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ENVIRONMENTAL COMPLIANCE REPORT

For

**FOREST MANAGEMENT OF BENGKOKA AND TAMBALUGU
FOREST RESERVES (6,467 HA), PITAS, SABAH**

2nd REPORT OF YEAR 2023

JANUARY - APRIL	MAY - AUGUST	SEPTEMBER - DECEMBER
	√	

AEC Ref. No. : JPAS/PP/15/600-1/01/3/60(46)
Report Reference : CK/MO411/1197-2/23
Date of Report : 18th August 2023



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GERAK SAGA SDN BHD

ENVIRONMENTAL COMPLIANCE REPORT

1.0 INTRODUCTION

The Project site covers an area of approximately 6,467 Ha comprising 6,270 Ha Bengkoka Forest Reserve, and 197 Ha Tambalugu Forest Reserve.

For operational purposes, these two forest reserves are managed as a single Forest Management Unit (FMU) and divided into 4 coupes. Coupes 1-3 (Bengkoka) and Coupe 4 (Tambalugu).

The Project Proponent holds the management - operation - license in both forests for Industrial Tree Plantation (TPP).

1.1 Monitoring Information

Project Title : Forest Management of Bengkoka and Tambalugu Forest Reserves (6,467 Ha), Pitas, Sabah

EIA Letter Approval Ref. : JPAS/PP/15/600-1/01/3/60(36) dated 1st November 2017

Monitoring Period : May - August 2023

Date of Monitoring : Compliance Audit : 27th June 2023

Water Sampling : 27th June 2023

EIA Consultant : Chemsain Konsultant Sdn. Bhd.

1.2 Project Proponent Information

Project Proponent : Gerak Saga Sdn. Bhd.

Contact Person : Mr. Thondik Venantius

Tel. No. : 088 – 663 494

Fax No. : 088 – 662 494

Environmental Officer : Ms. Wilvia Olivia William

Contact No. : 019 – 822 6958 (Mobile)

E-mail : w.william@forestsolutions.com.my

1.3 Post-EIA Consultant Information

Post-EIA Consultant : Chemsain Konsultant Sdn. Bhd.

Tel. No. : Office : 088 – 381 277 / 278

Fax No. : 088 – 381 280

Contact Person : Jessica Malagkas / Vianah Boman

Email : jessica.malagkas@chemsain.com/vianah.boman@chemsain.com

1.4 Other Approvals

Development Plan Ref. : NIL
 Earthwork Plan Ref. : NIL
 Drainage Plan Ref. : NIL
 ESCP Ref. : NIL

1.5 Project Status

Project Completion : Total planted area : 3,025.6 Ha
 Harvested : 3,512.4 Ha

**Project progress status as of 30/06/2023.*

Chronology of Events :

Table 1.0: Chronology of events

No.	Event	Date
1.0	Signing of AEC Ref. No.: JPAS/PP/15/600-1/01/3/60	06 th December 2017

2.0 LEGAL REQUIREMENT

The Project is classified as a prescribed activity under the **Second Schedule** of the **Environment Protection Enactment (Prescribed Activities) (Environmental Impact Assessment) Order 2005** under **Item 2 (i) & 2 (ii)**.

Environmental compliance audit is to be carried out every four (4) months, and reported in accordance to the Approval Conditions as specified in the **Syarat-Syarat Alam Sekitar [Seksyen 12(1) dan 20, Enakmen Perlindungan Alam Sekitar 2002]** of the EPD ref: JPAS/PP/15/600-1/01/3/60 dated 06th December 2017.

3.0 CHANGES TO PROJECT CONCEPT / ENVIRONMENT

3.1 Project Concept

No.	Item	Changes
1.	Project Component	Nil
2.	Changes to Land Lot	Nil
3.	Land Area	Nil

3.2 Surrounding Environment

No.	Item	Changes
1.	Land Use	Nil
2.	River / Coastal Morphology	Nil

4.0 MONITORING LOCATION

Designated sampling locations are shown in **Figure 1.0** with details tabulated in **Table 2.0**.

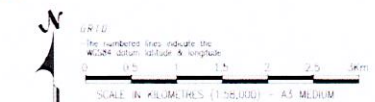
Table 2.0: Environmental sampling particulars

Monitoring Component	Key	GPS Coordinates (Datum: Timbalai)	Location Description
Surface Water Quality	W1	N 06° 51' 18.9" E 117° 06' 41.1"	Unnamed stream downstream of Bengkoka Forest Reserve at Kg. Kandang
	W2	N 06° 50' 40.6" E 117° 09' 18.6"	Unnamed stream downstream of Bengkoka Forest Reserve at Kg. Gumpa
	W3	N 06° 50' 40.1" E 117° 10' 38.2"	Sg. Bongkol of Safoda Dam within Bengkoka Forest Reserve
	W4	N 06° 51' 10.4" E 117° 08' 52.6"	Sg. Kakarangan downstream of Bengkoka Forest Reserve
	W5	N 06° 52' 39.3" E 117° 09' 49.8"	Unnamed stream downstream of Bengkoka Forest Reserve

ENVIRONMENTAL MONITORING AND COMPLIANCE AUDIT
 Forest Management of Bengkoka and Tambalugu Forest Reserves (6,467 Ha), Pitas, Sabah.

- LEGEND:**
- Project Boundary (Bengkoka Forest Reserve and Tambalugu Forest Reserve)
 - Forest Reserve Boundary
 - Road
 - River Stream
 - W1-W6 Water Monitoring Points
 - 30m Riparian Reserve
 - 50m Mangrove Forest Buffer Zone
 - 50m Water Reservoir Buffer Zone
 - 5m Riparian Reserve
 - ▲ Traffic Signage
 - Mangrove Forest
 - Water Catchment - Approx. 371 Ha (to be confirmed through ground assessment)
 - Water Reservoir - Approx. 72 Ha (to be confirmed through ground assessment)
 - >25° Slope - Approx. 17 Ha (to be confirmed through ground assessment)
 - Coupe 1
 - Coupe 2
 - Coupe 3
 - Coupe 4
 - Oil Palm Plantation
 - ▲ Existing Fire Towers

Point	Coordinates	Point	Coordinates
1	117° 15' 36.74" E, 1° 17' 11.41" S	26	117° 14' 10.274" E, 1° 17' 08' 41.547" S
2	117° 15' 55.967" E, 1° 17' 11' 48.64" S	27	117° 14' 15.784" E, 1° 17' 07' 41.347" S
3	117° 16' 14.647" E, 1° 17' 11' 58.251" S	28	117° 14' 20.874" E, 1° 17' 07' 40.307" S
4	117° 16' 33.727" E, 1° 17' 12' 07.967" S	29	117° 14' 25.964" E, 1° 17' 06' 40.307" S
5	117° 16' 52.807" E, 1° 17' 12' 17.683" S	30	117° 14' 31.054" E, 1° 17' 05' 40.307" S
6	117° 17' 11.887" E, 1° 17' 12' 27.399" S	31	117° 14' 36.144" E, 1° 17' 04' 40.307" S
7	117° 17' 30.967" E, 1° 17' 12' 37.115" S	32	117° 14' 41.234" E, 1° 17' 03' 40.307" S
8	117° 17' 50.047" E, 1° 17' 12' 46.831" S	33	117° 14' 46.324" E, 1° 17' 02' 40.307" S
9	117° 18' 09.127" E, 1° 17' 12' 56.547" S	34	117° 14' 51.414" E, 1° 17' 01' 40.307" S
10	117° 18' 28.207" E, 1° 17' 13' 06.263" S	35	117° 14' 56.504" E, 1° 17' 00' 40.307" S
11	117° 18' 47.287" E, 1° 17' 13' 15.979" S	36	117° 15' 01.594" E, 1° 16' 59' 40.307" S
12	117° 19' 06.367" E, 1° 17' 13' 25.695" S	37	117° 15' 06.684" E, 1° 16' 58' 40.307" S
13	117° 19' 25.447" E, 1° 17' 13' 35.411" S	38	117° 15' 11.774" E, 1° 16' 57' 40.307" S
14	117° 19' 44.527" E, 1° 17' 13' 45.127" S	39	117° 15' 16.864" E, 1° 16' 56' 40.307" S
15	117° 19' 63.607" E, 1° 17' 13' 54.843" S	40	117° 15' 21.954" E, 1° 16' 55' 40.307" S
16	117° 19' 82.687" E, 1° 17' 14' 04.559" S	41	117° 15' 27.044" E, 1° 16' 54' 40.307" S
17	117° 19' 101.767" E, 1° 17' 14' 14.275" S	42	117° 15' 32.134" E, 1° 16' 53' 40.307" S
18	117° 19' 120.847" E, 1° 17' 14' 23.991" S	43	117° 15' 37.224" E, 1° 16' 52' 40.307" S
19	117° 19' 139.927" E, 1° 17' 14' 33.707" S	44	117° 15' 42.314" E, 1° 16' 51' 40.307" S
20	117° 19' 159.007" E, 1° 17' 14' 43.423" S	45	117° 15' 47.404" E, 1° 16' 50' 40.307" S
21	117° 19' 178.087" E, 1° 17' 14' 53.139" S	46	117° 15' 52.494" E, 1° 16' 49' 40.307" S
22	117° 19' 197.167" E, 1° 17' 15' 02.855" S	47	117° 15' 57.584" E, 1° 16' 48' 40.307" S
23	117° 19' 216.247" E, 1° 17' 15' 12.571" S	48	117° 16' 02.674" E, 1° 16' 47' 40.307" S
24	117° 19' 235.327" E, 1° 17' 15' 22.287" S	49	117° 16' 07.764" E, 1° 16' 46' 40.307" S
25	117° 19' 254.407" E, 1° 17' 15' 32.003" S	50	117° 16' 12.854" E, 1° 16' 45' 40.307" S
26	117° 19' 273.487" E, 1° 17' 15' 41.719" S	51	117° 16' 17.944" E, 1° 16' 44' 40.307" S
27	117° 19' 292.567" E, 1° 17' 15' 51.435" S	52	117° 16' 23.034" E, 1° 16' 43' 40.307" S
28	117° 19' 311.647" E, 1° 17' 16' 01.151" S	53	117° 16' 28.124" E, 1° 16' 42' 40.307" S
29	117° 19' 330.727" E, 1° 17' 16' 10.867" S	54	117° 16' 33.214" E, 1° 16' 41' 40.307" S
30	117° 19' 349.807" E, 1° 17' 16' 20.583" S	55	117° 16' 38.304" E, 1° 16' 40' 40.307" S
31	117° 19' 368.887" E, 1° 17' 16' 30.299" S	56	117° 16' 43.394" E, 1° 16' 39' 40.307" S
32	117° 19' 387.967" E, 1° 17' 16' 40.015" S	57	117° 16' 48.484" E, 1° 16' 38' 40.307" S
33	117° 19' 407.047" E, 1° 17' 16' 49.731" S	58	117° 16' 53.574" E, 1° 16' 37' 40.307" S
34	117° 19' 426.127" E, 1° 17' 16' 59.447" S	59	117° 16' 58.664" E, 1° 16' 36' 40.307" S
35	117° 19' 445.207" E, 1° 17' 17' 09.163" S	60	117° 17' 03.754" E, 1° 16' 35' 40.307" S
36	117° 19' 464.287" E, 1° 17' 17' 18.879" S	61	117° 17' 08.844" E, 1° 16' 34' 40.307" S
37	117° 19' 483.367" E, 1° 17' 17' 28.595" S	62	117° 17' 13.934" E, 1° 16' 33' 40.307" S
38	117° 19' 502.447" E, 1° 17' 17' 38.311" S	63	117° 17' 19.024" E, 1° 16' 32' 40.307" S
39	117° 19' 521.527" E, 1° 17' 17' 48.027" S	64	117° 17' 24.114" E, 1° 16' 31' 40.307" S
40	117° 19' 540.607" E, 1° 17' 17' 57.743" S	65	117° 17' 29.204" E, 1° 16' 30' 40.307" S
41	117° 19' 559.687" E, 1° 17' 18' 07.459" S	66	117° 17' 34.294" E, 1° 16' 29' 40.307" S
42	117° 19' 578.767" E, 1° 17' 18' 17.175" S	67	117° 17' 39.384" E, 1° 16' 28' 40.307" S
43	117° 19' 597.847" E, 1° 17' 18' 26.891" S	68	117° 17' 44.474" E, 1° 16' 27' 40.307" S
44	117° 20' 016.927" E, 1° 17' 18' 36.607" S	69	117° 17' 49.564" E, 1° 16' 26' 40.307" S
45	117° 20' 035.007" E, 1° 17' 18' 46.323" S	70	117° 17' 54.654" E, 1° 16' 25' 40.307" S



Mitigation Measures and Monitoring Locations

Figure: 1.0

5.0 COMPLIANCE STATUS, OBSERVATION & RECOMMENDATION

Nama Projek	: Forest Management of Bengkoka and Tambalugu Forest Reserves (6,467 Ha), Pitas, Sabah
Nama Pemaju	: Gerak Saga Sdn Bhd
Rujukan fail jabatan ini	: JPAS/PP/15/600-1/01/3/60 (36)
Tarikh Akujanji	: 1 st November 2017
Penyedia laporan pematuhan ini	: Chemsain Konsultant Sdn. Bhd.
Tempoh diliputi oleh laporan ini	: May - August 2023

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
5.1	<u>Kawalan Tapak Pembangunan</u>				
5.1.1	<u>Kawalan Kawasan Perladangan Hutan</u>				
i.	Satu (1) salinan pelan penyukatan sempadan kawasan projek seluas 6,467 hektar dalam kawasan Hutan Simpan Bengkoka dan Tambalugu, Daerah Pitas sebagaimana ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini hendaklah dikemukakan ke JPAS sebelum aktiviti perladangan hutan dimulakan.	Comply	Project Demarcation Plan was submitted to EPD via the 1st EMCAR of 2019 as Appendix D .	-	-
ii.	Sempadan kawasan projek yang telah diukur hendaklah ditanda di lapangan serta dipasang dengan papan tanda di lokasi-lokasi yang mudah dilihat sebelum aktiviti perladangan hutan dimulakan.	Comply	Signboard, entrance (barrier) gate, red-painted trees and red-painted wooden pegs sighted in place demarcating Project coupes and blocks.	5 to 8 and 11	-
iii.	Semua tanda sempadan tapak projek hendaklah tidak ditimbus, dihalang, dirosakkan atau diganggu daripada kedudukan asal.	Comply	Signboard and entrance (barrier) gate sighted in good condition during the site visit.	5 to 8	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
iv	Aktiviti perladangan hutan adalah tidak dibenarkan di dalam kawasan tadahan air, takungan air dan "water intake point" sebagaimana dinyatakan dan masing-masing ditandakan sebagai "Water Catchment", "Water Reservoir" dan "Water Intake" dalam maklumat tambahan rujukan CK/EV403-4278/0199/17 bertarikh 13 April 2017 dan ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.	Comply	<ul style="list-style-type: none"> Project development sighted confined to coupes as per Figure 1.0. According to the Project Proponent, water catchments, water reservoir, and water intake points were excluded from project development. In addition, the Project Proponent has conducted enrichment planting using local species trees along the riparian reserves of the water reservoir area. 	1 to 4	-
v	Zon penampian dengan kelebaran tidak kurang 50 meter hendaklah disediakan di sempadan kawasan projek yang bersempadan dengan Hutan Simpan Bakau Semenanjung Bengkoka (Kelas V) dan di sempadan kawasan 'Water Reservoir' sebagaimana ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.	Comply	According to Project Proponent, 50m buffer zone of the 'Mangrove Forest' area is in place at Coupe 4.	-	-
vi	Sebarang aktiviti perladangan hutan tidak dibenarkan dalam kawasan zon penampian.	Comply	As per Project Proponent, the 50m buffer zone is excluded from Project development.	-	-
vii	Sebarang aktiviti perladangan hutan tidak dibenarkan dalam kawasan berkecurunan 25 darjah atau lebih sebagaimana ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.	Comply	Development within the steep (protected) area ($\geq 25^\circ$ slopes) was not sighted during the visit.	9 to 10	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
viii	Sempadan kawasan tadahan air, takungan air dan "water intake point", zon penampungan dan kawasan berkecurunan 25 darjah atau lebih yang dilindungi hendaklah ditanda di lapangan dan dipasang dengan papan tanda di lokasi-lokasi yang mudah dilihat sebelum aktiviti perladangan hutan dimulakan.	Comply	Signboards sighted in place demarcating onsite buffer zone.	6 & 7	-
5.1.2	<u>Kawalan Pembinaan Jalan</u>				
i	Pembinaan jalan hendaklah dikawal dengan meminimalkan aktiviti kerja tanah.	Comply	<ul style="list-style-type: none"> Existing access roads were fully utilized. Ongoing construction of JKR road within the project site sighted during the visit. 	12 to 14	-
ii	Jalan sedia ada hendaklah digunakan bagi mengurangkan gangguan terhadap tanah.	Comply	Refer to the comments in AEC 5.1.2 (i) .	12 to 14	-
iii	Sistem perparitan hendaklah disediakan bagi mengalirkan air keluar dari struktur jalan dan dilencongkan ke kawasan yang mempunyai tumbuhan.	Comply	Existing access road sighted equipped with earth drainage, channelling surface runoff towards the nearest vegetated area.	12 to 14	-
iv	Aktiviti pelupusan atau pembuangan bahan tanah berlebihan tidak dibenarkan dalam parit, sungai atau alur air.	Comply	Disposal of overburden into the nearest natural waterways was not sighted.	-	-
5.1.3	<u>Pembinaan Rumah Pekerja, Kem Pekerja Atau Bengkel</u>				
i	Sebarang aktiviti kerja tanah dan pembersihan kawasan bagi pembinaan rumah pekerja, kem pekerja atau bengkel hendaklah diminimalkan.	Comply	<ul style="list-style-type: none"> Workers' quarters and nursery at the base camp were fully utilized. Project workshop - none sighted constructed within the Project site. 	15 to 18	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
			<ul style="list-style-type: none"> According to the Project Proponent, maintenance of Project vehicles is carried out at the external workshop. 		
ii	<p>Sistem perparitan yang berkesan hendaklah disediakan bagi mengawal larian air permukaan dan air buangan dari kawasan rumah pekerja, kem pekerja atau bengkel dan hendaklah dilencongkan ke kawasan yang mempunyai tumbuhan dan tidak dibenarkan dialir terus ke dalam sungai atau alur air.</p>	Comply	Workers' quarters and nursery sighted equipped with proper concrete drainage, diverting surface runoffs towards the nearest vegetative area.	18	-
iii	<p>Kedudukan rumah pekerja atau kem pekerja hendaklah terletak pada jarak mendatar tidak kurang 30 meter dari tebing sungai atau alur air.</p>	Comply	Workers' quarters sighted located more than 30m away from the nearest natural waterways.	15 & 16	-
iv	<p>Kedudukan bengkel hendaklah terletak pada jarak mendatar tidak kurang 50 meter dari tebing sungai atau alur air.</p>	Not Applicable	Refer to the comments in AEC 5.1.3 (i) .	-	-
v	<p>Semua rumah pekerja, kem pekerja atau bengkel sedia ada yang tidak mematuhi peraturan-peraturan yang dinyatakan dalam Perjanjian Syarat-syarat Alam Sekitar ini hendaklah dipindahkan dan dikawal sebagaimana ditetapkan.</p>	Comply	Siting of these facilities sighted in compliance with the AEC.	-	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date						
5.1.4	<u>Rehabilitasi Tanah Yang Terdedah</u>										
i	Semua kawasan tanah dan cerun yang terdedah hendaklah distabilkan dan direhabilitasi dengan menanam spesies tumbuhan yang diluluskan oleh Jabatan Perhutanan Negeri Sabah.	Comply	<ul style="list-style-type: none"> Cover crops sighted planted on exposed slopes to reduce the risk of soil erosion. Existing vegetation on inactive and idle Project areas were retained and remain undisturbed. 	6	-						
5.2	<u>Perlindungan Sungai</u>										
i	<p>Simpanan sungai berikut hendaklah dilindungi dan ditanda di lapangan:</p> <table border="1"> <thead> <tr> <th>Nama Sungai</th> <th>Simpanan Sungai</th> </tr> </thead> <tbody> <tr> <td>Sungai Kisorong, Sungai Bongkol, Sungai Kakarangan dan anak sungai, Sungai Malubang dan anak sungai, Sungai Kandang dan anak sungai, Sungai Liu, sungai A hingga K serta semua sungai yang mempunyai kelebaran 5 meter atau lebih.</td> <td>Sekurang-kurangnya selebar 30 meter pada jarak mendatar dari tebing sungai.</td> </tr> <tr> <td>Sungai L dan M serta semua sungai yang mempunyai kelebaran kurang daripada 5 meter</td> <td>Sekurang-kurangnya selebar 5 meter pada jarak mendatar dari tebing sungai.</td> </tr> </tbody> </table>	Nama Sungai	Simpanan Sungai	Sungai Kisorong, Sungai Bongkol, Sungai Kakarangan dan anak sungai, Sungai Malubang dan anak sungai, Sungai Kandang dan anak sungai, Sungai Liu, sungai A hingga K serta semua sungai yang mempunyai kelebaran 5 meter atau lebih.	Sekurang-kurangnya selebar 30 meter pada jarak mendatar dari tebing sungai.	Sungai L dan M serta semua sungai yang mempunyai kelebaran kurang daripada 5 meter	Sekurang-kurangnya selebar 5 meter pada jarak mendatar dari tebing sungai.	Comply	Identified riparian reserve within the project site sighted demarcated with signboards and tree trunks are marked with blue paint.	19-20	
Nama Sungai	Simpanan Sungai										
Sungai Kisorong, Sungai Bongkol, Sungai Kakarangan dan anak sungai, Sungai Malubang dan anak sungai, Sungai Kandang dan anak sungai, Sungai Liu, sungai A hingga K serta semua sungai yang mempunyai kelebaran 5 meter atau lebih.	Sekurang-kurangnya selebar 30 meter pada jarak mendatar dari tebing sungai.										
Sungai L dan M serta semua sungai yang mempunyai kelebaran kurang daripada 5 meter	Sekurang-kurangnya selebar 5 meter pada jarak mendatar dari tebing sungai.										

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
ii	Sebarang aktiviti pembersihan dan perladangan hutan adalah tidak dibenarkan dalam simpanan sungai sebagaimana ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.	Comply	Development within the riparian reserves was not sighted.	19-20	-
iii	Sempadan simpanan sungai hendaklah ditanda di lapangan dengan cat merah serta dipasang dengan papan tanda di lokasi-lokasi yang mudah dilihat sebelum aktiviti pembersihan dan perladangan hutan dimulakan.	Comply	Refer to the comments in AEC 5.2 (i) .	19-20	-
iv	Sebarang pembinaan rumah pekerja, kem pekerja, bengkel, tandas atau struktur bangunan lain tidak dibenarkan dalam simpanan sungai.	Comply	Construction of structures within the riparian reserve was not sighted.	-	-
v	Sebarang penyimpanan bahan minyak atau bahan toksik tidak dibenarkan dalam simpanan sungai.	Comply	Storage of oils and toxic material within the riparian reserve was not sighted.	-	-
vi	Sebarang bahan tanah lebihan, sisa pepejal, sisa biomas, kumbahan, bahan minyak, kimia atau bahan-bahan toksik tidak dibenarkan dilupuskan dalam simpanan sungai.	Comply	Disposal of overburden, biomass or any types of wastes (i.e. sewage, oil and chemical, etc.) along the riparian reserve was not sighted.	-	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date				
5.2.1.2	<p>Laporan pemantauan kualiti air juga hendaklah dikemukakan ke JPAS bersama dengan Laporan Pematuhan tersebut.</p> <p>Lokasi dan parameter yang perlu dianalisa adalah seperti berikut:</p> <table border="1"> <thead> <tr> <th>Lokasi</th> <th>Parameter</th> </tr> </thead> <tbody> <tr> <td>Sebagaimana ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.</td> <td>Turbidity, Total Suspended Solid, Oil & Grease, Total Coliform Count.</td> </tr> </tbody> </table>	Lokasi	Parameter	Sebagaimana ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.	Turbidity, Total Suspended Solid, Oil & Grease, Total Coliform Count.	Comply	<ul style="list-style-type: none"> Surface water sampling activities was carried out at locations W1 as per Figure 1.0. As for W2, W3, W4, W5 and W6, sampling was not carried out due to stagnant condition (W2 & W3) and no operation (W4, W5 & W6). 	21 to 24	
Lokasi	Parameter								
Sebagaimana ditunjukkan pada "Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.	Turbidity, Total Suspended Solid, Oil & Grease, Total Coliform Count.								
5.3	<u>Bahan Minyak Dan Sisa Toksik</u>								
i	Bahan minyak dan sisa toksik adalah <u>tidak dibenarkan</u> dilupuskan atau dibiarkan mengalir ke dalam parit, sungai atau alur air.	Comply	Disposal of oils and toxic material into natural waterways was not sighted.	-	-				
ii	Bahan minyak dan sisa toksik hendaklah dikumpul dan disimpan dalam bekas yang kukuh dan tidak mudah bocor. Bekas-bekas penyimpanan tersebut hendaklah dilabel.	Comply	<ul style="list-style-type: none"> Skid tank containing diesel sighted in place. Oils were sighted stored in HDPE containers and arranged properly in the oil and lubricant storage room. Agrochemicals sighted contained in proper containers, labelled and arranged accordingly. Fertilizer bags sighted stacked properly inside the fertilizer store. 	Plates 25, 27, 29 to 33	-				

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
iii	<i>Kawasan penyimpanan bahan minyak dan sisa toksik tersebut hendaklah terlindung dari hujan dan terletak pada jarak mendatar tidak kurang 50 meter dari tebing sungai atau alur air.</i>	Comply	The skid tank, generator and oil storage, chemical storage as well as the fertilizer storage sheds are sheltered from weather exposure, and situated more than 50m away from the nearest natural waterways.	25, 27, 29 to 33	-
iv	<i>Kawasan penyimpanan bahan minyak dan sisa toksik hendaklah disediakan dengan sistem saliran serta perangkap minyak.</i>	Comply	<ul style="list-style-type: none"> The diesel skid tank is equipped with an oil trap with the fuel dispensing nozzle affixed just above the containment chamber, filled with sand to prevent oil from seeping directly into the ground. The generator, oil and lubricant storage shed sighted equipped with an oil trap in place next to the building. 	26 and 28	-
v	<i>Bahan minyak dan sisa toksik tersebut hendaklah dilupuskan mengikut keperluan Peraturan-peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005.</i>	Comply	According to the Project Proponent, scheduled waste generation is currently minimal. The Project Proponent informed that a DOE licensed contractor is being sourced and will be appointed to handle onsite generation of scheduled waste.	-	Project proponent to ensure disposal of scheduled waste is carried out in accordance to the Environmental Quality (Scheduled Wastes) Regulations 2005.
5.4	<u>Kawalan Sisa Pepejal Dan Biomass</u>				
i	<i>Sebarang aktiviti pelupusan sisa pepejal dan biomass tidak dibenarkan dalam parit, sungai atau alur air.</i>	Comply	Disposal of solid waste and biomass into natural waterways was not sighted.	-	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
ii	<i>Kemudahan mengumpul dan mengutip sisa pepejal dan biomas hendaklah disediakan. Lokasi kawasan pengumpulan hendaklah terletak pada jarak mendatar tidak kurang 30 meter dari tebing sungai atau alur air.</i>	Comply	<ul style="list-style-type: none"> Garbage bins sighted in place at the workers' quarters' area and near the chemical storage room. Dumping pit sighted located more than 30m away from the nearest natural waterways. 	32 36, and 37	-
iii	<i>Semua sisa pepejal seperti botol, tin, plastik dan besi hendaklah dikumpul secara berasingan dan dikitar semula.</i>	Comply	<ul style="list-style-type: none"> Recycling bins provided to facilitate onsite solid waste segregation. Separate collection bin for metal scrap sighted in place 	34 - 35	-
iv	<i>Sekiranya tiada kawasan pelupusan yang sesuai dalam kawasan projek, sisa pepejal dan biomas hendaklah dilupuskan di kawasan yang diluluskan oleh pihak berkuasa tempatan yang berkaitan.</i>	Comply	Refer to the comments in AEC 5. 4 (ii) .	-	-
5.5	<u>Kawalan Sisa Kumbahan / Sisa Cecair</u>				
i	<i>Kemudahan sistem sanitasi dan sistem perawatan kumbahan / sisa cecair hendaklah disediakan di kawasan projek.</i>	Comply	Toilets sited within the base camp equipped with septic tanks.	37 and 39	-
ii	<i>Sebarang pelepasan atau pelupusan terus sisa kumbahan / sisa cecair tidak dibenarkan dalam sungai atau alur air.</i>	Comply	Direct discharge of sewage into natural waterways was not sighted.	-	-
iii	<i>Sebarang effluen kumbahan yang dihasilkan hendaklah mematuhi sekurang-kurangnya Piawai B, Peraturan –Peraturan Kualiti Alam Sekeliling (Kumbahan) 2009.</i>	Not Applicable	Sewage Treatment Plant (STP): none constructed within the project site.	-	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
5.6	<u>Kawalan Kualiti Udara Dan Kebakaran</u>				
i	Pembakaran terbuka adalah <u>tidak dibenarkan</u> .	Comply	<ul style="list-style-type: none"> The Project Proponent assured to adhere to zero open burning policy at all times. Firefighting facilities were provided onsite (i.e. fire depot, fire indicator signage and fire lookout tower). 	40 to 42	-
ii	Pelan pengurusan dan pencegahan kebakaran kawasan projek hendaklah disediakan dan dilaksanakan serta satu (1) salinan pelan tersebut hendaklah dikemukakan ke JPAS.	Comply	Fire Management and Prevention Plan was attached in the previous report (3 rd EMCAR of 2019) as Appendix C .	-	-
5.7	<u>Penghentian Atau Penamatan Projek</u>				
i	Semua struktur binaan yang tidak digunakan hendaklah dibuka secara teratur apabila berlaku penghentian atau penamatan projek tersebut.	Not Applicable	Not applicable at the current stage of development as the Project is still ongoing.	-	-
ii	Semua struktur binaan yang didapati tidak selamat atau yang tidak dapat dipastikan selamat hendaklah dibuka.	Not Applicable	Refer to the comment in AEC 5.7 (i) .	-	-
iii	Satu Laporan Pematuhan Alam Sekitar dengan format dan kandungan laporan sebagaimana dinyatakan dalam Lampiran 1 hendaklah dikemukakan apabila berlaku penghentian atau penamatan projek tersebut.	Not Applicable	Refer to the comment in AEC 5.7 (i) .	-	-



6.0 CONCLUSION

6.1 Overall Compliance for May - August 2023

The Project (Forest Management of Bengkoka and Tambalugu Forest Reserves (6,467 Ha), Pitas, Sabah), complied with the EIA approval conditions; non-compliances was not recorded.



PERAKUAN PAS

Dengan ini saya mengaku telah turut serta dalam odit yang dijalankan oleh perunding alam sekitar dan telah meneliti dan bersetuju dengan isi kandungan Laporan Pematuhan Alam Sekitar bagi projek ini.

Tandatangan : 
Nama : **Thondik Venantius**
Jawatan : **(Projects Director)**
Tarikh : **28 AUG 2023**
Cop Rasmi Syarikat : 

PERAKUAN PERUNDING ALAM SEKITAR

Dengan ini saya mengaku dan mengesahkan semua kenyataan dan butir-butir dalam Laporan Pematuhan Alam Sekitar yang dikemukakan adalah benar.

Tandatangan : 
Nama : **Jessica Malagkas**
Tarikh : **28. Aug. 2023**
Cop Rasmi Syarikat : 



1.0 WATER QUALITY ANALYSIS

1.1 MONITORING LOCATION

Surface water sampling was scheduled to be carried out on the 27th June 2023 at six (6) monitoring locations, **W1** to **W6** as shown in **Figure 1.0**. However, **W2**, **W3**, **W4**, **W5** and **W6** were not sampled due to sampling sites' stagnant condition (**W2** & **W3**) and no operation (**W4**, **W5** & **W6**) during the site visit.

The weather was generally fine during the scheduled sampling date.

1.2 ANALYTICAL RESULTS

Laboratory reports of the sample analyses are presented in **Appendix C**. Results of water quality analysis for monitoring stations **W2**, **W3** and **W6** are summarized in **Table 3.0** and compared to the respective limit of **Class IIB** of **National Water Quality Standards for Malaysia (NWQSM)**.

Table 3.0: Surface Water Quality Monitoring Results

Monitoring Location	W1	¹ LIMITS (Class III)
Monitoring Date/ Sampling Time	27/06/2023 9:30 am	
<u>Physical / Chemical Analysis</u>		
Total Suspended Solids (TSS), mg/L	24.0	50.0
Turbidity	<u>55</u>	50.0
Oil & Grease, mg/L	<1.50	40; N
<u>Microbiological Analysis</u>		
Total Coliform Count (TCC), MPN/100mL	330	5000

Notes: < > Below / above detection limit; NA-Sampling point Not Accessible

1.3 DISCUSSION

Surface water quality analysis shows measured parameters below the recommended limits of **Class IIB**, except turbidity (**W1**) which is slightly above the limit.

Turbidity is caused by particles suspended or dissolved in water that scatter light making the water appear cloudy or murky. The slight exceedance in turbidity could be caused by resuspension of bottom sediment due to disruption during the prevailing rain event in this area.

1.4 RECOMMENDED MITIGATION MEASURES

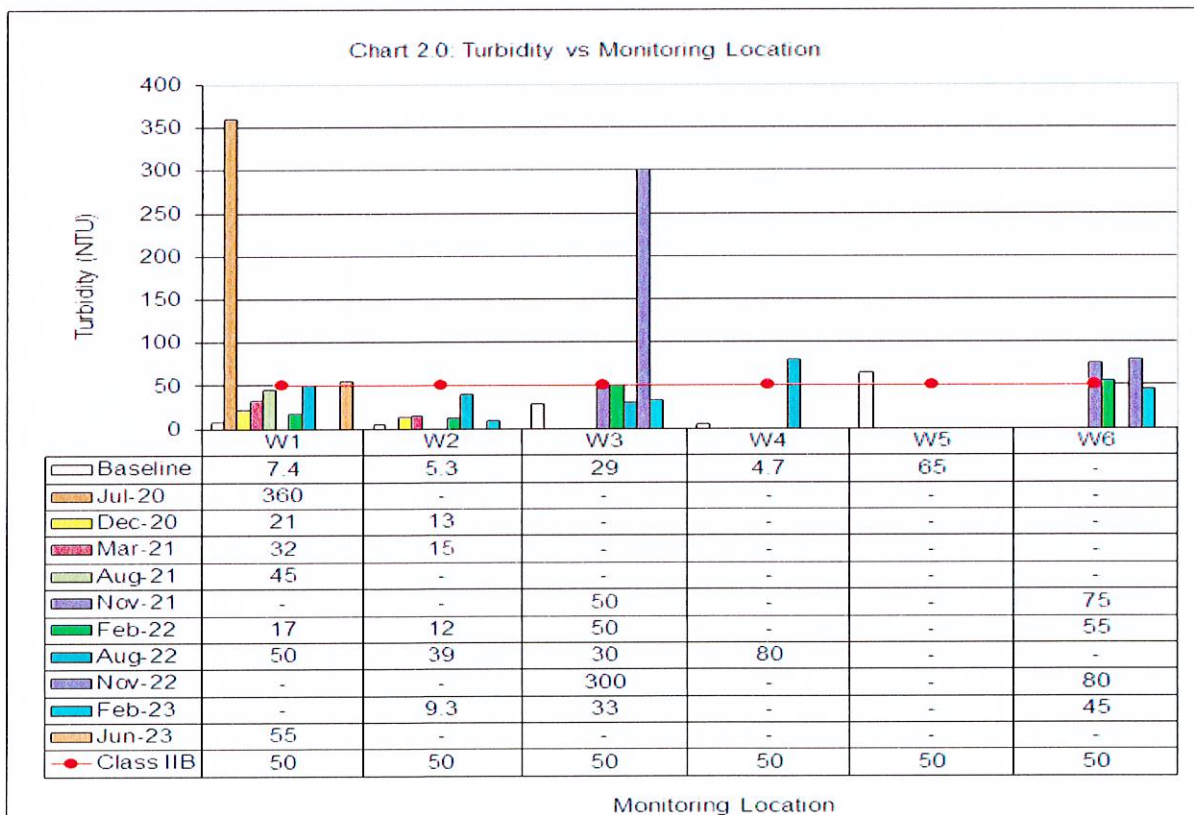
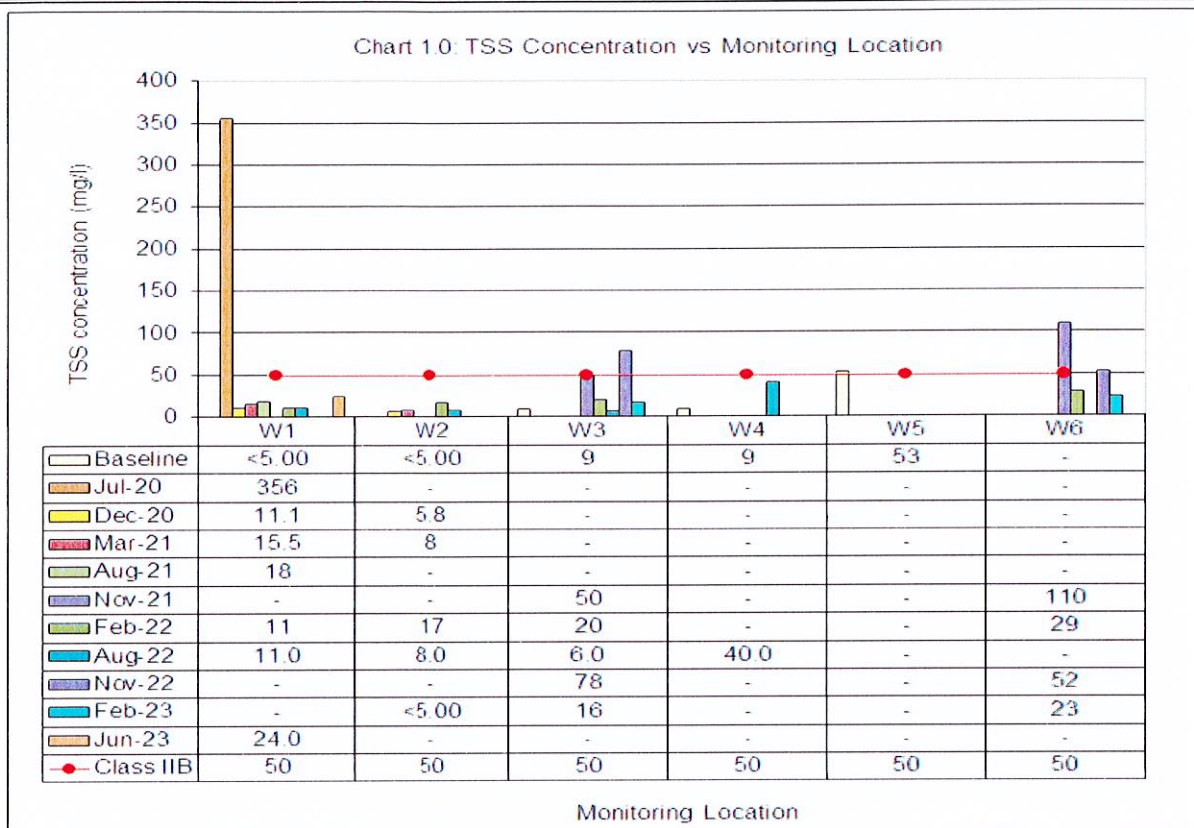
- Construction of sedimentation pond or drainage system within existing waterway or river reserve is strictly prohibited.
- Vegetation clearing shall be carried out in stages and confined to areas that are essential for Project development. Existing vegetation shall be retained to reduce runoff velocity and act as a natural barrier to minimize soil erosion.

¹ National Water Quality Standards for Malaysia, Malaysia Environmental Quarry Report (DOE, 2006)



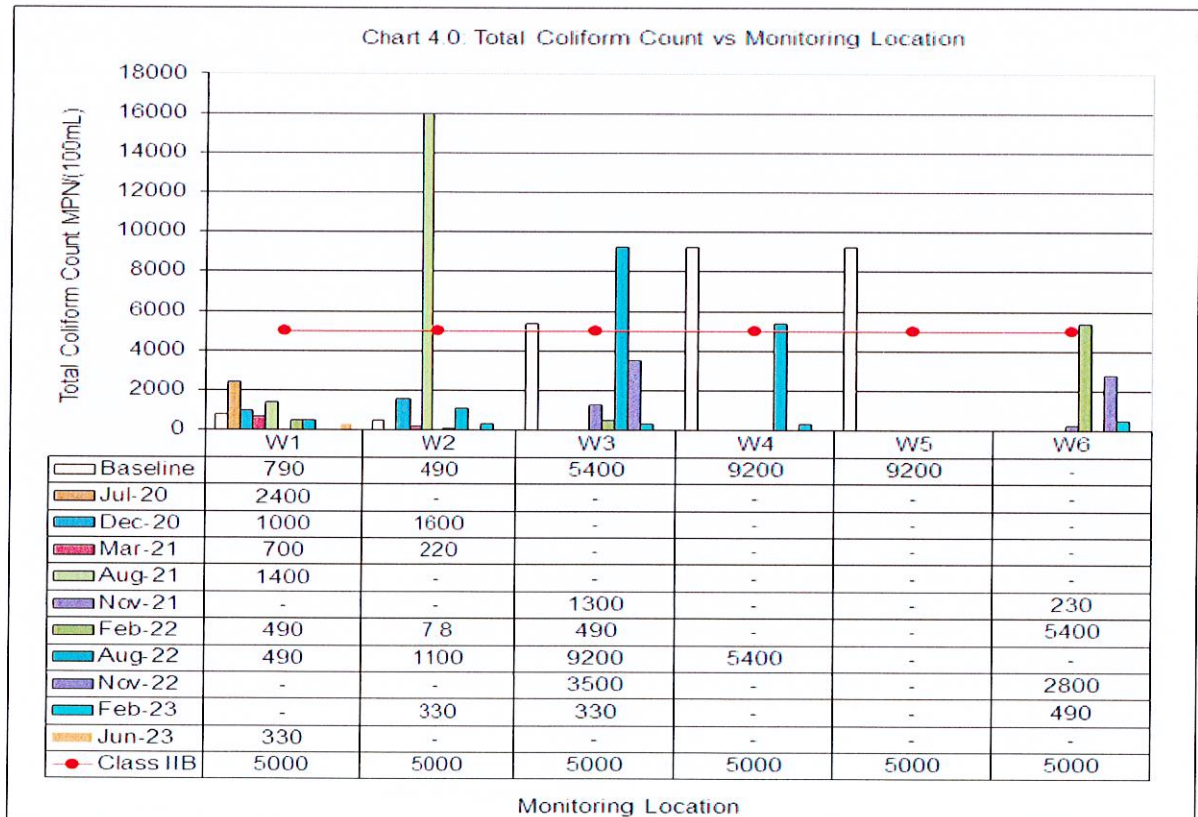
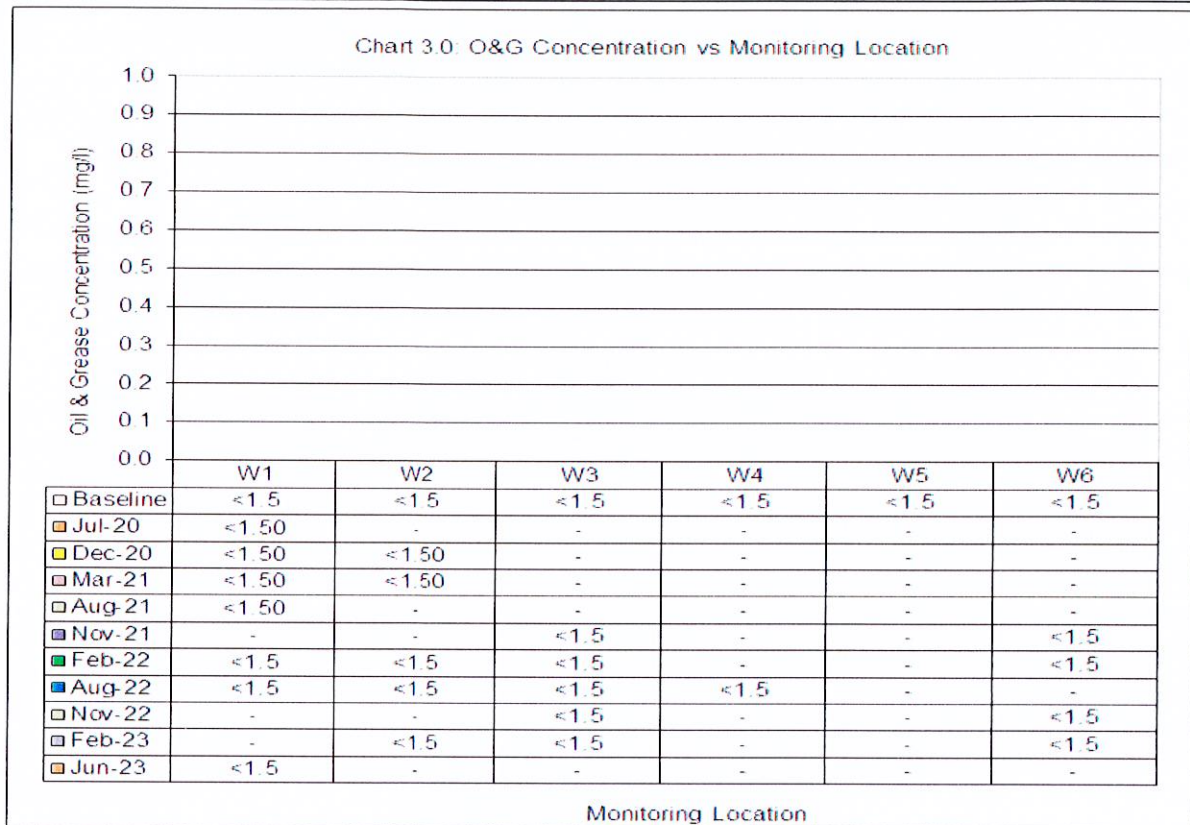
- Re-vegetation or planting of cover crops shall be carried out in tandem with the field establishment works. This is to avoid prolonged and unnecessary exposure of bare ground elements such as rainfall, wind, and surface runoffs.
- Usage of agro-chemical is minimized and strictly adhered to the rules and regulations as stipulated under the Pesticides Act 1974. Disposal of agrochemicals such as pesticides and herbicides into existing streams or any waterway is strictly prohibited.

HISTORICAL SURFACE WATER QUALITY GRAPHICAL REPRESENTATION



Note: * Baseline data extracted from EIA for Forest Management of Bengkoka and Tambalugu Forest Reserves (6,467 Ha), Pitas, Sabah.
 (-) denotes No Sample Available

HISTORICAL SURFACE WATER QUALITY GRAPHICAL REPRESENTATION



Note: * Baseline data extracted from EIA for Forest Management of Bengkoka and Tambalugu Forest Reserves (6,467 Ha), Pitas, Sabah.
 (-) denotes No Sample Available



APPENDIX C

Surface Water Test Reports
National Water Quality Standards for Malaysia (NWQSM)





Test Report

Not for Advertisement Purposes

Customer : Gerak Saga Sdn Bhd
L-70-7, KK Times Square,
Off Coastal Highway,
88100 Kota Kinabalu, Sabah

Lab No. : CK/CL405/3210/23
Type (No.) of Sample : River Water (1)
Date Received : 30th June 2023
Date of Report : 13th July 2023
Project Code : CK/MO411/1197/23

Parameter(s)	W1 Date: 27/06/23 Time: 9.30 am	Test Method	* Standard Limit
Turbidity, NTU	55	APHA 2130 B, 2017	50
Total Suspended Solids, mg/L	24.0	APHA 2540 D, 2017	50
Oil & Grease, mg/L	<1.5	APHA 5520 B, 2017	N

* Class IIB of Interim National Water Quality Standards Malaysia (INWQM)

----- End -----



 ChM. HO
 B. Sc. (Hons)
 MMIC (5196/7297/16/18) 30904-U
 CHEMIST

Note:

1. This Test Report shall not be reproduced, except in full, without the approval of the laboratory.
2. The above result(s) apply to the sample(s) as received.
3. The above result(s) relate only to the sample tested.





Test Report

Not for Advertisement Purposes

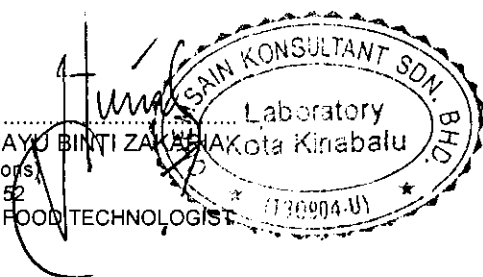
Customer : Gerak Saga Sdn Bhd	Lab No. : CK/ML405/3211/23
L-70-7, KK Times Square,	Type (No.) of Sample : River Water (1)
Off Coastal Highway,	Date Received : 30 th June 2023
88100 Kota Kinabalu, Sabah	Date of Report : 06 th July 2023
	Project Code : CK/MO411/1197/23

<u>Parameter(s)</u>	W1 Date: 27/06/23 Time: 9.30 pm	<u>Test Method</u>	* <u>Standard Limit</u>
Total Coliform Count MPN/100ml, 35±0.5°C/48 h	3.3 x 10 ²	APHA 9221 B, 2017	5,000

* Class IIB of Interim National Water Quality Standards Malaysia (INWQM)

----- End -----

ANIS IDAYU BINTI ZAKARIA
B. Sc. (Hons)
MJMM0152
SENIOR FOOD TECHNOLOGIST



Note:

1. This Test Report shall not be reproduced, except in full, without the approval of the laboratory.
2. The above result(s) apply to the sample(s) as received.
3. The above result(s) relate only to the sample tested.

NATIONAL WATER QUALITY STANDARDS FOR MALAYSIA

Parameters	Unit	Classes					
		I	IIA	IIB	III	IV	V
Ammoniacal-N.	mg/l	0.1	0.3	0.3	0.9	2.7	>2.7
BOD	mg/l	1	3	3	6	12	>12
COD	mg/l	10	25	25	50	100	>100
DO	mg/l	7.0	5.0 – 7.0	5.0 – 7.0	3.0 – 5.0	<3.0	<1.0
pH		6.5 – 8.5	6.0 – 9.0	6.0 – 9.0	5.0 – 9.0	5.0 – 9.0	-
Colour	TCU	15	150	150	-	-	-
Elec. Cond*	µS/cm	1000	1000	-	-	6000	-
Floatables		N	N	N	-	-	-
Odour		N	N	N	-	-	-
Salinity*	%	0.5	1	-	-	2	-
Taste		N	N	N	-	-	-
Tot. Diss. Sol.*	mg/l	500	1000	-	-	4000	-
Tot. Susp. Sol.	mg/l	25	50	50	150	300	>300
Temperature	°C	-	Normal±2	-	Normal±2	-	-
Turbidity	NTU	5	50	50	-	-	-
F. Coliform**	counts/100ml	10	100	400	5000 (20000) ^a	5000 (20000) ^a	-
Total Coliform	counts/100ml	100	5000	5000	50000	50000	>50000

N = No visible floatable material / debris; or no objectionable odour; or no objectionable taste.

* = Related parameters, only one recommended for use

** = Geometric mean

± = Maximum not to be exceeded

CLASS USES

- I represent water body of excellent quality. Standards are set for the conservation of natural environment in its undisturbed state. Water bodies such as those in the national park areas, fountainheads, and in high land and undisturbed areas come under this category where strictly no discharge of any kind is permitted. Water bodies in this category meet the most stringent requirements for human health and aquatic life protection.
- IIA / IIB represents water bodies of good quality. Most existing raw water supply sources come under this category. In practice, no body contact activity is allowed in this water for prevention of probable human pathogens. There is a need to introduce another class for water bodies not used for water supply but of similar quality which may be referred to as **Class IIB**. The determination of **Class IIB** standard is based on criteria for recreational use and protection of sensitive aquatic species.
- III is defined with the primary objective of protecting common and moderately tolerant aquatic species of economic value. Water under this classification may be used for water supply with extensive / advance treatment. This class of water is also defined to suit livestock drinking needs.
- IV defines water quality required for major agricultural irrigation activities which may not cover minor applications to sensitive crops.
- V represents other waters which do not meet any of the above uses.