:00-06:00 HOUR	50.9	75.2	45.0
06:00-07:00 HOUR	53.2	72.0	47.5
L _{Aeq} 24 hours		54.0	
L _{Adn}		58.3	

TIME*	RESULT dB(A)		
	N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาหมอ จ.สุพรรณบุรี		
	MARCH 20-21, 2023		
	T23AF187-0003		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	57.6	82.8	47.9
08:00-09:00 HOUR	56.9	80.7	47.7
09:00-10:00 HOUR	50.3	68.6	43.5
10:00-11:00 HOUR	47.2	70.0	42.3
11:00-12:00 HOUR	44.7	64.9	42.1
12:00-13:00 HOUR	53.3	68.0	45.7
13:00-14:00 HOUR	47.0	63.6	44.7
14:00-15:00 HOUR	48.3	63.1	45.7
15:00-16:00 HOUR	50.9	76.7	47.3
16:00-17:00 HOUR	52.5	68.3	48.4
17:00-18:00 HOUR	53.9	71.4	49.0
18:00-19:00 HOUR	50.7	74.8	45.0
19:00-20:00 HOUR	54.2	73.5	49.0
20:00-21:00 HOUR	58.0	82.8	48.3
21:00-22:00 HOUR	56.3	79.4	47.4
22:00-23:00 HOUR	50.5	68.5	44.3
23:00-00:00 HOUR	52.5	72.5	45.7
00:00-01:00 HOUR	53.0	75.1	44.7
01:00-02:00 HOUR	54.1	75.1	45.0
02:00-03:00 HOUR	52.5	69.7	44.1
03:00-04:00 HOUR	51.3	70.9	44.6
04:00-05:00 HOUR	51.3	78.8	44.2
05:00-06:00 HOUR	48.6	71.4	42.9
06:00-07:00 HOUR	49.7	76.5	43.3
L _{Aeq} 24 hours		53.1	
L _{Adn}		58.5	

Sila Banjongjairuk

(MR SILA BANJONGJAIKUK)
LABORATORY SUPERVISOR

MARCH 27, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
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CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
MEASURING PLACE : N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี
MEASURING TYPE : AMBIENT (ANNOYANCE SOUND LEVEL)
MEASURING DATE : MARCH 18-21, 2023
MEASURING TIME : *
MEASURING EQUIPMENT : INTEGRATED SOUND LEVEL METER AND
CALCULATION
MEASURED BY : MR AUSADAWUT YONSIRI
RECEIVED DATE : MARCH 18-21, 2023
ANALYTICAL DATE : MARCH 18-21, 2023
REPORT NO. : 2023-U021823
WORK NO. : 2023-001396
ANALYSIS NO. : T23AF187-0001 - T23AF187-0003

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 18, 2023 T23AF187-0001	DAY TIME ^{1/}					
	07:00-08:00 HOUR	61.0 ^{1/}	60.9 **	44.6 ^{1/}	46.6 **	<0.8
	08:00-09:00 HOUR	62.5 ^{1/}	62.0 **	52.9 ^{1/}	49.7 **	3.2
	09:00-10:00 HOUR	53.9 ^{1/}	50.9 **	50.9 ^{1/}	43.7 **	7.2
	10:00-11:00 HOUR	46.9 ^{1/}	42.2 **	45.1 ^{1/}	38.2 **	6.9
	11:00-12:00 HOUR	43.8 ^{1/}	39.0 **	42.1 ^{1/}	37.2 **	4.9
	12:00-13:00 HOUR	43.6 ^{1/}	40.3 **	40.9 ^{1/}	38.6 **	2.3
	13:00-14:00 HOUR	45.1 ^{1/}	41.2 **	42.8 ^{1/}	39.3 **	3.5
	14:00-15:00 HOUR	45.0 ^{1/}	40.9 **	42.9 ^{1/}	39.0 **	3.9
	15:00-16:00 HOUR	48.9 ^{1/}	44.9 **	46.7 ^{1/}	41.3 **	5.4
	16:00-17:00 HOUR	53.1 ^{1/}	48.3 **	51.4 ^{1/}	44.1 **	7.3
	17:00-18:00 HOUR	55.5 ^{1/}	51.3 **	53.4 ^{1/}	47.1 **	6.3
	18:00-19:00 HOUR	55.9 ^{1/}	52.7 **	53.1 ^{1/}	45.4 **	7.7
	19:00-20:00 HOUR	55.1 ^{1/}	53.4 **	50.2 ^{1/}	43.2 **	7.0
	20:00-21:00 HOUR	62.7 ^{1/}	62.0 **	54.4 ^{1/}	47.9 **	6.5
	21:00-22:00 HOUR	61.0 ^{1/}	60.3 **	52.7 ^{1/}	48.6 **	4.1
	NIGHT TIME ^{2/}					
	22:00-22:05 HOUR	53.3 ^{2/}	52.8 ***	46.7 ^{2/}	45.5 ***	1.2
	22:05-22:10 HOUR	53.2 ^{2/}	52.8 ***	45.6 ^{2/}	45.5 ***	<0.8
	22:10-22:15 HOUR	53.0 ^{2/}	52.8 ***	42.5 ^{2/}	45.5 ***	<0.8
	22:15-22:20 HOUR	53.3 ^{2/}	52.1 ***	50.1 ^{2/}	44.9 ***	5.2
	22:20-22:25 HOUR	52.7 ^{2/}	52.1 ***	46.8 ^{2/}	44.9 ***	1.9
	22:25-22:30 HOUR	53.9 ^{2/}	52.1 ***	52.2 ^{2/}	44.9 ***	7.3
	22:30-22:35 HOUR	53.9 ^{2/}	52.6 ***	51.0 ^{2/}	45.1 ***	5.9
	22:35-22:40 HOUR	54.3 ^{2/}	52.6 ***	52.4 ^{2/}	45.1 ***	7.3
	22:40-22:45 HOUR	53.5 ^{2/}	52.6 ***	49.2 ^{2/}	45.1 ***	4.1
	22:45-22:50 HOUR	55.0 ^{2/}	53.3 ***	53.1 ^{2/}	45.3 ***	7.8
	22:50-22:55 HOUR	53.7 ^{2/}	53.3 ***	46.1 ^{2/}	45.3 ***	0.8
	22:55-23:00 HOUR	53.5 ^{2/}	53.3 ***	43.0 ^{2/}	45.3 ***	<0.8
	23:00-23:05 HOUR	54.7 ^{2/}	54.4 ***	45.9 ^{2/}	46.1 ***	<0.8
	23:05-23:10 HOUR	54.5 ^{2/}	54.4 ***	41.1 ^{2/}	46.1 ***	<0.8
	23:10-23:15 HOUR	54.9 ^{2/}	54.4 ***	48.3 ^{2/}	46.1 ***	2.2
	23:15-23:20 HOUR	54.1 ^{2/}	53.2 ***	49.8 ^{2/}	45.2 ***	4.6



DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 18, 2023	NIGHT TIME ^{2/}					
T23AF187-0001	23:20-23:25 HOUR	53.8 ^{2/}	53.2 ***	47.9 ^{2/}	45.2 ***	2.7
	23:25-23:30 HOUR	54.4 ^{2/}	53.2 ***	51.2 ^{2/}	45.2 ***	6.0
	23:30-23:35 HOUR	54.0 ^{2/}	54.0 ***	<0.8 ^{2/}	45.9 ***	<0.8
	23:35-23:40 HOUR	54.9 ^{2/}	54.0 ***	50.6 ^{2/}	45.9 ***	4.7
	23:40-23:45 HOUR	53.0 ^{2/}	54.0 ***	<0.8 ^{2/}	45.9 ***	<0.8
	23:45-23:50 HOUR	53.4 ^{2/}	51.9 ***	51.1 ^{2/}	46.2 ***	4.9
	23:50-23:55 HOUR	52.6 ^{2/}	51.9 ***	47.3 ^{2/}	46.2 ***	1.1
	23:55-00:00 HOUR	54.2 ^{2/}	51.9 ***	53.3 ^{2/}	46.2 ***	7.1
MARCH 19, 2023	NIGHT TIME ^{2/}					
T23AF187-0001	00:00-00:05 HOUR	54.7 ^{2/}	51.9 ***	54.5 ^{2/}	46.5 ***	8.0
	00:05-00:10 HOUR	54.5 ^{2/}	51.9 ***	54.0 ^{2/}	46.5 ***	7.5
	00:10-00:15 HOUR	53.1 ^{2/}	51.9 ***	49.9 ^{2/}	46.5 ***	3.4
	00:15-00:20 HOUR	56.9 ^{2/}	54.6 ***	56.0 ^{2/}	49.1 ***	6.9
	00:20-00:25 HOUR	56.8 ^{2/}	54.6 ***	55.8 ^{2/}	49.1 ***	6.7
	00:25-00:30 HOUR	55.0 ^{2/}	54.6 ***	47.4 ^{2/}	49.1 ***	<0.8
	00:30-00:35 HOUR	50.9 ^{2/}	50.6 ***	42.1 ^{2/}	45.2 ***	<0.8
	00:35-00:40 HOUR	53.3 ^{2/}	50.6 ***	53.0 ^{2/}	45.2 ***	7.8
	00:40-00:45 HOUR	53.2 ^{2/}	50.6 ***	52.7 ^{2/}	45.2 ***	7.5
	00:45-00:50 HOUR	52.8 ^{2/}	51.3 ***	50.5 ^{2/}	44.6 ***	5.9
	00:50-00:55 HOUR	53.3 ^{2/}	51.3 ***	52.0 ^{2/}	44.6 ***	7.4
	00:55-01:00 HOUR	52.8 ^{2/}	51.3 ***	50.5 ^{2/}	44.6 ***	5.9
	01:00-01:05 HOUR	55.6 ^{2/}	56.0 ***	<0.8 ^{2/}	48.3 ***	<0.8
	01:05-01:10 HOUR	57.0 ^{2/}	56.0 ***	53.1 ^{2/}	48.3 ***	4.8
	01:10-01:15 HOUR	57.7 ^{2/}	56.0 ***	55.8 ^{2/}	48.3 ***	7.5
	01:15-01:20 HOUR	57.5 ^{2/}	55.9 ***	55.4 ^{2/}	48.0 ***	7.4
	01:20-01:25 HOUR	56.1 ^{2/}	55.9 ***	45.6 ^{2/}	48.0 ***	<0.8
	01:25-01:30 HOUR	55.4 ^{2/}	55.9 ***	<0.8 ^{2/}	48.0 ***	<0.8
	01:30-01:35 HOUR	56.9 ^{2/}	56.3 ***	51.0 ^{2/}	48.4 ***	2.6
	01:35-01:40 HOUR	56.6 ^{2/}	56.3 ***	47.8 ^{2/}	48.4 ***	<0.8
	01:40-01:45 HOUR	58.1 ^{2/}	56.3 ***	56.4 ^{2/}	48.4 ***	8.0
	01:45-01:50 HOUR	59.0 ^{2/}	56.7 ***	58.1 ^{2/}	50.6 ***	7.5
	01:50-01:55 HOUR	54.1 ^{2/}	56.7 ***	<0.8 ^{2/}	50.6 ***	<0.8
	01:55-02:00 HOUR	55.8 ^{2/}	56.7 ***	<0.8 ^{2/}	50.6 ***	<0.8
	02:00-02:05 HOUR	56.4 ^{2/}	53.6 ***	56.2 ^{2/}	48.1 ***	8.1
	02:05-02:10 HOUR	54.6 ^{2/}	53.6 ***	50.7 ^{2/}	48.1 ***	2.6
	02:10-02:15 HOUR	53.7 ^{2/}	53.6 ***	40.3 ^{2/}	48.1 ***	<0.8
	02:15-02:20 HOUR	55.5 ^{2/}	55.5 ***	<0.8 ^{2/}	49.8 ***	<0.8
	02:20-02:25 HOUR	58.3 ^{2/}	55.5 ***	58.1 ^{2/}	49.8 ***	8.3
	02:25-02:30 HOUR	57.6 ^{2/}	55.5 ***	56.4 ^{2/}	49.8 ***	6.6
	02:30-02:35 HOUR	56.5 ^{2/}	53.9 ***	56.0 ^{2/}	48.3 ***	7.7
	02:35-02:40 HOUR	55.1 ^{2/}	53.9 ***	51.9 ^{2/}	48.3 ***	3.6
	02:40-02:45 HOUR	56.1 ^{2/}	53.9 ***	55.1 ^{2/}	48.3 ***	6.8
	02:45-02:50 HOUR	54.7 ^{2/}	54.1 ***	48.8 ^{2/}	48.2 ***	<0.8
	02:50-02:55 HOUR	56.2 ^{2/}	54.1 ***	55.0 ^{2/}	48.2 ***	6.8
	02:55-03:00 HOUR	56.8 ^{2/}	54.1 ***	56.5 ^{2/}	48.2 ***	8.3

• PROHIBITED TO PARTIALLY COPY ANALYSIS REPORT PRIOR TO WRITTEN PERMISSION BY THE LABORATORY.
• THIS ANALYSIS REPORT APPROVES ONLY FOR SUBMITTED SAMPLES.

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 19, 2023 T23AF187-0001	NIGHT TIME ^{2/}					
	03:00-03:05 HOUR	56.8 ^{2/}	54.5 ***	55.9 ^{2/}	48.3 ***	7.6
	03:05-03:10 HOUR	55.3 ^{2/}	54.5 ***	50.6 ^{2/}	48.3 ***	2.3
	03:10-03:15 HOUR	56.8 ^{2/}	54.5 ***	55.9 ^{2/}	48.3 ***	7.6
	03:15-03:20 HOUR	56.6 ^{2/}	56.1 ***	50.0 ^{2/}	49.6 ***	<0.8
	03:20-03:25 HOUR	57.7 ^{2/}	56.1 ***	55.6 ^{2/}	49.6 ***	6.0
	03:25-03:30 HOUR	54.6 ^{2/}	56.1 ***	<0.8 ^{2/}	49.6 ***	<0.8
	03:30-03:35 HOUR	55.5 ^{2/}	54.4 ***	52.0 ^{2/}	48.2 ***	3.8
	03:35-03:40 HOUR	56.9 ^{2/}	54.4 ***	56.3 ^{2/}	48.2 ***	8.1
	03:40-03:45 HOUR	54.4 ^{2/}	54.4 ***	<0.8 ^{2/}	48.2 ***	<0.8
	03:45-03:50 HOUR	56.6 ^{2/}	55.0 ***	54.5 ^{2/}	48.7 ***	5.8
	03:50-03:55 HOUR	56.1 ^{2/}	55.0 ***	52.6 ^{2/}	48.7 ***	3.9
	03:55-04:00 HOUR	56.2 ^{2/}	55.0 ***	53.0 ^{2/}	48.7 ***	4.3
	04:00-04:05 HOUR	53.6 ^{2/}	52.3 ***	50.7 ^{2/}	46.2 ***	4.5
	04:05-04:10 HOUR	55.0 ^{2/}	52.3 ***	54.7 ^{2/}	46.2 ***	8.5
	04:10-04:15 HOUR	55.0 ^{2/}	52.3 ***	54.7 ^{2/}	46.2 ***	8.5
	04:15-04:20 HOUR	53.6 ^{2/}	52.7 ***	49.3 ^{2/}	46.6 ***	2.7
	04:20-04:25 HOUR	53.3 ^{2/}	52.7 ***	47.4 ^{2/}	46.6 ***	0.8
	04:25-04:30 HOUR	53.4 ^{2/}	52.7 ***	48.1 ^{2/}	46.6 ***	1.5
	04:30-04:35 HOUR	54.1 ^{2/}	52.7 ***	51.5 ^{2/}	46.7 ***	4.8
	04:35-04:40 HOUR	53.7 ^{2/}	52.7 ***	49.8 ^{2/}	46.7 ***	3.1
	04:40-04:45 HOUR	55.4 ^{2/}	52.7 ***	55.1 ^{2/}	46.7 ***	8.4
	04:45-04:50 HOUR	52.3 ^{2/}	53.9 ***	<0.8 ^{2/}	48.0 ***	<0.8
	04:50-04:55 HOUR	54.5 ^{2/}	53.9 ***	48.6 ^{2/}	48.0 ***	<0.8
	04:55-05:00 HOUR	56.3 ^{2/}	53.9 ***	55.6 ^{2/}	48.0 ***	7.6
	05:00-05:05 HOUR	53.7 ^{2/}	52.1 ***	51.6 ^{2/}	46.1 ***	5.5
	05:05-05:10 HOUR	48.9 ^{2/}	52.1 ***	<0.8 ^{2/}	46.1 ***	<0.8
	05:10-05:15 HOUR	53.5 ^{2/}	52.1 ***	50.9 ^{2/}	46.1 ***	4.8
	05:15-05:20 HOUR	56.0 ^{2/}	54.1 ***	54.5 ^{2/}	48.1 ***	6.4
	05:20-05:25 HOUR	54.5 ^{2/}	54.1 ***	46.9 ^{2/}	48.1 ***	<0.8
	05:25-05:30 HOUR	52.4 ^{2/}	54.1 ***	<0.8 ^{2/}	48.1 ***	<0.8
	05:30-05:35 HOUR	54.7 ^{2/}	53.9 ***	50.0 ^{2/}	48.0 ***	2.0
	05:35-05:40 HOUR	55.2 ^{2/}	53.9 ***	52.3 ^{2/}	48.0 ***	4.3
	05:40-05:45 HOUR	56.4 ^{2/}	53.9 ***	55.8 ^{2/}	48.0 ***	7.8
	05:45-05:50 HOUR	54.0 ^{2/}	51.2 ***	53.8 ^{2/}	46.5 ***	7.3
	05:50-05:55 HOUR	53.5 ^{2/}	51.2 ***	52.6 ^{2/}	46.5 ***	6.1
	05:55-06:00 HOUR	53.9 ^{2/}	51.2 ***	53.6 ^{2/}	46.5 ***	7.1
	DAY TIME ^{1/}					
	06:00-07:00 HOUR	49.2 ^{1/}	45.3 **	46.9 ^{1/}	41.6 **	5.3
MARCH 19, 2023 T23AF187-0002	DAY TIME ^{1/}					
	07:00-08:00 HOUR	58.4 ^{1/}	58.9 **	<0.8 ^{1/}	43.8 **	<0.8
	08:00-09:00 HOUR	47.5 ^{1/}	44.9 **	44.0 ^{1/}	41.1 **	2.9
	09:00-10:00 HOUR	47.5 ^{1/}	44.7 **	44.3 ^{1/}	41.1 **	3.2
	10:00-11:00 HOUR	53.4 ^{1/}	50.3 **	50.5 ^{1/}	43.1 **	7.4
	11:00-12:00 HOUR	55.9 ^{1/}	53.4 **	52.3 ^{1/}	45.1 **	7.2
	12:00-13:00 HOUR	55.3 ^{1/}	52.3 **	52.3 ^{1/}	44.8 **	7.5

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาร้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 19, 2023	DAY TIME ^{1/}					
T23AF187-0002	13:00-14:00 HOUR	54.3 ^{1/}	52.0 **	50.4 ^{1/}	46.2 **	4.2
	14:00-15:00 HOUR	56.6 ^{1/}	54.2 **	52.9 ^{1/}	46.3 **	6.6
	15:00-16:00 HOUR	56.1 ^{1/}	52.8 **	53.4 ^{1/}	47.1 **	6.3
	16:00-17:00 HOUR	57.3 ^{1/}	53.9 **	54.6 ^{1/}	47.2 **	7.4
	17:00-18:00 HOUR	54.1 ^{1/}	51.1 **	51.1 ^{1/}	45.2 **	5.9
	18:00-19:00 HOUR	55.1 ^{1/}	51.0 **	53.0 ^{1/}	45.2 **	7.8
	19:00-20:00 HOUR	49.3 ^{1/}	46.1 **	46.5 ^{1/}	42.3 **	4.2
	20:00-21:00 HOUR	59.1 ^{1/}	59.2 **	<0.8 ^{1/}	44.3 **	<0.8
	21:00-22:00 HOUR	47.3 ^{1/}	44.8 **	43.7 ^{1/}	40.8 **	2.9
	NIGHT TIME ^{2/}					
	22:00-22:05 HOUR	46.0 ^{2/}	43.3 ***	45.7 ^{2/}	39.7 ***	6.0
	22:05-22:10 HOUR	45.8 ^{2/}	43.3 ***	45.2 ^{2/}	39.7 ***	5.5
	22:10-22:15 HOUR	46.0 ^{2/}	43.3 ***	45.7 ^{2/}	39.7 ***	6.0
	22:15-22:20 HOUR	43.4 ^{2/}	43.5 ***	<0.8 ^{2/}	39.9 ***	<0.8
	22:20-22:25 HOUR	45.9 ^{2/}	43.5 ***	45.2 ^{2/}	39.9 ***	5.3
	22:25-22:30 HOUR	44.8 ^{2/}	43.5 ***	41.9 ^{2/}	39.9 ***	2.0
	22:30-22:35 HOUR	45.2 ^{2/}	43.3 ***	43.7 ^{2/}	39.8 ***	3.9
	22:35-22:40 HOUR	43.8 ^{2/}	43.3 ***	37.2 ^{2/}	39.8 ***	<0.8
	22:40-22:45 HOUR	44.4 ^{2/}	43.3 ***	40.9 ^{2/}	39.8 ***	1.1
	22:45-22:50 HOUR	47.6 ^{2/}	47.8 ***	<0.8 ^{2/}	42.3 ***	<0.8
	22:50-22:55 HOUR	47.7 ^{2/}	47.8 ***	<0.8 ^{2/}	42.3 ***	<0.8
	22:55-23:00 HOUR	49.8 ^{2/}	47.8 ***	48.5 ^{2/}	42.3 ***	6.2
	23:00-23:05 HOUR	53.1 ^{2/}	51.3 ***	51.4 ^{2/}	44.6 ***	6.8
	23:05-23:10 HOUR	53.4 ^{2/}	51.3 ***	52.2 ^{2/}	44.6 ***	7.6
	23:10-23:15 HOUR	52.9 ^{2/}	51.3 ***	50.8 ^{2/}	44.6 ***	6.2
	23:15-23:20 HOUR	51.9 ^{2/}	51.0 ***	47.6 ^{2/}	44.2 ***	3.4
	23:20-23:25 HOUR	52.2 ^{2/}	51.0 ***	49.0 ^{2/}	44.2 ***	4.8
	23:25-23:30 HOUR	52.9 ^{2/}	51.0 ***	51.4 ^{2/}	44.2 ***	7.2
	23:30-23:35 HOUR	52.8 ^{2/}	51.9 ***	48.5 ^{2/}	45.0 ***	3.5
	23:35-23:40 HOUR	51.7 ^{2/}	51.9 ***	<0.8 ^{2/}	45.0 ***	<0.8
	23:40-23:45 HOUR	51.8 ^{2/}	51.9 ***	<0.8 ^{2/}	45.0 ***	<0.8
	23:45-23:50 HOUR	54.3 ^{2/}	52.0 ***	53.4 ^{2/}	45.2 ***	8.2
	23:50-23:55 HOUR	51.7 ^{2/}	52.0 ***	<0.8 ^{2/}	45.2 ***	<0.8
	23:55-00:00 HOUR	52.8 ^{2/}	52.0 ***	48.1 ^{2/}	45.2 ***	2.9
MARCH 20, 2023	NIGHT TIME ^{2/}					
T23AF187-0002	00:00-00:05 HOUR	47.8 ^{2/}	45.2 ***	47.3 ^{2/}	43.6 ***	3.7
	00:05-00:10 HOUR	49.9 ^{2/}	45.2 ***	51.1 ^{2/}	43.6 ***	7.5
	00:10-00:15 HOUR	47.7 ^{2/}	45.2 ***	47.1 ^{2/}	43.6 ***	3.5
	00:15-00:20 HOUR	49.5 ^{2/}	45.0 ***	50.6 ^{2/}	43.6 ***	7.0
	00:20-00:25 HOUR	48.6 ^{2/}	45.0 ***	49.1 ^{2/}	43.6 ***	5.5
	00:25-00:30 HOUR	45.7 ^{2/}	45.0 ***	40.4 ^{2/}	43.6 ***	<0.8
	00:30-00:35 HOUR	49.9 ^{2/}	45.8 ***	50.8 ^{2/}	44.3 ***	6.5
	00:35-00:40 HOUR	49.0 ^{2/}	45.8 ***	49.2 ^{2/}	44.3 ***	4.9
	00:40-00:45 HOUR	47.5 ^{2/}	45.8 ***	45.6 ^{2/}	44.3 ***	1.3
	00:45-00:50 HOUR	48.8 ^{2/}	44.3 ***	49.9 ^{2/}	42.8 ***	7.1

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 20, 2023 T23AF187-0002	NIGHT TIME ^{2/}					
	00:50-00:55 HOUR	48.7 ^{2/}	44.3 ***	49.7 ^{2/}	42.8 ***	6.9
	00:55-01:00 HOUR	45.7 ^{2/}	44.3 ***	43.1 ^{2/}	42.8 ***	<0.8
	01:00-01:05 HOUR	45.4 ^{2/}	45.4 ***	<0.8 ^{2/}	43.8 ***	<0.8
	01:05-01:10 HOUR	46.3 ^{2/}	45.4 ***	42.0 ^{2/}	43.8 ***	<0.8
	01:10-01:15 HOUR	46.7 ^{2/}	45.4 ***	43.8 ^{2/}	43.8 ***	<0.8
	01:15-01:20 HOUR	47.9 ^{2/}	45.4 ***	47.3 ^{2/}	43.8 ***	3.5
	01:20-01:25 HOUR	50.0 ^{2/}	45.4 ***	51.2 ^{2/}	43.8 ***	7.4
	01:25-01:30 HOUR	45.7 ^{2/}	45.4 ***	36.9 ^{2/}	43.8 ***	<0.8
	01:30-01:35 HOUR	48.7 ^{2/}	45.4 ***	49.0 ^{2/}	43.6 ***	5.4
	01:35-01:40 HOUR	47.2 ^{2/}	45.4 ***	45.5 ^{2/}	43.6 ***	1.9
	01:40-01:45 HOUR	49.9 ^{2/}	45.4 ***	51.0 ^{2/}	43.6 ***	7.4
	01:45-01:50 HOUR	48.3 ^{2/}	45.2 ***	48.4 ^{2/}	43.1 ***	5.3
	01:50-01:55 HOUR	45.3 ^{2/}	45.2 ***	31.9 ^{2/}	43.1 ***	<0.8
	01:55-02:00 HOUR	49.8 ^{2/}	45.2 ***	51.0 ^{2/}	43.1 ***	7.9
	02:00-02:05 HOUR	47.6 ^{2/}	48.3 ***	<0.8 ^{2/}	45.2 ***	<0.8
	02:05-02:10 HOUR	51.2 ^{2/}	48.3 ***	51.1 ^{2/}	45.2 ***	5.9
	02:10-02:15 HOUR	52.3 ^{2/}	48.3 ***	53.1 ^{2/}	45.2 ***	7.9
	02:15-02:20 HOUR	52.1 ^{2/}	48.3 ***	52.8 ^{2/}	45.2 ***	7.6
	02:20-02:25 HOUR	47.7 ^{2/}	48.3 ***	<0.8 ^{2/}	45.2 ***	<0.8
	02:25-02:30 HOUR	49.5 ^{2/}	48.3 ***	46.3 ^{2/}	45.2 ***	1.1
	02:30-02:35 HOUR	48.9 ^{2/}	46.4 ***	48.3 ^{2/}	43.4 ***	4.9
	02:35-02:40 HOUR	46.9 ^{2/}	46.4 ***	40.3 ^{2/}	43.4 ***	<0.8
	02:40-02:45 HOUR	49.7 ^{2/}	46.4 ***	50.0 ^{2/}	43.4 ***	6.6
	02:45-02:50 HOUR	48.0 ^{2/}	48.0 ***	<0.8 ^{2/}	44.5 ***	<0.8
	02:50-02:55 HOUR	47.7 ^{2/}	48.0 ***	<0.8 ^{2/}	44.5 ***	<0.8
	02:55-03:00 HOUR	48.9 ^{2/}	48.0 ***	44.6 ^{2/}	44.5 ***	<0.8
	03:00-03:05 HOUR	50.2 ^{2/}	47.3 ***	50.1 ^{2/}	43.9 ***	6.2
	03:05-03:10 HOUR	50.3 ^{2/}	47.3 ***	50.3 ^{2/}	43.9 ***	6.4
	03:10-03:15 HOUR	49.7 ^{2/}	47.3 ***	49.0 ^{2/}	43.9 ***	5.1
	03:15-03:20 HOUR	51.4 ^{2/}	47.7 ***	52.0 ^{2/}	44.3 ***	7.7
	03:20-03:25 HOUR	48.7 ^{2/}	47.7 ***	44.8 ^{2/}	44.3 ***	<0.8
	03:25-03:30 HOUR	51.2 ^{2/}	47.7 ***	51.6 ^{2/}	44.3 ***	7.3
	03:30-03:35 HOUR	50.2 ^{2/}	48.0 ***	49.2 ^{2/}	44.5 ***	4.7
	03:35-03:40 HOUR	49.2 ^{2/}	48.0 ***	46.0 ^{2/}	44.5 ***	1.5
	03:40-03:45 HOUR	49.8 ^{2/}	48.0 ***	48.1 ^{2/}	44.5 ***	3.6
	03:45-03:50 HOUR	51.8 ^{2/}	49.9 ***	50.3 ^{2/}	45.6 ***	4.7
	03:50-03:55 HOUR	53.2 ^{2/}	49.9 ***	53.5 ^{2/}	45.6 ***	7.9
	03:55-04:00 HOUR	50.0 ^{2/}	49.9 ***	36.6 ^{2/}	45.6 ***	<0.8
	04:00-04:05 HOUR	53.7 ^{2/}	53.3 ***	46.1 ^{2/}	48.5 ***	<0.8
	04:05-04:10 HOUR	54.8 ^{2/}	53.3 ***	52.5 ^{2/}	48.5 ***	4.0
	04:10-04:15 HOUR	52.5 ^{2/}	53.3 ***	<0.8 ^{2/}	48.5 ***	<0.8
	04:15-04:20 HOUR	53.4 ^{2/}	51.4 ***	52.1 ^{2/}	46.4 ***	5.7
	04:20-04:25 HOUR	54.0 ^{2/}	51.4 ***	53.5 ^{2/}	46.4 ***	7.1
	04:25-04:30 HOUR	51.8 ^{2/}	51.4 ***	44.2 ^{2/}	46.4 ***	<0.8
	04:30-04:35 HOUR	53.8 ^{2/}	52.0 ***	52.1 ^{2/}	47.1 ***	5.0

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาร้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 20, 2023 T23AF187-0002	NIGHT TIME ^{2/}					
	04:35-04:40 HOUR	53.2 ^{2/}	52.0 ***	50.0 ^{2/}	47.1 ***	2.9
	04:40-04:45 HOUR	52.7 ^{2/}	52.0 ***	47.4 ^{2/}	47.1 ***	<0.8
	04:45-04:50 HOUR	54.3 ^{2/}	52.5 ***	52.6 ^{2/}	47.1 ***	5.5
	04:50-04:55 HOUR	53.6 ^{2/}	52.5 ***	50.1 ^{2/}	47.1 ***	3.0
	04:55-05:00 HOUR	55.3 ^{2/}	52.5 ***	55.1 ^{2/}	47.1 ***	8.0
	05:00-05:05 HOUR	51.4 ^{2/}	50.4 ***	47.5 ^{2/}	44.8 ***	2.7
	05:05-05:10 HOUR	52.0 ^{2/}	50.4 ***	49.9 ^{2/}	44.8 ***	5.1
	05:10-05:15 HOUR	51.5 ^{2/}	50.4 ***	48.0 ^{2/}	44.8 ***	3.2
	05:15-05:20 HOUR	49.8 ^{2/}	48.6 ***	46.6 ^{2/}	42.9 ***	3.7
	05:20-05:25 HOUR	49.7 ^{2/}	48.6 ***	46.2 ^{2/}	42.9 ***	3.3
	05:25-05:30 HOUR	50.0 ^{2/}	48.6 ***	47.4 ^{2/}	42.9 ***	4.5
	05:30-05:35 HOUR	50.6 ^{2/}	49.2 ***	48.0 ^{2/}	43.5 ***	4.5
	05:35-05:40 HOUR	49.1 ^{2/}	49.2 ***	<0.8 ^{2/}	43.5 ***	<0.8
	05:40-05:45 HOUR	50.6 ^{2/}	49.2 ***	48.0 ^{2/}	43.5 ***	4.5
	05:45-05:50 HOUR	51.0 ^{2/}	49.4 ***	48.9 ^{2/}	44.2 ***	4.7
	05:50-05:55 HOUR	51.2 ^{2/}	49.4 ***	49.5 ^{2/}	44.2 ***	5.3
	05:55-06:00 HOUR	52.5 ^{2/}	49.4 ***	52.6 ^{2/}	44.2 ***	8.4
	DAY TIME ^{1/}					
	06:00-07:00 HOUR	53.2 ^{1/}	49.2 **	51.0 ^{1/}	44.0 **	7.0
MARCH 20, 2023 T23AF187-0003	DAY TIME ^{1/}					
	07:00-08:00 HOUR	57.6 ^{1/}	55.0 **	54.1 ^{1/}	46.2 **	7.9
	08:00-09:00 HOUR	56.9 ^{1/}	54.8 **	52.7 ^{1/}	45.8 **	6.9
	09:00-10:00 HOUR	50.3 ^{1/}	46.5 **	48.0 ^{1/}	41.6 **	6.4
	10:00-11:00 HOUR	47.2 ^{1/}	43.9 **	44.5 ^{1/}	40.3 **	4.2
	11:00-12:00 HOUR	44.7 ^{1/}	42.1 **	41.2 ^{1/}	39.9 **	1.3
	12:00-13:00 HOUR	53.3 ^{1/}	50.2 **	50.4 ^{1/}	43.6 **	6.8
	13:00-14:00 HOUR	47.0 ^{1/}	43.6 **	44.3 ^{1/}	42.1 **	2.2
	14:00-15:00 HOUR	48.3 ^{1/}	45.3 **	45.3 ^{1/}	43.7 **	1.6
	15:00-16:00 HOUR	50.9 ^{1/}	47.6 **	48.2 ^{1/}	44.5 **	3.7
	16:00-17:00 HOUR	52.5 ^{1/}	48.9 **	50.0 ^{1/}	45.4 **	4.6
	17:00-18:00 HOUR	53.9 ^{1/}	50.1 **	51.6 ^{1/}	45.2 **	6.4
	18:00-19:00 HOUR	50.7 ^{1/}	48.0 **	47.4 ^{1/}	42.5 **	4.9
	19:00-20:00 HOUR	54.2 ^{1/}	51.0 **	51.4 ^{1/}	45.4 **	6.0
	20:00-21:00 HOUR	58.0 ^{1/}	55.4 **	54.5 ^{1/}	46.7 **	7.8
	21:00-22:00 HOUR	56.3 ^{1/}	53.8 **	52.7 ^{1/}	44.8 **	7.9
	NIGHT TIME ^{2/}					
	22:00-22:05 HOUR	47.6 ^{2/}	49.4 ***	<0.8 ^{2/}	43.6 ***	<0.8
	22:05-22:10 HOUR	51.7 ^{2/}	49.4 ***	50.8 ^{2/}	43.6 ***	7.2
	22:10-22:15 HOUR	50.9 ^{2/}	49.4 ***	48.6 ^{2/}	43.6 ***	5.0
	22:15-22:20 HOUR	48.2 ^{2/}	49.1 ***	<0.8 ^{2/}	43.4 ***	<0.8
	22:20-22:25 HOUR	51.3 ^{2/}	49.1 ***	50.3 ^{2/}	43.4 ***	6.9
	22:25-22:30 HOUR	50.1 ^{2/}	49.1 ***	46.2 ^{2/}	43.4 ***	2.8
	22:30-22:35 HOUR	49.7 ^{2/}	49.7 ***	<0.8 ^{2/}	43.7 ***	<0.8
	22:35-22:40 HOUR	52.3 ^{2/}	49.7 ***	51.8 ^{2/}	43.7 ***	8.1
	22:40-22:45 HOUR	50.2 ^{2/}	49.7 ***	43.6 ^{2/}	43.7 ***	<0.8

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาม้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 20, 2023 T23AF187-0003	NIGHT TIME ^{2/}					
	22:45-22:50 HOUR	48.3 ^{2/}	50.5 ***	<0.8 ^{2/}	44.4 ***	<0.8
	22:50-22:55 HOUR	52.3 ^{2/}	50.5 ***	50.6 ^{2/}	44.4 ***	6.2
	22:55-23:00 HOUR	50.6 ^{2/}	50.5 ***	37.2 ^{2/}	44.4 ***	<0.8
	23:00-23:05 HOUR	52.6 ^{2/}	51.8 ***	47.9 ^{2/}	45.5 ***	2.4
	23:05-23:10 HOUR	53.6 ^{2/}	51.8 ***	51.9 ^{2/}	45.5 ***	6.4
	23:10-23:15 HOUR	53.4 ^{2/}	51.8 ***	51.3 ^{2/}	45.5 ***	5.8
	23:15-23:20 HOUR	51.8 ^{2/}	49.6 ***	50.8 ^{2/}	43.3 ***	7.5
	23:20-23:25 HOUR	52.0 ^{2/}	49.6 ***	51.3 ^{2/}	43.3 ***	8.0
	23:25-23:30 HOUR	51.0 ^{2/}	49.6 ***	48.4 ^{2/}	43.3 ***	5.1
	23:30-23:35 HOUR	52.5 ^{2/}	51.2 ***	49.6 ^{2/}	44.7 ***	4.9
	23:35-23:40 HOUR	52.7 ^{2/}	51.2 ***	50.4 ^{2/}	44.7 ***	5.7
	23:40-23:45 HOUR	53.2 ^{2/}	51.2 ***	51.9 ^{2/}	44.7 ***	7.2
	23:45-23:50 HOUR	51.8 ^{2/}	50.5 ***	48.9 ^{2/}	43.8 ***	5.1
	23:50-23:55 HOUR	52.2 ^{2/}	50.5 ***	50.3 ^{2/}	43.8 ***	6.5
	23:55-00:00 HOUR	51.9 ^{2/}	50.5 ***	49.3 ^{2/}	43.8 ***	5.5
MARCH 21, 2023 T23AF187-0003	NIGHT TIME ^{2/}					
	00:00-00:05 HOUR	52.9 ^{2/}	52.9 ***	<0.8 ^{2/}	45.2 ***	<0.8
	00:05-00:10 HOUR	52.9 ^{2/}	52.9 ***	<0.8 ^{2/}	45.2 ***	<0.8
	00:10-00:15 HOUR	54.5 ^{2/}	52.9 ***	52.4 ^{2/}	45.2 ***	7.2
	00:15-00:20 HOUR	53.1 ^{2/}	51.6 ***	50.8 ^{2/}	43.7 ***	7.1
	00:20-00:25 HOUR	51.5 ^{2/}	51.6 ***	<0.8 ^{2/}	43.7 ***	<0.8
	00:25-00:30 HOUR	53.1 ^{2/}	51.6 ***	50.8 ^{2/}	43.7 ***	7.1
	00:30-00:35 HOUR	52.2 ^{2/}	53.9 ***	<0.8 ^{2/}	45.9 ***	<0.8
	00:35-00:40 HOUR	52.6 ^{2/}	53.9 ***	<0.8 ^{2/}	45.9 ***	<0.8
	00:40-00:45 HOUR	55.2 ^{2/}	53.9 ***	52.3 ^{2/}	45.9 ***	6.4
	00:45-00:50 HOUR	52.1 ^{2/}	52.3 ***	<0.8 ^{2/}	44.1 ***	<0.8
	00:50-00:55 HOUR	50.6 ^{2/}	52.3 ***	<0.8 ^{2/}	44.1 ***	<0.8
	00:55-01:00 HOUR	53.1 ^{2/}	52.3 ***	48.4 ^{2/}	44.1 ***	4.3
	01:00-01:05 HOUR	54.5 ^{2/}	53.8 ***	49.2 ^{2/}	44.9 ***	4.3
	01:05-01:10 HOUR	53.9 ^{2/}	53.8 ***	40.5 ^{2/}	44.9 ***	<0.8
	01:10-01:15 HOUR	54.2 ^{2/}	53.8 ***	46.6 ^{2/}	44.9 ***	1.7
	01:15-01:20 HOUR	51.0 ^{2/}	50.2 ***	46.3 ^{2/}	41.6 ***	4.7
	01:20-01:25 HOUR	50.1 ^{2/}	50.2 ***	<0.8 ^{2/}	41.6 ***	<0.8
	01:25-01:30 HOUR	50.2 ^{2/}	50.2 ***	<0.8 ^{2/}	41.6 ***	<0.8
	01:30-01:35 HOUR	56.1 ^{2/}	55.4 ***	50.8 ^{2/}	46.5 ***	4.3
	01:35-01:40 HOUR	51.9 ^{2/}	55.4 ***	<0.8 ^{2/}	46.5 ***	<0.8
	01:40-01:45 HOUR	56.3 ^{2/}	55.4 ***	52.0 ^{2/}	46.5 ***	5.5
	01:45-01:50 HOUR	55.4 ^{2/}	55.0 ***	47.8 ^{2/}	46.9 ***	0.9
	01:50-01:55 HOUR	54.7 ^{2/}	55.0 ***	<0.8 ^{2/}	46.9 ***	<0.8
	01:55-02:00 HOUR	55.4 ^{2/}	55.0 ***	47.8 ^{2/}	46.9 ***	0.9
	02:00-02:05 HOUR	53.4 ^{2/}	53.0 ***	45.8 ^{2/}	45.4 ***	<0.8
	02:05-02:10 HOUR	54.5 ^{2/}	53.0 ***	52.2 ^{2/}	45.4 ***	6.8
	02:10-02:15 HOUR	54.3 ^{2/}	53.0 ***	51.4 ^{2/}	45.4 ***	6.0
	02:15-02:20 HOUR	52.2 ^{2/}	51.4 ***	47.5 ^{2/}	43.8 ***	3.7
	02:20-02:25 HOUR	51.1 ^{2/}	51.4 ***	<0.8 ^{2/}	43.8 ***	<0.8

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาร้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 21, 2023 T23AF187-0003	NIGHT TIME ^{2/}					
	02:25-02:30 HOUR	52.5 ^{2/}	51.4 ***	49.0 ^{2/}	43.8 ***	5.2
	02:30-02:35 HOUR	51.6 ^{2/}	50.5 ***	48.1 ^{2/}	42.8 ***	5.3
	02:35-02:40 HOUR	50.7 ^{2/}	50.5 ***	40.2 ^{2/}	42.8 ***	<0.8
	02:40-02:45 HOUR	51.3 ^{2/}	50.5 ***	46.6 ^{2/}	42.8 ***	3.8
	02:45-02:50 HOUR	51.3 ^{2/}	51.1 ***	40.8 ^{2/}	43.7 ***	<0.8
	02:50-02:55 HOUR	52.9 ^{2/}	51.1 ***	51.2 ^{2/}	43.7 ***	7.5
	02:55-03:00 HOUR	51.7 ^{2/}	51.1 ***	45.8 ^{2/}	43.7 ***	2.1
	03:00-03:05 HOUR	51.5 ^{2/}	49.6 ***	50.0 ^{2/}	43.0 ***	7.0
	03:05-03:10 HOUR	50.2 ^{2/}	49.6 ***	44.3 ^{2/}	43.0 ***	1.3
	03:10-03:15 HOUR	50.9 ^{2/}	49.6 ***	48.0 ^{2/}	43.0 ***	5.0
	03:15-03:20 HOUR	50.7 ^{2/}	49.9 ***	46.0 ^{2/}	43.5 ***	2.5
	03:20-03:25 HOUR	51.8 ^{2/}	49.9 ***	50.3 ^{2/}	43.5 ***	6.8
	03:25-03:30 HOUR	52.1 ^{2/}	49.9 ***	51.1 ^{2/}	43.5 ***	7.6
	03:30-03:35 HOUR	50.7 ^{2/}	51.5 ***	<0.8 ^{2/}	45.0 ***	<0.8
	03:35-03:40 HOUR	50.1 ^{2/}	51.5 ***	<0.8 ^{2/}	45.0 ***	<0.8
	03:40-03:45 HOUR	52.1 ^{2/}	51.5 ***	46.2 ^{2/}	45.0 ***	1.2
	03:45-03:50 HOUR	51.5 ^{2/}	49.5 ***	50.2 ^{2/}	43.1 ***	7.1
	03:50-03:55 HOUR	51.9 ^{2/}	49.5 ***	51.2 ^{2/}	43.1 ***	8.1
	03:55-04:00 HOUR	51.6 ^{2/}	49.5 ***	50.4 ^{2/}	43.1 ***	7.3
	04:00-04:05 HOUR	51.2 ^{2/}	49.9 ***	48.3 ^{2/}	43.1 ***	5.2
	04:05-04:10 HOUR	52.1 ^{2/}	49.9 ***	51.1 ^{2/}	43.1 ***	8.0
	04:10-04:15 HOUR	51.4 ^{2/}	49.9 ***	49.1 ^{2/}	43.1 ***	6.0
	04:15-04:20 HOUR	50.7 ^{2/}	50.2 ***	44.1 ^{2/}	43.4 ***	<0.8
	04:20-04:25 HOUR	52.6 ^{2/}	50.2 ***	51.9 ^{2/}	43.4 ***	8.5
	04:25-04:30 HOUR	52.2 ^{2/}	50.2 ***	50.9 ^{2/}	43.4 ***	7.5
	04:30-04:35 HOUR	52.0 ^{2/}	50.5 ***	49.7 ^{2/}	43.4 ***	6.3
	04:35-04:40 HOUR	49.4 ^{2/}	50.5 ***	<0.8 ^{2/}	43.4 ***	<0.8
	04:40-04:45 HOUR	52.0 ^{2/}	50.5 ***	49.7 ^{2/}	43.4 ***	6.3
	04:45-04:50 HOUR	49.1 ^{2/}	49.2 ***	<0.8 ^{2/}	42.1 ***	<0.8
	04:50-04:55 HOUR	50.4 ^{2/}	49.2 ***	47.2 ^{2/}	42.1 ***	5.1
	04:55-05:00 HOUR	51.0 ^{2/}	49.2 ***	49.3 ^{2/}	42.1 ***	7.2
	05:00-05:05 HOUR	46.2 ^{2/}	47.2 ***	<0.8 ^{2/}	42.0 ***	<0.8
	05:05-05:10 HOUR	49.2 ^{2/}	47.2 ***	47.9 ^{2/}	42.0 ***	5.9
	05:10-05:15 HOUR	48.9 ^{2/}	47.2 ***	47.0 ^{2/}	42.0 ***	5.0
	05:15-05:20 HOUR	47.1 ^{2/}	49.3 ***	<0.8 ^{2/}	44.0 ***	<0.8
	05:20-05:25 HOUR	47.4 ^{2/}	49.3 ***	<0.8 ^{2/}	44.0 ***	<0.8
	05:25-05:30 HOUR	50.6 ^{2/}	49.3 ***	47.7 ^{2/}	44.0 ***	3.7
	05:30-05:35 HOUR	48.2 ^{2/}	45.6 ***	47.7 ^{2/}	40.5 ***	7.2
	05:35-05:40 HOUR	47.0 ^{2/}	45.6 ***	44.4 ^{2/}	40.5 ***	3.9
	05:40-05:45 HOUR	47.7 ^{2/}	45.6 ***	46.5 ^{2/}	40.5 ***	6.0
	05:45-05:50 HOUR	49.3 ^{2/}	49.5 ***	<0.8 ^{2/}	43.9 ***	<0.8
	05:50-05:55 HOUR	48.6 ^{2/}	49.5 ***	<0.8 ^{2/}	43.9 ***	<0.8
	05:55-06:00 HOUR	50.6 ^{2/}	49.5 ***	47.1 ^{2/}	43.9 ***	3.2

DATE	TIME*	RESULT (dB(A))				
		N9 : หมู่ 10 ต.มะขามล้ม อ.บางปลาร้า จ.สุพรรณบุรี				
		SPECIFIC SOUND LEVEL	RESIDUAL SOUND LEVEL	RATING LEVEL	BACKGROUND SOUND LEVEL	ANNOYANCE SOUND LEVEL
MARCH 21, 2023 T23AF187-0003	DAY TIME ^{1/} 06:00-07:00 HOUR	49.7 ^{1/}	46.2 **	47.1 ^{1/}	40.7 **	6.4

REMARK :

- 1/ CASE 1 CALCULATION (DURING 06:00 TO 22:00 HOUR) : SPECIFIC SOUND LEVEL CONTINUOUSLY OCCUR AT LEAST 1 HOUR, MEASURING AS L_{Aeq} 1 hour.
- 2/ CASE 4 CALCULATION (DURING 22:00 TO 06:00 HOUR) : SPECIFIC SOUND LEVEL OCCUR IN RESTFUL AREA OR NIGHT TIME, MEASURING AS L_{Aeq} 5 minutes.
- ** PERCENTILE LEVEL 90 (L_{A90}) IS THE MIDDLE VALUE OF 11 TIMES MEASURING.
(55 MINUTES MEASURING DURING 06:00 TO 22:00 HOUR)
AND RESIDUAL SOUND LEVEL (L_{Aeq} 5 minutes) IS CHOSEN AT THE SAME TIME AS PERCENTILE LEVEL 90 ABOVE.
- *** PERCENTILE LEVEL 90 (L_{A90}) IS THE MIDDLE VALUE OF 3 TIMES MEASURING.
(15 MINUTES MEASURING DURING 22:00 TO 06:00 HOUR)
AND RESIDUAL SOUND LEVEL (L_{Aeq} 5 minutes) IS CHOSEN AT THE SAME TIME AS PERCENTILE LEVEL 90 ABOVE.

Sila Banjongjairuk

(MR SILA BANJONGJAIRUK)
LABORATORY SUPERVISOR

MARCH 27, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ขง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : -
SAMPLE TYPE : CUTTING
SAMPLING DATE : MARCH 23, 2023
SAMPLING TIME : 10:00 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MARCH 31, 2023
ANALYTICAL DATE : MARCH 31 - APRIL 20, 2023
REPORT NO. : 2023-U029574
WORK NO. : 2023-001396
ANALYSIS NO. : T23AF805-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D04 (DD) T23AF805-0001	
pH (1:1)	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	8.6 (25°C)	-
ELECTRICAL CONDUCTIVITY (1:5)	dS/m	ELECTRICAL CONDUCTIVITY METHOD	0.68 (25°C)	-
SALINITY (1:5)	ppt	ELECTRICAL CONDUCTIVITY METHOD	<0.1	0.1
CHLORIDE	% w/w	BS 1377 : PART3 : 1990	ND	0.01
METALS				
ARSENIC (As)	mg/kg	ACID DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	2.75	0.100
CADMIUM (Cd)	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	ND	0.300
HEXAVALENT CHROMIUM (Cr ⁶⁺)	mg/kg	ALKALINE DIGESTION AND COLOURIMETRIC METHOD (US EPA 1996: 3060A AND 1992: 7196A)	ND	0.600
LEAD (Pb)	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	5.62	1.55
MERCURY (Hg)	mg/kg	ACID DIGESTION AND COLD VAPOUR AAS METHOD (US EPA 2007: 7471B)	ND	0.100
SAMPLE CONDITION			BROWN CUTTING	

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.
ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

APRIL 25, 2023



ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผกชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : -
SAMPLE TYPE : CUTTING
SAMPLING DATE : MARCH 10, 2023
SAMPLING TIME : 18:00 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : MARCH 17, 2023
ANALYTICAL DATE : MARCH 17-31, 2023
REPORT NO. : 2023-U025231
WORK NO. : 2023-001396
ANALYSIS NO. : T23AE949-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D06 (DF) T23AE949-0001	
pH (1:1)	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	8.2 (25°C)	-
ELECTRICAL CONDUCTIVITY (1:5)	dS/m	ELECTRICAL CONDUCTIVITY METHOD	1.22 (25°C)	-
SALINITY (1:5)	ppt	ELECTRICAL CONDUCTIVITY METHOD	<0.1	0.1
CHLORIDE	% w/w	BS 1377 : PART3 : 1990	ND	0.01
METALS				
ARSENIC (As)	mg/kg	ACID DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	3.77	0.100
CADMIUM (Cd)	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	ND	0.300
HEXAVALENT CHROMIUM (Cr ⁶⁺)	mg/kg	ALKALINE DIGESTION AND COLOURIMETRIC METHOD (US EPA 1996: 3060A AND 1992: 7196A)	ND	0.600
LEAD (Pb)	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	5.61	1.55
MERCURY (Hg)	mg/kg	ACID DIGESTION AND COLD VAPOUR AAS METHOD (US EPA 2007: 7471B)	0.189	0.100
SAMPLE CONDITION			BROWN CUTTING	

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NON-DETECTABLE.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

APRIL 10, 2023



ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A,19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : NPI-D-GW : บ่อสังเกตการณ์ ที่ติดตั้งในฐานหลุมผลิต (ท้ายน้ำ)
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:40 HOUR
SAMPLING METHOD ° : BAILER
SAMPLING BY ° : MR PORAWORN BUNNAG
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-26, 2023
REPORT NO. : 2023-U031087
WORK NO. : 2023-001396
ANALYSIS NO. : T23AG468-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0002	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H' B)	7.3 (30°C)	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: PART 2550 B)	30	-
ELECTRICAL CONDUCTIVITY °	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	2,340 (30°C)	0.1
SALINITY °	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	1.3	0.1
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	1,746	25
TOTAL PETROLEUM HYDROCARBONS °	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0004	0.0003
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.081	0.003
CADMIUM °	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER °	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
IRON °	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.341	0.005
LEAD °	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.030	0.003
MANGANESE °	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.952	0.002
MERCURY ° ^b	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	< LOQ	0.0001
NICKEL °	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0002	
SELENIUM ^c	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM ^c	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC ^c	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.032	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (MERCURY ≥ 0.0001 AND < 0.0005 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

JUNE 23, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : NPI-D-GW : บ่อสังเกตการณ์ ที่ติดตั้งในฐานหลุมผลิต (เหนือน้ำ)
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : MARCH 4, 2023
SAMPLING TIME : 10:00 HOUR
SAMPLING METHOD : BAILER
SAMPLING BY : MR KRIDSANAPONG NAMTHIP
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : MARCH 5, 2023
ANALYTICAL DATE : MARCH 5-17, 2023
REPORT NO. : 2023-U020744
WORK NO. : 2023-001396
ANALYSIS NO. : T23AD852-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AD852-0001	
pH	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (34°C)	-
TEMPERATURE	°C	THERMOMETER AT SITE (SM: PART 2550 B)	34	-
ELECTRICAL CONDUCTIVITY	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD (SM: 2510 B)	3,340 (25°C)	0.1
SALINITY	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	0.8	0.1
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	2,838	25
TOTAL PETROLEUM HYDROCARBONS	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0030	0.0003
BARIUM	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.030	0.003
CADMIUM	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
IRON	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	1.14	0.005
LEAD	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.330	0.003
MANGANESE	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	6.00	0.002
MERCURY	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
NICKEL	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AD852-0001	
SELENIUM	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.068	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			YELLOW	

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (COPPER ≥ 0.002 AND < 0.025 mg/L, NICKEL ≥ 0.005 AND < 0.050 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAJ)
LABORATORY SUPERVISOR

MARCH 29, 2023

ANALYSIS REPORT

PROJECT NAME	: โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ขง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D		
CUSTOMER NAME	: PTTEP INTERNATIONAL LIMITED		
ADDRESS	: 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900		
CONTACT INFORMATION	: TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com		
SAMPLING SOURCE	: NPI-D-GW : บ่อสังเกตการณ์ ที่ติดตั้งในฐานหลุมผลิต (ท้ายน้ำ)		
SAMPLE TYPE	: GROUNDWATER	RECEIVED DATE	: MARCH 5, 2023
SAMPLING DATE	: MARCH 4, 2023	ANALYTICAL DATE	: MARCH 5-17, 2023
SAMPLING TIME	: 11:50 HOUR	REPORT NO.	: 2023-U020745
SAMPLING METHOD	: BAILER	WORK NO.	: 2023-001396
SAMPLING BY	: MR KRIDSANAPONG NAMTHIP	ANALYSIS NO.	: T23AD852-0002
ANALYZED BY	: MISS NADNAPA KAMOLBOON		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AD852-0002	
pH	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.1 (32°C)	-
TEMPERATURE	°C	THERMOMETER AT SITE (SM: PART 2550 B)	32	-
ELECTRICAL CONDUCTIVITY	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	1,944 (32°C)	0.1
SALINITY	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	0.9	0.1
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	1,717	25
TOTAL PETROLEUM HYDROCARBONS	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0011	0.0003
BARIUM	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.203	0.003
CADMIUM	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
IRON	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.661	0.005
LEAD	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.154	0.003
MANGANESE	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	1.01	0.002
MERCURY	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
NICKEL	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AD852-0002	
SELENIUM	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.111	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			YELLOW	

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (COPPER \geq 0.002 AND < 0.025 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MARCH 29, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไผ่ขุ่น แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : GW14 : หมู่ที่ 10 ค.มะขามส้ม อ.บางปลาร้า จ.สุพรรณบุรี
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : MARCH 4, 2023
SAMPLING TIME : 12:25 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR KRIDSANAPONG NAMTHIP
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : MARCH 5, 2023
ANALYTICAL DATE : MARCH 5-17, 2023
REPORT NO. : 2023-U020746
WORK NO. : 2023-001396
ANALYSIS NO. : T23AD852-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			GW14 T23AD852-0003	
pH	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	8.4 (32°C)	-
TEMPERATURE	°C	THERMOMETER AT SITE (SM: PART 2550 B)	32	-
ELECTRICAL CONDUCTIVITY	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	1,103 (32°C)	0.1
SALINITY	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	0.5	0.1
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	688	25
TOTAL PETROLEUM HYDROCARBONS	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0031	0.0003
BARIUM	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.006	0.003
CADMIUM	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
IRON	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.005
LEAD	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.003
MANGANESE	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
MERCURY	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
NICKEL	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			GW14 T23AD852-0003	
SELENIUM	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.049	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR	
SEDIMENT			-	

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (COPPER ≥ 0.002 AND < 0.025 mg/L, IRON ≥ 0.005 AND < 0.050 mg/L, MANGANESE ≥ 0.002 AND < 0.025 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MARCH 29, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ขง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : -
SAMPLE TYPE : BLANK (GROUNDWATER)
SAMPLING DATE : -
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : -
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : MARCH 5, 2023
ANALYTICAL DATE : MARCH 5-17, 2023
REPORT NO. : 2023-U020743
WORK NO. : 2023-001396
ANALYSIS NO. : 2023-EB0027, 2023-FB0206

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT
			1 2023-EB0027	2 2023-FB0206	
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	ND	ND	25
TOTAL PETROLEUM HYDROCARBONS	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	ND	3
METALS					
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	ND	0.0003
BARIUM	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.003
CADMIUM	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.002
COPPER	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.002
IRON	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.005
LEAD	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.003
MANGANESE	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.002
MERCURY	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	ND	0.0001
NICKEL	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.005
SELENIUM	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	ND	0.0005
TOTAL CHROMIUM	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.005
ZINC	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.003



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT
			1 2023-EB0027	2 2023-FB0206	
VOLATILE ORGANIC COMPOUNDS					
BENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	< 0.20	0.20
ETHYLBENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	< 0.20	0.20
TOLUENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	< 0.20	0.20
TOTAL XYLENES	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	< 0.60	0.60
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR	COLOURLESS/CLEAR	
SEDIMENT			-	-	

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

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

RESULT 1 : EQUIPMENT BLANK

RESULT 2 : FIELD BLANK

ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MARCH 29, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผึกขี้และแหล่งหัวไผ่ขุ่น แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : NPI-D-GW : บ่อสังเกตการณ์ ที่ติดตั้งในฐานหลุมผลิต (เหนือน้ำ)
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : MARCH 4, 2023
SAMPLING TIME : 10:00 HOUR
SAMPLING METHOD : BAILER
SAMPLING BY : MR KRIDSANAPONG NAMTHIP
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : MARCH 5, 2023
ANALYTICAL DATE : MARCH 5-17, 2023
REPORT NO. : 2023-U020744
WORK NO. : 2023-001396
ANALYSIS NO. : T23AD852-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AD852-0001	
pH	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H' B)	7.4 (34°C)	-
TEMPERATURE	°C	THERMOMETER AT SITE (SM: PART 2550 B)	34	-
ELECTRICAL CONDUCTIVITY	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD (SM: 2510 B)	3,340 (25°C)	0.1
SALINITY	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	0.8	0.1
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	2,838	25
TOTAL PETROLEUM HYDROCARBONS	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0030	0.0003
BARIUM	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.030	0.003
CADMIUM	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
IRON	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	1.14	0.005
LEAD	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.330	0.003
MANGANESE	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	6.00	0.002
MERCURY	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
NICKEL	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.005	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AD852-0001	
SELENIUM	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.068	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			YELLOW	

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23RD EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23RD EDITION, 2017.

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (COPPER \geq 0.002 AND < 0.025 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHA)
LABORATORY SUPERVISOR

JUNE 23, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผึกีและแหล่งหัวไผ่แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : NPI-D-GW : บ่อสังเกตการณ์ ที่ติดตั้งในฐานหลุมผลิต (เหนือน้ำ)
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:20 HOUR
SAMPLING METHOD ° : BAILER
SAMPLING BY ° : MR PORAWORN BUNNAG
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-26, 2023
REPORT NO. : 2023-U031086
WORK NO. : 2023-001396
ANALYSIS NO. : T23AG468-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0001	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.5 (31°C)	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: PART 2550 B)	31	-
ELECTRICAL CONDUCTIVITY °	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	3,345 (31°C)	0.1
SALINITY °	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	1.9	0.1
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	2,919	25
TOTAL PETROLEUM HYDROCARBONS °	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0021	0.0003
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.036	0.003
CADMIUM °	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER °	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
IRON °	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	1.44	0.005
LEAD °	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.314	0.003
MANGANESE °	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	6.82	0.002
MERCURY ^b	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	< LOQ	0.0001
NICKEL °	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.008	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0001	
SELENIUM ^c	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM ^c	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC ^c	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.047	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			BROWN	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (COPPER ≥ 0.002 AND < 0.025 mg/L, MERCURY ≥ 0.0001 AND < 0.0005 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAJ)
LABORATORY SUPERVISOR

JUNE 23, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A,19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : NPI-D-GW : บ่อสังเกตการณ์ ที่ติดตั้งในฐานหลุมผลิต (เหนือหน้า)
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:20 HOUR
SAMPLING METHOD ° : BAILER
SAMPLING BY ° : MR PORAWORN BUNNAG
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-26, 2023
REPORT NO. : 2023-U031086
WORK NO. : 2023-001396
ANALYSIS NO. : T23AG468-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0001	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.5 (31°C)	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: PART 2550 B)	31	-
ELECTRICAL CONDUCTIVITY °	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	3,345 (31°C)	0.1
SALINITY °	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	1.9	0.1
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	2,919	25
TOTAL PETROLEUM HYDROCARBONS °	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0021	0.0003
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.036	0.003
CADMIUM °	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER °	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
IRON °	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	1.44	0.005
LEAD °	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.314	0.003
MANGANESE °	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	6.82	0.002
MERCURY ° ^b	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	< LOQ	0.0001
NICKEL °	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0001	
SELENIUM ^c	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM ^c	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC ^c	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.047	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (COPPER ≥ 0.002 AND < 0.025 mg/L, MERCURY ≥ 0.0001 AND < 0.0005 mg/L,
NICKEL ≥ 0.005 AND < 0.050 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MAY 16, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไผ่ข่ง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A,19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : NPI-D-GW : บ่อสังเกตการณ์ ที่ติดตั้งในฐานหลุมผลิต (ท้ายน้ำ)
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:40 HOUR
SAMPLING METHOD ° : BAILER
SAMPLING BY ° : MR PORAWORN BUNNAG
ANALYZED BY : MISS NADNAPA KAMOLBOON
RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-26, 2023
REPORT NO. : 2023-U031087
WORK NO. : 2023-001396
ANALYSIS NO. : T23AG468-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0002	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.3 (30°C)	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: PART 2550 B)	30	-
ELECTRICAL CONDUCTIVITY °	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	2,340 (30°C)	0.1
SALINITY °	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	1.3	0.1
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	1,746	25
TOTAL PETROLEUM HYDROCARBONS °	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0004	0.0003
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.081	0.003
CADMIUM °	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER °	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
IRON °	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.341	0.005
LEAD °	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.003
MANGANESE °	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.952	0.002
MERCURY °	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	< LOQ	0.0001
NICKEL °	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			NPI-D-GW T23AG468-0002	
SELENIUM ^c	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM ^c	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC ^c	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.032	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (LEAD ≥ 0.003 AND < 0.100 mg/L, MERCURY ≥ 0.0001 AND < 0.0005 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MAY 2, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A,19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : GW14 : หมู่ที่ 10 ต.มะขามส้ม อ.บางปลาม้า จ.สุพรรณบุรี
SAMPLE TYPE : GROUNDWATER
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 11:10 HOUR
SAMPLING METHOD ° : GRAB
SAMPLING BY ° : MR PORAWORN BUNNAG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-26, 2023
REPORT NO. : 2023-U031089
WORK NO. : 2023-001396
ANALYSIS NO. : T23AG468-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			GW14 T23AG468-0003	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	8.4 (33°C)	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: PART 2550 B)	33	-
ELECTRICAL CONDUCTIVITY °	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	1,150 (33°C)	0.1
SALINITY °	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	0.7	0.1
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	663	25
TOTAL PETROLEUM HYDROCARBONS °	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0028	0.0003
BARIIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.010	0.003
CADMIUM °	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER °	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
IRON °	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.005
LEAD °	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.003
MANGANESE °	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.002
MERCURY °	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
NICKEL °	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01(NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			GW14 T23AG468-0003	
SELENIUM ^c	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM ^c	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC ^c	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.003
VOLATILE ORGANIC COMPOUNDS				
BENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES ^c	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR	
SEDIMENT			YELLOW	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (IRON ≥ 0.005 AND < 0.050 mg/L, MANGANESE ≥ 0.002 AND < 0.025 mg/L,
ZINC ≥ 0.003 AND < 0.025 mg/L).

Benjawan V.

(MISS BENJAWAN VIRIYOTHAJ)
LABORATORY SUPERVISOR

MAY 2, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : -
SAMPLE TYPE : BLANK (GROUNDWATER)
SAMPLING DATE : -
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : -
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-26, 2023
REPORT NO. : 2023-U031090
WORK NO. : 2023-001396
ANALYSIS NO. : 2023-FB0341, 2023-TB0327

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT
			1 2023-FB0341	2 2023-TB0327	
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	ND	ND	25
TOTAL PETROLEUM HYDROCARBONS	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	ND	3
METALS					
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	ND	0.0003
BARIUM	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	ND	0.003
CADMIUM	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.002
COPPER	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.002
IRON	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.005
LEAD	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.003
MANGANESE	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.002
MERCURY	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	ND	0.0001
NICKEL	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.005
SELENIUM	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	ND	0.0005
TOTAL CHROMIUM	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.005
ZINC	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	ND	0.003



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT
			1 2023-FB0341	2 2023-TB0327	
VOLATILE ORGANIC COMPOUNDS					
BENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	< 0.20	0.20
ETHYLBENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	< 0.20	0.20
TOLUENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	< 0.20	0.20
TOTAL XYLENES	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	< 0.60	0.60
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR	COLOURLESS/CLEAR	
SEDIMENT			-	-	

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

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

RESULT 1 : FIELD BLANK

RESULT 2 : TRIP BLANK

ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MAY 2, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไผ่แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A,19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : -
SAMPLE TYPE : BLANK (GROUNDWATER)
SAMPLING DATE : -
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : -
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-26, 2023
REPORT NO. : 2023-U031092
WORK NO. : 2023-001396
ANALYSIS NO. : 2023-EB0066

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			EQUIPMENT BLANK 2023-EB0066	
TOTAL DISSOLVED SOLIDS	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	ND	25
TOTAL PETROLEUM HYDROCARBONS	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0003
BARIUM	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	ND	0.003
CADMIUM	mg/L Cd	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER	mg/L Cu	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
IRON	mg/L Fe	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
LEAD	mg/L Pb	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.003
MANGANESE	mg/L Mn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
MERCURY	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
NICKEL	mg/L Ni	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
SELENIUM	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM	mg/L Cr	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
ZINC	mg/L Zn	IN-HOUSE METHOD: UAE.TP.GW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.003



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			EQUIPMENT BLANK 2023-EB0066	
VOLATILE ORGANIC COMPOUNDS				
BENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
ETHYLBENZENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOLUENE	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.20	0.20
TOTAL XYLENES	µg/L	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (SM: PART 6200 B)	< 0.60	0.60
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR	
SEDIMENT				

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

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

ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MAY 2, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผกซ์และแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : S17 : นาข้าว ต.มะขามส้ม อ.บางปลาม้า จ.สุพรรณบุรี
SAMPLE TYPE : SOIL
SAMPLING DATE : MARCH 30, 2023
SAMPLING TIME : 11:00 HOUR
SAMPLING METHOD ° : UNDISTURBED
SAMPLING BY ° : MR KRIDSANAPONG NAMTHIP
ANALYZED BY : MISS JINTASUPA PLIANSRI

RECEIVED DATE : MARCH 30, 2023
ANALYTICAL DATE : MARCH 30 - APRIL 20, 2023
REPORT NO. : 2023-U029480
WORK NO. : 2023-001396
ANALYSIS NO. : T23AF726-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			S17 T23AF726-0001	
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	5.0 (25°C)	-
ELECTRICAL CONDUCTIVITY (1:5) ^c	dS/m	ELECTRICAL CONDUCTIVITY METHOD	3.58 (25°C)	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	0.3	0.1
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	0.01
TOTAL PETROLEUM HYDROCARBONS ^c	mg/kg	SOXHLET EXTRACTION METHOD (SM: PART 5520 E AND PART 5520 F)	340	100
METALS				
ARSENIC (As) ^c	mg/kg	ACID DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	7.17	0.100
BARIUM (Ba) ^c	mg/kg	ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (US EPA 1996: 3050B AND 2018: 6010D)	189	0.250
CADMIUM (Cd) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	ND	0.300
HEXAVALENT CHROMIUM (Cr ⁶⁺) ^c	mg/kg	ALKALINE DIGESTION AND COLOURIMETRIC METHOD (US EPA 1996: 3060A AND 1992: 7196A)	ND	0.600
COPPER (Cu) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	33.8	0.300
IRON (Fe) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	19,561	0.500
LEAD (Pb) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	27.9	1.55
MANGANESE (Mn) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	75.3	0.250
MERCURY (Hg) ^c	mg/kg	ACID DIGESTION AND COLD VAPOUR AAS METHOD (US EPA 2007: 7471B)	ND	0.100
NICKEL (Ni) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	43.3	1.00
SELENIUM (Se) ^c	mg/kg	ACID DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1994: 7742)	0.253	0.100
ZINC (Zn) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	87.1	0.350



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			S17 T23AF726-0001	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)				
ACENAPHTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
ACENAPHTHYLENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
ANTHRACENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZ(a)ANTHRACENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(a)PYRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(b)FLUORANTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(g,h,i)PERYLENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(k)FLUORANTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
CHRYSENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
DIBENZ(a,h)ANTHRACENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
FLUORANTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
FLUORENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
INDENO(1,2,3-cd)PYRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
1-METHYLNAPHTHALENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
2-METHYLNAPHTHALENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
NAPHTHALENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
PHENANTHRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
PYRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			S17 T23AF726-0001	
VOLATILE ORGANIC COMPOUNDS				
BENZENE ^c	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
ETHYLBENZENE ^c	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
TOLUENE ^c	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
TOTAL XYLENES ^c	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
SAMPLE CONDITION			BROWN SOIL	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

APRIL 26, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตบีโตรเลียม แหล่งหนองผักชีและแหล่งหัวไม้ซุง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : S18 : นาข้าว ต.วัดโบสถ์ อ.บางปลาม้า จ.สุพรรณบุรี
SAMPLE TYPE : SOIL
SAMPLING DATE : MARCH 30, 2023
SAMPLING TIME : 10:30 HOUR
SAMPLING METHOD : UNDISTURBED
SAMPLING BY : MR KRIDSANAPONG NAMTHIP
ANALYZED BY : MISS JINTASUPA PLIANSRI

RECEIVED DATE : MARCH 30, 2023
ANALYTICAL DATE : MARCH 30 - APRIL 20, 2023
REPORT NO. : 2023-U029481
WORK NO. : 2023-001396
ANALYSIS NO. : T23AF726-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			S18 T23AF726-0002	
pH (1:1) ^b	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	6.9 (25°C)	-
ELECTRICAL CONDUCTIVITY (1:5) ^c	dS/m	ELECTRICAL CONDUCTIVITY METHOD	0.59 (25°C)	-
SALINITY (1:5) ^c	ppt	ELECTRICAL CONDUCTIVITY METHOD	<0.1	0.1
CHLORIDE ^c	% w/w	BS 1377 : PART3 : 1990	ND	0.01
TOTAL PETROLEUM HYDROCARBONS ^c	mg/kg	SOXHLET EXTRACTION METHOD (SM: PART 5520 E AND PART 5520 F)	328	100
METALS				
ARSENIC (As) ^c	mg/kg	ACID DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	11.9	0.100
BARIUM (Ba) ^c	mg/kg	ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (US EPA 1996: 3050B AND 2018: 6010D)	178	0.250
CADMIUM (Cd) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	ND	0.300
HEXAVALENT CHROMIUM (Cr ⁶⁺) ^c	mg/kg	ALKALINE DIGESTION AND COLOURIMETRIC METHOD (US EPA 1996: 3060A AND 1992: 7196A)	ND	0.600
COPPER (Cu) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	30.4	0.300
IRON (Fe) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	25,367	0.500
LEAD (Pb) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	27.6	1.55
MANGANESE (Mn) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	135	0.250
MERCURY (Hg) ^c	mg/kg	ACID DIGESTION AND COLD VAPOUR AAS METHOD (US EPA 2007: 7471B)	ND	0.100
NICKEL (Ni) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	31.4	1.00
SELENIUM (Se) ^c	mg/kg	ACID DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1994: 7742)	0.270	0.100
ZINC (Zn) ^c	mg/kg	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	53.4	0.350



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			S18 T23AF726-0002	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)				
ACENAPHTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
ACENAPHTHYLENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
ANTHRACENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZ(a)ANTHRACENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(a)PYRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(b)FLUORANTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(g,h,i)PERYLENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
BENZO(k)FLUORANTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
CHRYSENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
DIBENZ(a,h)ANTHRACENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
FLUORANTHENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
FLUORENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
INDENO(1,2,3-cd)PYRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
1-METHYLNAPHTHALENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
2-METHYLNAPHTHALENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
NAPHTHALENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
PHENANTHRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01
PYRENE °	mg/kg	ULTRASONIC EXTRACTION AND GAS CHROMATOGRAPHIC (FID) METHOD (US EPA 2007: 3550C AND 1986: 8100)	ND	0.01

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			S18 T23AF726-0002	
VOLATILE ORGANIC COMPOUNDS				
BENZENE °	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
ETHYLBENZENE °	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
TOLUENE °	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
TOTAL XYLENES °	mg/kg	PURGE AND TRAP GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC METHOD (US EPA 2002: 5035A AND 2006: 8260C)	ND	0.01
SAMPLE CONDITION			BROWN SOIL	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

SAMPLE (S) ANALYSED ON AS RECEIVED BASIS. RESULT (S) REPORTED ON A DRY WEIGHT BASIS.

ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAJ)
LABORATORY SUPERVISOR

APRIL 26, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไผ่แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : SW16 : หมู่ที่ 7 ตำบลมะขามล้ม อำเภอบางปลาม้า จังหวัดสุพรรณบุรี
SAMPLE TYPE : SURFACE WATER
SAMPLING DATE : MARCH 30, 2023
SAMPLING TIME : 10:40 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR KRISANAPONG NAMTHIP
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : MARCH 30, 2023
ANALYTICAL DATE : MARCH 30 - APRIL 17, 2023
REPORT NO. : 2023-U027940
WORK NO. : 2023-001396
ANALYSIS NO. : T23AF727-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			SW16 T23AF727-0001	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.6 (30°C)	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: PART 2550 B)	30	-
ELECTRICAL CONDUCTIVITY °	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	219 (30°C)	0.1
SALINITY °	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	0.1	0.1
DISSOLVED OXYGEN °	mg/L	AZIDE MODIFICATION METHOD AT SITE (SM: PART 4500-O C)	3.6	0.5
BIOCHEMICAL OXYGEN DEMAND °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	2.3	1.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	93.4	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	147	25
TOTAL PETROLEUM HYDROCARBONS °	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0023	0.0003
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.076	0.003
CADMIUM °	mg/L Cd	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER °	mg/L Cu	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
IRON °	mg/L Fe	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	3.20	0.005
LEAD °	mg/L Pb	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.003
MANGANESE °	mg/L Mn	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.070	0.002



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			SW16 T23AF727-0001	
NICKEL ^c	mg/L Ni	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
SELENIUM ^c	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM ^c	mg/L Cr	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
TOTAL MERCURY ^c	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
ZINC ^c	mg/L Zn	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.003
MICROBIOLOGY				
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	4,600	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			BROWN	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (ZINC \geq 0.003 AND < 0.025 mg/L).

Bhuchonk p.
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(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

APRIL 19, 2023

ANALYSIS REPORT

PROJECT NAME : โครงการผลิตปิโตรเลียม แหล่งหนองผักชีและแหล่งหัวไผ่ข่ง แปลง L54/43 จังหวัดสุพรรณบุรี : NPI-D
CUSTOMER NAME : PTTEP INTERNATIONAL LIMITED
ADDRESS : 555/1 ENERGY COMPLEX BUILDING A, 6TH & 19-36TH FLOOR, VIBHAVADI-RANGSIT ROAD CHATUCHAK CHATUCHAK BANGKOK 10900
CONTACT INFORMATION : TEL : 08 9968 0061 e-mail : SutthilukP@pttep.com
SAMPLING SOURCE : SW17 : หมู่ที่ 10 ตำบลมะขามส้ม อำเภอบางปลาม้า จังหวัดสุพรรณบุรี
SAMPLE TYPE : SURFACE WATER
SAMPLING DATE : MARCH 30, 2023
SAMPLING TIME : 10:15 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR KRIDSANAPONG NAMTHIP
ANALYZED BY : MISS NADNAPA KAMOLBOON

RECEIVED DATE : MARCH 30, 2023
ANALYTICAL DATE : MARCH 30 - APRIL 17, 2023
REPORT NO. : 2023-U027941
WORK NO. : 2023-001396
ANALYSIS NO. : T23AF727-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			SW17 T23AF727-0002	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.7 (30°C)	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: PART 2550 B)	30	-
ELECTRICAL CONDUCTIVITY °	µmhos/cm	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2510 B)	262 (30°C)	0.1
SALINITY °	ppt	ELECTRICAL CONDUCTIVITY METHOD AT SITE (SM: PART 2520 B)	0.1	0.1
DISSOLVED OXYGEN °	mg/L	AZIDE MODIFICATION METHOD AT SITE (SM: PART 4500-O C)	3.0	0.5
BIOCHEMICAL OXYGEN DEMAND °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	1.9	1.0
TOTAL SUSPENDED SOLIDS °	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	131	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	145	25
TOTAL PETROLEUM HYDROCARBONS °	mg/L	SOXHLET EXTRACTION METHOD (SM: PART 5520 D AND PART 5520 F)	ND	3
METALS				
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	0.0027	0.0003
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	0.078	0.003
CADMIUM °	mg/L Cd	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
COPPER °	mg/L Cu	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.002
IRON °	mg/L Fe	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	4.50	0.005
LEAD °	mg/L Pb	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.003
MANGANESE °	mg/L Mn	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.099	0.002



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			SW17 T23AF727-0002	
NICKEL ^c	mg/L Ni	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
SELENIUM ^c	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: PART 3114 C)	ND	0.0005
TOTAL CHROMIUM ^c	mg/L Cr	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	ND	0.005
TOTAL MERCURY ^c	mg/L Hg	IN-HOUSE METHOD: UAE.TP.HEM.002 (COLD VAPOUR ATOMIC ABSORPTION SPECTROMETRIC METHOD); SM: PART 3112 B	ND	0.0001
ZINC ^c	mg/L Zn	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	< LOQ	0.003
MICROBIOLOGY				
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	790	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			BROWN	

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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

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

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (ZINC \geq 0.003 AND < 0.025 mg/L).

Bhuchonk

(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

APRIL 19, 2023