

GERAK SAGA SDN BHD

L-70-7, KK Times Square, Off Jalan Coastal,
88100 Kota Kinabalu, Sabah.

TEL: 088 – 438 021 FAX: 088 – 486241



ENVIRONMENTAL COMPLIANCE REPORT

For

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

2ND REPORT OF YEAR 2025

JANUARY - APRIL	MAY - AUGUST	SEPTEMBER - DECEMBER
	√	

AEC Ref. No. : JPAS/PP/15/600-1/01/3/60(46)
Report Reference : CK/MO411/1197-2/25
Date of Report : 4th July 2025



**CHEMSAIN KONSULTANT
SDN BHD** 198401018349 (130904-U)

TABLE OF CONTENTS

CONTENTS	PAGE
1.0 INTRODUCTION	2
1.1 Monitoring Information	2
1.2 Project Proponent Information	2
1.3 Post-EIA Consultant Information	2
1.4 Other Approvals	3
1.5 Project Status	3
2.0 LEGAL REQUIREMENT	3
3.0 CHANGES TO PROJECT CONCEPT / ENVIRONMENT	3
3.1 Project Concept	3
3.2 Surrounding Environment	4
4.0 MONITORING LOCATION	4
5.0 COMPLIANCE STATUS, OBSERVATION & RECOMMENDATION	7
6.0 CONCLUSION	18
6.1 Overall Compliance for May - August 2025	18

LIST OF TABLES

Table 1.0: Chronology of events	3
Table 2.0: Environmental sampling particulars	4

LIST OF FIGURES

Figure 1.0: Mitigation Measures and Monitoring Locations	5
Figure 2.0: Monitoring Plates	6

LIST OF APPENDICES

- Appendix A:** Plates
- Appendix B:** Environmental Monitoring Report
- Appendix C:**
- Water Quality Test Report
 - National Water Quality Standards of Malaysia

GERAK SAGA SDN BHD

ENVIRONMENTAL COMPLIANCE REPORT

1.0 INTRODUCTION

The project site encompasses an area of approximately 6,467 hectares, consisting of 6,270 hectares within the Bengkoka Forest Reserve and 197 hectares within the Tambalugu Forest Reserve. For operational efficiency, these two forest reserves are managed as a single Forest Management Unit (FMU), which is divided into four coupes: Coupes 1 to 3 within Bengkoka and Coupe 4 within Tambalugu. The project proponent holds a management and operation license for both forest reserves under the Industrial Tree Plantation (TPP) program.

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 1 st November 2017		
Monitoring Period	: May- August 2025		
Date of Monitoring	Compliance Audit	:	19 th May 2025
	Water Sampling	:	18 th – 19 th May 2025
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. Chrystalyziana Lisa Venchin		
Contact No.	: 013 – 881 8127 (Mobile)		
E-mail	: c.venchin@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		

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
	W6	(refer to Figure 1)	Coupe 4 (refer to Figure 1)

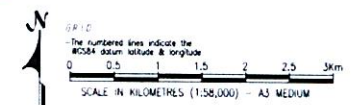
ENVIRONMENTAL MONITORING AND COMPLIANCE AUDIT

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
- W / 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	6° 50' 15.00"N 117° 12' 41.10"E	20	6° 54' 18.00"N 117° 08' 41.00"E
2	6° 50' 05.00"N 117° 11' 18.00"E	21	6° 54' 18.00"N 117° 07' 47.00"E
3	6° 50' 17.00"N 117° 10' 54.00"E	22	6° 54' 18.00"N 117° 07' 47.00"E
4	6° 50' 17.00"N 117° 10' 54.00"E	23	6° 54' 18.00"N 117° 07' 47.00"E
5	6° 50' 17.00"N 117° 10' 54.00"E	24	6° 54' 18.00"N 117° 07' 47.00"E
6	6° 50' 17.00"N 117° 10' 54.00"E	25	6° 54' 18.00"N 117° 07' 47.00"E
7	6° 50' 17.00"N 117° 10' 54.00"E	26	6° 54' 18.00"N 117° 07' 47.00"E
8	6° 50' 17.00"N 117° 10' 54.00"E	27	6° 54' 18.00"N 117° 07' 47.00"E
9	6° 50' 17.00"N 117° 10' 54.00"E	28	6° 54' 18.00"N 117° 07' 47.00"E
10	6° 50' 17.00"N 117° 10' 54.00"E	29	6° 54' 18.00"N 117° 07' 47.00"E
11	6° 50' 17.00"N 117° 10' 54.00"E	30	6° 54' 18.00"N 117° 07' 47.00"E
12	6° 50' 17.00"N 117° 10' 54.00"E	31	6° 54' 18.00"N 117° 07' 47.00"E
13	6° 50' 17.00"N 117° 10' 54.00"E	32	6° 54' 18.00"N 117° 07' 47.00"E
14	6° 50' 17.00"N 117° 10' 54.00"E	33	6° 54' 18.00"N 117° 07' 47.00"E
15	6° 50' 17.00"N 117° 10' 54.00"E	34	6° 54' 18.00"N 117° 07' 47.00"E
16	6° 50' 17.00"N 117° 10' 54.00"E	35	6° 54' 18.00"N 117° 07' 47.00"E
17	6° 50' 17.00"N 117° 10' 54.00"E	36	6° 54' 18.00"N 117° 07' 47.00"E
18	6° 50' 17.00"N 117° 10' 54.00"E	37	6° 54' 18.00"N 117° 07' 47.00"E
19	6° 50' 17.00"N 117° 10' 54.00"E	38	6° 54' 18.00"N 117° 07' 47.00"E
20	6° 50' 17.00"N 117° 10' 54.00"E	39	6° 54' 18.00"N 117° 07' 47.00"E
21	6° 50' 17.00"N 117° 10' 54.00"E	40	6° 54' 18.00"N 117° 07' 47.00"E
22	6° 50' 17.00"N 117° 10' 54.00"E	41	6° 54' 18.00"N 117° 07' 47.00"E
23	6° 50' 17.00"N 117° 10' 54.00"E	42	6° 54' 18.00"N 117° 07' 47.00"E
24	6° 50' 17.00"N 117° 10' 54.00"E	43	6° 54' 18.00"N 117° 07' 47.00"E
25	6° 50' 17.00"N 117° 10' 54.00"E	44	6° 54' 18.00"N 117° 07' 47.00"E
26	6° 50' 17.00"N 117° 10' 54.00"E	45	6° 54' 18.00"N 117° 07' 47.00"E
27	6° 50' 17.00"N 117° 10' 54.00"E	46	6° 54' 18.00"N 117° 07' 47.00"E



Mitigation Measures and Monitoring Locations

Figure: 1.0

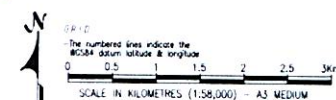
ENVIRONMENTAL MONITORING AND COMPLIANCE AUDIT

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
- W / 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° 13' 30" E, 1° 17' 12" N	28	117° 12' 41" E, 1° 17' 12" N
2	117° 13' 30" E, 1° 17' 12" N	29	117° 12' 41" E, 1° 17' 12" N
3	117° 13' 30" E, 1° 17' 12" N	30	117° 12' 41" E, 1° 17' 12" N
4	117° 13' 30" E, 1° 17' 12" N	31	117° 12' 41" E, 1° 17' 12" N
5	117° 13' 30" E, 1° 17' 12" N	32	117° 12' 41" E, 1° 17' 12" N
6	117° 13' 30" E, 1° 17' 12" N	33	117° 12' 41" E, 1° 17' 12" N
7	117° 13' 30" E, 1° 17' 12" N	34	117° 12' 41" E, 1° 17' 12" N
8	117° 13' 30" E, 1° 17' 12" N	35	117° 12' 41" E, 1° 17' 12" N
9	117° 13' 30" E, 1° 17' 12" N	36	117° 12' 41" E, 1° 17' 12" N
10	117° 13' 30" E, 1° 17' 12" N	37	117° 12' 41" E, 1° 17' 12" N
11	117° 13' 30" E, 1° 17' 12" N	38	117° 12' 41" E, 1° 17' 12" N
12	117° 13' 30" E, 1° 17' 12" N	39	117° 12' 41" E, 1° 17' 12" N
13	117° 13' 30" E, 1° 17' 12" N	40	117° 12' 41" E, 1° 17' 12" N
14	117° 13' 30" E, 1° 17' 12" N	41	117° 12' 41" E, 1° 17' 12" N
15	117° 13' 30" E, 1° 17' 12" N	42	117° 12' 41" E, 1° 17' 12" N
16	117° 13' 30" E, 1° 17' 12" N	43	117° 12' 41" E, 1° 17' 12" N
17	117° 13' 30" E, 1° 17' 12" N	44	117° 12' 41" E, 1° 17' 12" N
18	117° 13' 30" E, 1° 17' 12" N	45	117° 12' 41" E, 1° 17' 12" N
19	117° 13' 30" E, 1° 17' 12" N	46	117° 12' 41" E, 1° 17' 12" N
20	117° 13' 30" E, 1° 17' 12" N	47	117° 12' 41" E, 1° 17' 12" N
21	117° 13' 30" E, 1° 17' 12" N	48	117° 12' 41" E, 1° 17' 12" N
22	117° 13' 30" E, 1° 17' 12" N	49	117° 12' 41" E, 1° 17' 12" N
23	117° 13' 30" E, 1° 17' 12" N	50	117° 12' 41" E, 1° 17' 12" N
24	117° 13' 30" E, 1° 17' 12" N	51	117° 12' 41" E, 1° 17' 12" N
25	117° 13' 30" E, 1° 17' 12" N	52	117° 12' 41" E, 1° 17' 12" N
26	117° 13' 30" E, 1° 17' 12" N	53	117° 12' 41" E, 1° 17' 12" N
27	117° 13' 30" E, 1° 17' 12" N	54	117° 12' 41" E, 1° 17' 12" N



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 2025

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	The Project Demarcation Plan was submitted to the Environment Protection Department (EPD) as Appendix D of the 1st Environmental Compliance Audit Report (EMCAR) for 2019.	-	-
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	A signboard, entrance (barrier) gate, red-painted trees, and red-painted wooden pegs were observed in place, clearly demarcating the project coupes and blocks.	4 to 11	-
iii	Semua tanda sempadan tapak projek hendaklah tidak ditimbus, dihalang, dirosakkan atau diganggu daripada kedudukan asal.	Comply	The signboard and entrance (barrier) gate were observed to be in good condition during the site visit.	4, 6 to 9	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
	"Figure 6.2.1" dalam Perjanjian Syarat-syarat Alam Sekitar ini.				
viii	Sempadan kawasan tadahan air, takungan air dan "water intake point", zon penampungan dan kawasan berkecerunan 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.	10, 11	-
5.1.2	<u>Kawalan Pembinaan Jalan</u>				
i	Pembinaan jalan hendaklah dikawal dengan meminimalkan aktiviti kerja tanah.	Comply	Existing access roads were fully utilized.	13 - 15	
ii	Jalan sedia ada hendaklah digunakan bagi mengurangkan gangguan terhadap tanah.	Comply	Refer to the comments in AEC 5.1.2 (i) .	13 - 15	-
iii	Sistem perparitan hendaklah disediakan bagi mengalirkan air keluar dari struktur jalan dan dilencongkan ke kawasan yang mempunyai tumbuhan.	Comply	The existing access road was observed to be equipped with earth drainage, directing surface runoff toward the nearest vegetated area.	13 - 15	-
iv	Aktiviti pelupusan atau pembuangan bahan tanah berlebihan <u>tidak dibenarkan</u> 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>				

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	- Revegetation was carried out on exposed slopes to reduce the risk of soil erosion. - Existing vegetation in inactive and idle project areas was retained and remains undisturbed.	7, 10	-						
5.2	<u>Perlindungan Sungai</u>										
i	Simpanan sungai berikut hendaklah dilindungi dan ditanda di lapangan: <table><tr><th>Nama Sungai</th><th>Simpanan Sungai</th></tr><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></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 reserves within the project site were observed to be demarcated with signboards, and tree trunks were marked with blue paint.	21, 22	
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				
5.2.1.2	Laporan pemantauan kualiti air juga hendaklah dikemukakan ke JPAS bersama dengan Laporan Pematuhan tersebut. Lokasi dan parameter yang perlu dianalisa adalah seperti berikut: <table><tr><th>Lokasi</th><th>Parameter</th></tr><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></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	Surface water sampling activities were conducted at locations W1, W2, W3, and W6, as shown in Figure 1.0. Sampling at W4 and W5 could not be carried out due to the following reasons: i. W4 – Inaccessibility of the monitoring point. ii. W5 – No ongoing operations in this area.	45, 46	-
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	- A skid tank containing diesel was observed in place. - Oils were stored in HDPE containers and properly arranged within the oil and lubricant storage shed. - Agrochemicals were observed to be stored in appropriate containers, clearly labelled, and neatly arranged.	Plates 27- 35	-				

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
i	Sebarang aktiviti pelupusan sisa pepejal dan biomas <u>tidak dibenarkan</u> dalam parit, sungai atau alur air.	Comply	No disposal of solid waste or biomass into natural waterways was observed.	-	-
ii	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.	Comply	- Garbage bins were observed in place at the workers' quarters area and near the chemical storage room. - A dumping pit was observed, located more than 30 meters from the nearest natural waterway.	38-40	-
iii	Semua sisa pepejal seperti botol, tin, plastik dan besi hendaklah dikumpul secara berasingan dan dikitar semula.	Comply	- Recycling bins were provided to facilitate on-site solid waste segregation; however, one of the bins was observed to be overfilled. - A separate collection bin for metal scrap was observed in place.	36 - 37	The project proponent is reminded to monitor this area regularly and ensure timely collection of recyclable materials.
iv	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.	Comply	Refer to the comments in AEC 5. 4 (ii) .	-	-
5.5	<u>Kawalan Sisa Kumbahan / Sisa Cecair</u>				
i	Kemudahan sistem sanitasi dan sistem perawatan kumbahan / sisa cecair hendaklah disediakan di kawasan projek.	Comply	Toilets within the base camp were observed to be equipped with septic tanks.	40 - 41	-

AEC No.	Approved Environmental Condition	Status	Observation / Comment	Plate No.	Corrective Action and Completion Date
i	<i>Semua struktur binaan yang tidak digunakan hendaklah dibuka secara teratur apabila berlaku penghentian atau penamatan projek tersebut.</i>	Not Applicable	Not applicable at the current stage of development as the Project is still on-going.	-	-
ii	<i>Semua struktur binaan yang didapati tidak selamat atau yang tidak dapat dipastikan selamat hendaklah dibuka.</i>	Not Applicable	Refer to the comment in AEC 5.7 (i) .	-	-
iii	<i>Satu Laporan Pematuhan Alam Sekitar dengan format dan kandungan laporan sebagaimana dinyatakan dalam Lampiran 1 hendaklah dikemukakan apabila berlaku penghentian atau penamatan projek tersebut.</i>	Not Applicable	Refer to the comment in AEC 5.7 (i) .	-	-

APPENDIX B

Environmental Monitoring Report



1.0 WATER QUALITY ANALYSIS

1.1 MONITORING LOCATION

Surface water sampling was scheduled to be carried out on the 18th – 19th of May 2025 at six (6) monitoring locations, **W1** to **W6** as shown in **Figure 1.0**. However, sampling could only be done at **W1, W2, W3 and W6** as **W4 and W5** sampling locations were in dry condition (W4) while W5 (no operation yet) during the site visit.

The weather was fine during the scheduled sampling date.

1.2 ANALYTICAL RESULTS

Analytical results for monitoring stations **W1, W2, W3 and W6** are summarized in **Table 3.0** and compared to **Class IIB of National Water Quality Standards for Malaysia (NWQSM)**. Laboratory reports of the sample analyses are presented in **Appendix C**.

Table 3.0: Surface Water Quality Monitoring Results

Monitoring Location Sampling Date/ Sampling Time	W1 18/5/2025 9.00 am	W2 18/5/2025 10.46 am	W3 19/5/2025 2.51 pm	W6 19/5/2025 3.46 pm	¹ LIMITS (Class IIB)
<u>Physical / Chemical Analysis</u>					
Total Suspended Solids (TSS), mg/L	12.0	8.0	6.0	28.0	50.0
Turbidity, NTU	80	16	15	70	50.0
Oil & Grease, mg/L	<1.50	<1.50	<1.50	<1.50	40; N
<u>Microbiological Analysis</u>					
Total Coliform Count (TCC), MPN/100mL	1.3 x 10 ³	4.9 x 10 ²	3.5 x 10 ³	>1.6 x 10⁴	5000

Notes: < > Below / above detection limit; NS - No sample available

1.3 DISCUSSION

Surface water quality analysis shows measured parameters recorded levels below the recommended limits of **Class IIB**, exception for **TCC** in **W6**.

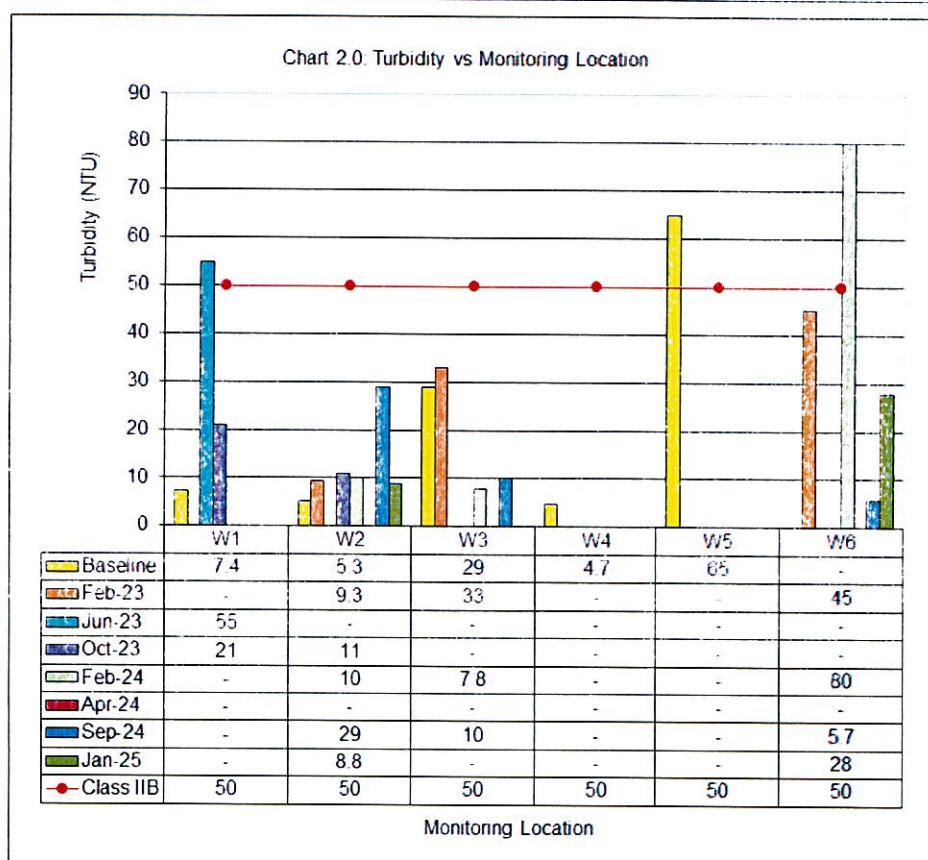
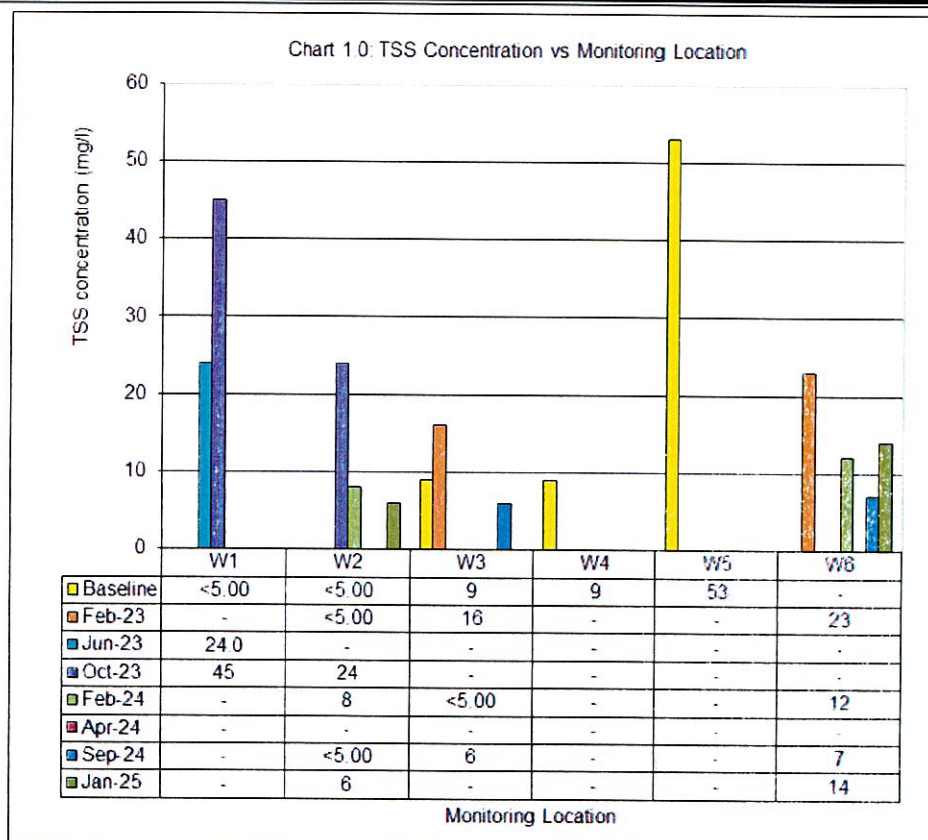
Total coliforms include bacteria that are found in the soil as well as in water that has been influenced by surface water. Hence, the exceedance in **TCC** at **W6** was likely attributed from runoff during recent rain event.

This is deemed beyond the Project Proponent's control.

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



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

Water Quality 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/CL405/2537/25
Type (No.) of Sample : River Water (4)
Date Received : 22nd May 2025
Date of Report : 04th June 2025
Project Code : CK/MO411/1197/25

Lab No.:	2537-1	2537-2			
Parameter(s)	W1 Date: 18/05/25 Time: 9.00 am	W2 Date: 18/05/25 Time: 10.46 am	Date of Analysis	Test Method	**Standard Limit
*Turbidity, NTU	80	16	23/05/25	APHA 2130 B, 2017	50
Total Suspended Solids, mg/L	12.0	8.0	23/05/25	APHA 2540 D, 2017	50
Oil & Grease, mg/L	<1.5	<1.5	02/06/25	APHA 5520 B, 2017	N

Lab No.:	2537-3	2537-4			
Parameter(s)	W3 Date: 19/05/25 Time: 2.51 pm	W6 Date: 19/05/25 Time: 3.46 pm	Date of Analysis	Test Method	**Standard Limit
*Turbidity, NTU	15	70	23/05/25	APHA 2130 B, 2017	50
Total Suspended Solids, mg/L	6.0	28.0	23/05/25	APHA 2540 D, 2017	50
Oil & Grease, mg/L	<1.5	<1.5	02/06/25	APHA 5520 B, 2017	N

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

Remarks: Sample information (sampling location, date and time) is provided by project team

Sample(s) were not cooled to the required temperature ($\leq 6^{\circ}\text{C}$) upon receipt and result(s) reported may be influenced by the variation

*Exceed holding time upon receipt and result(s) reported may be influenced by the variation

End


ChM. HO LI SIE
B. Sc. (Hons)
MMIC (5196/7297/16/19) (130904-U)
SENIOR 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/ML405/2538/25
L-70-7, KK Times Square,	Type (No.) of Sample :	River Water (4)
Off Coastal Highway,	Date Received :	22 nd May 2025
88100 Kota Kinabalu, Sabah	Date of Analysis Commenced :	22 nd May 2025
	Date of Report :	29 th May 2025
	Project Code :	CK/MO411/1197/25

Lab No.:	2538-1	2538-2	Test Method	*Standard Limit
Parameter(s)	W1 Date: 18/05/25 Time: 9.00 am	W2 Date: 18/05/25 Time: 10.46 am		
Total Coliform Count MPN/100ml, 35±0.5°C/48 h	1.3 x 10 ³	4.9 x 10 ²	APHA 9221 B, 2017	5,000

Lab No.:	2538-3	2538-4	Test Method	*Standard Limit
Parameter(s)	W3 Date: 19/05/25 Time: 2.51 pm	W6 Date: 19/05/25 Time: 3.46 pm		
Total Coliform Count MPN/100ml, 35±0.5°C/48 h	3.5 x 10 ³	>1.6 x 10 ⁴	APHA 9221 B, 2017	5,000

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

Remarks: Sample information (sampling location, date and time) is provided by project team

Sample(s) were not cooled to the required temperature (<10°C) and has exceeded the holding time upon receipt.

Result(s) reported may be influenced by these variations.

End



STEPHANIE EVERY JOLE
M. Sc.
MJMM0369
MICROBIOLOGIST

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.