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ENVIRONMENTAL COMPLIANCE AUDIT REPORT

FOR

PROPOSED REPLANTING AND PLANTING OF 25,000 HA OF ACACIA MANGIUM AT BENGKOKA PENINSULA, DISTRICT OF PITAS, SABAH BY ACACIA FOREST INDUSTRIES SDN BHD.

3RD REPORT OF YEAR 2018

FEBRUARY	JUNE	OCTOBER
		✓

AEC Ref. No. : JPAS/PP/15/600-1/01/3/29
Report Reference : CK/MO411/1188-3/18
Date of Report : 4th December 2016

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ENVIRONMENTAL MONITORING AND COMPLIANCE AUDIT REPORT

1.0 Introduction

1.1 Monitoring Information

Project Title	:	Proposed Replanting and Planting of 25,000 Ha of Acacia Mangium at Bengkoka Peninsula, District of Pitas, Sabah by Acacia Forest Industries Sdn Bhd
Monitoring Period	:	July - October 2018
Date of Monitoring	:	Compliance Audit : 10th - 12th October 2018
		Water Sampling : 10th – 12th October 2018
EIA Consultant		Kiwiheng Environmental Consultants Sdn. Bhd.

1.2 Project Proponent Information

Project Proponent	:	Acacia Forest Industries Sdn. Bhd.
Contact Person	:	Mr. Junextopher J. Maing
Tel. No.	:	088 – 438 021
Fax No.	:	088 – 424 077
Environmental Officer	:	Mr. Maxzhelson B. Thomas
Contact No.	:	010 – 584 7847 (Mobile)
E-mail	:	–

1.3 Post–EIA Consultant Information

Post-EIA Consultant	:	Chemsain Konsultant Sdn. Bhd.
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		Mobile : 019 – 812 0808
Fax No.	:	088 – 381 280
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1.4 Project Status

Percentage Completion :

Activities	Percentage (%)
Replanting	*On-going*
Planting	*On-going*

Chronology of Events :

Table 1.0: Chronology of Events

No.	Event	Date
1.0	Signing of AEC *Ref.:* ***JPAS/PP/15/600-1/01/3/29***	19nd Mei 2010

2.0 OBJECTIVE

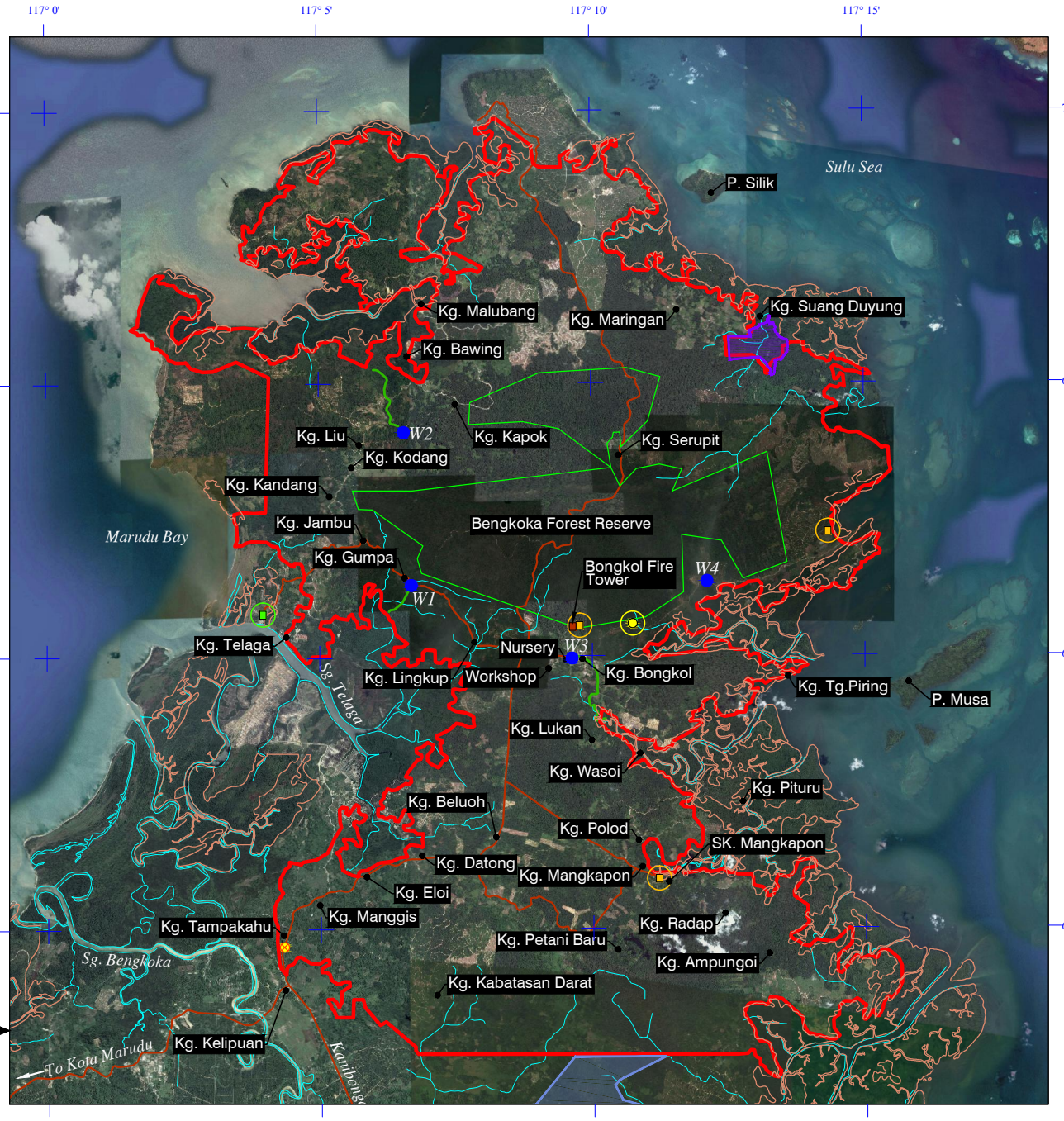
The Environmental Monitoring and Compliance Audit (EMCA) is a requirement by the Environmental Protection Department (EPD) and to be carried out on quarterly basis, and reported in accordance to the Approval Conditions as specified in the ***Syarat-Syarat Alam Sekitar [Seksyen 12(1) dan 20, Enakmen Perlindungan Alam Sekitar 2002]*** of the EPD ref: **JPAS/PP/15/600-1/01/3/29** dated **19 Mei 2010**

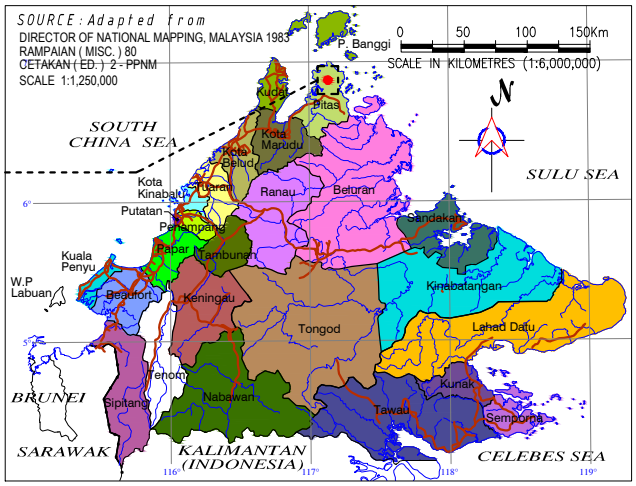
3.0 MONITORING LOCATIONS

Designated monitoring and sampling location are shown in **Figure 1.0** with details tabulated in **Table 2.0**.

Table 2.0: Environmental Monitoring Locations

Monitoring Component	Key	GPS Coordinates (Datum: WGS 84)	Location Description
Water Quality	**W1**	N 05° 51' 18.56" E 117° 06' 41.09"	Sg. Gumpa
	W2	N 05° 54' 12.40" E 117° 06' 36.87"	Tributary of Sg. Malubang
	W3	N 06° 50' 02.73" E 117° 09' 31.55"	Sg. Bongkol
	W4	N 06° 51' 22.08" E 117° 12' 06.83"	Sg. Kakarangan





ENVIRONMENTAL MONITORING AND COMPLIANCE AUDIT

Proposed Re-Planting and Planting of 25,000 Ha of Acacia Mangium at Bengkoka Peninsular Pitas district, Sabah

LEGEND:

- Project Site
- 50m Forest Buffer
- Bengkoka Peninsula Forest Reserve
- Tambalugu Forest Reserve
- Paitan Forest Reserve
- W1-W4 Water Monitoring Locations
- Steep Protection Area
- Chipmill
- Dam Site
- Forest Gate
- 20m Riparian Reserve
- Road
- River / Stream

GRID

–The outer ticks / inner crosses indicate the WGS84 datum, Latitude and Longitude

0 1 2 4 6KM

SCALE IN KILOMETERS – A4 MEDIUM

Mitigation Measures & Monitoring Locations

Figure: 1.0

4.0 COMPLIANCE STATUS, COMMENTS & RECOMMENDATIONS

Nama Projek	:	Replanting and Planting of 25,000 Ha Acacia Mangium at Bengkoka Peninsula, District of Pitas, Sabah
Nama Pemaju	:	Acacia Forest Industries Sdn Bhd
Rujukan fail jabatan ini	:	JPAS/PP/15/600-1/01/3/29
Tarikh Akujanji	:	19 Mei 2010
Penyedia laporan pematuhan ini	:	Chemsain Konsultant Sdn. Bhd.
Tempoh diliputi oleh laporan ini	:	July - October 2018

AEC No.	Approved Environmental Conditions	Status	Observations / Comments	Photo No.	Recommendations
5.1	***Kawalan Kawasan Pembangunan***				
i	*Sempadan kawasan projek seperti yang ditunjukkan di "Figure 3.2 – Locality Map" dalam laporan EIA hendaklah disukat sebelum aktiviti projek dimulakan. Penyukatan berkenaan hendaklah disahkan oleh juruukur yang berdaftar di bawah Ordinan Juruukur 1960 (Surveyor Ordinance 1960).*	*Comply*	• The Boundary Survey work had been previously carried out by the Project Proponent and the survey map was presented together in the EIA report.	-	
ii	*Pelan Penyukatan sempadan projek berkenaan hendaklah dikemukakan kepada JPAS bersama-sama dengan bacaan koordinat latitud dan longitud sebelum aktiviti projek dimulakan.*	*Comply*	• Refer to the comment in **AEC 5.1 (i)**.	-	
iii	*Sempadan kawasan projek yang telah disukat, hendaklah ditanda di lapangan serta dipasang dengan papan tanda di lokasi-lokasi yang mudah dilihat sebelum aktiviti projek dimulakan.*	*Comply*	• According to the Project Proponent, the demarcation of the Project boundary on-site will be erected in tandem with the Project operation and progress.	-	

5.2	***Kualiti Sumber Air***				
i	*Kaedah pemajuan ladang Acacia mangium* yang terkawal dan mesra alam serta dengan menyediakan alternatif sumber air kepada penduduk yang terjejas hendaklah diamalkan.	*Comply*	• The Project Proponent practices eco-friendly approach towards the planting and replanting activities on-site. Rainwater were utilize as alternative source of water supply. • The Project Proponent ensure that water supply will be provided to the affected villagers (if any).	-	
ii	*Penggunaan baja dan racun perosak (pesticide) secara terkawal hendaklah diamalkan. Pelupusan atau pembuangan bahan baja dan racun perosak adalah **tidak dibenarkan** di dalam sungai atau alur air.*	*Comply*	• There were no signs of any fertilizers or pesticides being disposed into any nearest natural waterways as observed during the site visit. • The Project Proponent assured that pesticides and fertilizers were only utilized when necesarry. • The agrochemical were stored at designated area and situated near the nursery on-site.	*Plates 5 & 6*	
5.2.1.2	*Laporan pemantauan kualiti air juga hendaklah dikemukakan kepada JPAS bersama dengan laporan pematuhan tersebut.* *Lokasi dan parameter yang perlu*	*Comply*	• Water sampling exercises were conducted at monitoring locations **W1**, **W2**, **W3** & **W4** as per Figure 1.0.	*Plates 2 to 4*	• *Refer to Appendix B.*

	dianalisa adalah seperti berikut: ***Lokasi*** / ***Unit/Parameter*** *Sebagaimana yang ditanda sebagai "Water Sampling Point" di "Figure 6.1" dalam laporan EIA tersebut.* / *Turbidity, pH, Total Suspended Solids, Oil & Grease, Biochemical Oxygen Demand, Chemical Oxygen Demand, Ammoniacal Nitrogen*				
5.3	***Perlindungan Sungai***				
i	*Simpanan sungai seperti berikut hendaklah dilindungi, disukat dan ditanda di lapangan:* ***Lokasi*** / ***Unit / Parameter*** *Sg. Gumpa, Sg. Malubang, Sg. Bongkol dan Sg. Kakarangan serta semua sungai lain yang mempunyai kelebaran 3 meter atau lebih* / *Sekurang-kurangnya selebar 20 meter pada jarak mendatar dari tebing sungai.* *Semua sungai yang mempunyai kelebaran kurang daripada 3 meter* / *Sekurang-kurangnya selebar 5 meter pada jarak dari tebing*	***Non Compliance***	• Blue signboards were erected on some part of the Riparian Reserves on-site as observed during the site visit. • However, some of the Riparian Reserves on-site were not demarcated as observed during the site visit. • According to the Project Proponent, the Riparian Reserves were previously demarcated but the pegs and signboard erected were taken out by the locals. • Some of the Riparian Reserves area were not demarcated as site preparation and replanting	*Plates 7 & 8*	• The Project Proponent, were advised to demarcate the Riparian Reserves using alternative method (i.e. paint the tree trunks located along the Riparian Reserves belt).

	sungai.		activities was not commenced yet. • The Riparian Reserves within the active area were still intact as observed during the site visit. • Old water pump house were observed presence within the Riparian Reserves of Sungai Bongkol. However, the facilities were not in used anymore.		
ii	*Sempadan simpanan sungai hendaklah disukat sebelum aktiviti pemajuan ladang Acacia mangium dimulakan di kawasan projek berkenaan dan hendaklah mencapai ketepatan pengukuran standard kelas ketiga.*	*Comply*	• According to the Project Proponent, the Riparian Reserves survey work had been previously carried out.	-	
iii	*Pelan penyukatan simpanan sungai dengan skala minima 1:25,000 hendaklah dikemukakan kepada JPAS bersama-sama dengan bacaan koordinat latitud dan longitud sebelum sebarang aktiviti pemajuan ladang Acacia mangium dimulakan di kawasan projek berkenaan.*	*Comply*	• According to the Project Proponent, the Riparian Reserves survey plan had been previously submitted to the EPD.	-	
iv	*Sempadan simpanan sungai yang telah disukat, hendaklah ditanda di lapangan dengan cat merah serta dipasang dengan papan tanda di lokasi-lokasi yang mudah dilihat sebelum aktiviti pemajuan ladang Acacia mangium dimulakan di kawasan projek berkenaan.*	***Non Compliance***	• Refer to the comments in **AEC 5.3 (i)**.	Plate 7	• The Project Proponent, were advised to demarcate the Riparian Reserves using alternative method (i.e. paint the tree trunks located along the Riparian Reserves belt).

v	*Sebarang aktiviti pemajuan ladang Acacia mangium dan penumbangan kayu **tidak dibenarkan** di simpanan sungai ini.*	*Comply*	• There were no signs of any activities carried out within the Riparian Reserves area as observed during the site visit. • There were no signs of any structure constructed within the Riparian Reserves area, except for the previous water pump house which was no longer in use.	Plates 7 & 8	
vi	*Sebarang pembinaan rumah pekerja, kem pekerja, bengkel, tandas atau struktur bangunan lain **tidak dibenarkan** di simpanan sungai ini.*	*Comply*	• Refer to the comments in **AEC 5.3 (v)**.	Plates 7 & 8	
vii	*Sebarang penyimpanan bahan minyak atau bahan toksik **tidak dibenarkan** di simpanan sungai ini.*	*Comply*	• There were no signs of any oily / toxic material being stored within the Riparian Reserves area as observed during the site visit. • The oily / toxic material storage area were situated near the workshop area and located at more than 50 m away from any nearest natural waterways.	Plates 7, 8, 17, 21 & 23	
viii	*Sebarang bahan tanah lebihan, sisa tumbuhan, sisa pepejal, kumbahan, bahan minyak, kimia atau bahan-bahan toksik **tidak dibenarkan** dilupuskan di simpanan sungai, di dalam sungai atau alur air.*		• There were no signs of any overburden or any types of wastes (i.e. biomass, solid wastes, sewage, oily / toxic material, etc.) being disposed within the Riparian Reserves	-	

			area or any nearest natural waterway as observed during the site visit.		
5.4	***Hakisan Tanah dan Pemendapan Kelodak***				
5.4.1	***Larangan Aktiviti Pemajuan Ladang Acacia Mangium atau Pembersihan Kawasan***				
i	*Sebarang aktiviti pemajuan ladang Acacia mangium atau aktiviti pembersihan kawasan **tidak dibenarkan** di kawasan berkecerunan 25 darjah atau lebih dengan keluasan 49 hektar dan kawasan perkampungan, sebagaimana ditunjukkan di "Figure 6.1" dalam laporan EIA tersebut.*	*Comply*	• There were no signs of any activities conducted within the high risk area (≥ 25° slope area) as observed during the site visit.	*Plate 9*	
ii	*Sempadan kawasan yang berkecerunan 25 darjah atau lebih dan kawasan berisiko tinggi serta kawasan perkampungan ini hendaklah ditanda di lapangan dengan cat merah serta dipasang dengan papan tanda sebelum aktiviti pembersihan kawasan dimulakan di kawasan projek berkenaan dan hendaklah mencapai ketepaan pengukuran standard kelas ketiga.*	***Non Compliance***	• The high risk area (≥ 25° slope area) were not demarcated as observed during the site visit. • According to the Project Proponent, demarcation will be carried once the Project had progressed into the areas.	*Plate 9*	
iii	*Pelan penyukatan kawasan yang berkecerunan 25 darjah atau lebih dan kawasan berisikio tinggi serta kawasan perkampungan berkenaan hendaklah dikemukan kepada JPAS bersama-sama dengan bacaan koordinat latitud dan longitud sebelum aktiviti pemajuan ladang Acacia mangium atau aktiviti pembersihan kawasan dimulakan di kawasan projek berkenaan.*	*Comply*	• According to the Project Proponent, the High Risk Area Survey Plan had been previously submitted to the EPD.	-	

5.4.2	***Pembinaan Jalan***				
i	*Sistem perparitan hendaklah disediakan bagi mengalirkan air keluar dari struktur jalan dan dilencongkan ke kawsan yang mempunyai tumbuhan.*	*Comply*	• Roadside drainage were provided along the access road on-site. • The roadside drainage were diverted towards the vegetated areas.	-	
ii	*Aktiviti pelupusan atau pembuangan bahan tanah lebihan (overburden) ke dalam sungai atau alur air* ***tidak dibenarkan****.*	*Comply*	• There were no signs of any overburden being disposed into any nearest natural waterways as observed during the site visit.	-	
5.4.3	***Pembinaan Rumah Pekerja, Kem Pekerja, Bengkel atau Tapak Semaian***				
i	*Rumah pekerja, kem pekerja, bengkel atau tapak semaian hendaklah dibina dengan meminimakan kerja-kerja tanah dan pembersihan kawasan.*	*Comply*	• The workers' quarters, contractor base camp, workshop and nursery were fully utilised on-site.	*Plates 10, 11, 12, 15 & 16*	
ii	*Sistem perparitan yang berkesan hendaklah disediakan bagi mengawal larian air permukaan dan air buangan dari kawasan rumah pekerja, kem pekerja, bengkel atau tapak semaian dan hendaklah dilencongkan ke kawasan yang mempunyai tumbuhan dan* ***tidak dibenarkan*** *dialir terus ke dalam sungai atau alur air.*	*Comply*	• Drainages provided at the workers quarters' area were diverted towards the vegetated area. • The drainages provided at the nursery area were diverted towards the sedimentation pond. • The temporary scheduled waste storage situated at the workshop of the contractor base camp were diverted towards the oil trap.	*Plates 10, 13, 14 & 22*	

iii	*Kedudukan rumah pekerja atau kem pekerja hendaklah terletak pada jarak mendatar tidak kurang 30 meter dari tebing sungai atau alur air.*	*Comply*	• The workers' quarters and contractor base camp on-site were located at more than 30 meter away from any nearest natural waterways as observed during the site visit.	*Plates 10 & 11*	
iv	*Kedudukan bengkel atau tapak semaian hendaklah terletak pada jarak mendatar tidak kurang 50 meter dari tebing sungai atau alur air.*	*Comply*	• The nursery and workshop on-site were located at more than 50 m away from any nearest natural waterways as observed during the site visit.	*Plates 12, 15 & 16*	
v	*Semua rumah pekerja, kem pekerja, bengkel atau tapak semaian sedia ada yang tidak mematuhi peraturan-peraturan yang dinyatakan dalam syarat-syarat alam sekitar ini, hendaklah dipindah dan dikawal sebagaimana yang ditetapkan.*	*Comply*	• The location for the facilities were in compliance with the AEC requirement.	-	
5.4.4	***Kawalan Larian Air Permukaan***				
i	*Sistem perparitan dan kolam perangkap mendap (sedimentation pond) hendaklah disediakan di lokasi yang strategik dalam kawasan tapak projek.*	*Comply*	• Drainage were provided to facilitate the surface runoff on-site. • The drainage at the nursery were diverted towards the nearby sedimentation pond.	Plates 10, 13 & 14	
ii	*Kolam perangkap mendap tersebut hendaklah diselenggarakan dengan mengeluarkan bahan sedimen sekurang-kurangnya satu (1) kali dalam sebulan.*	*Comply*	• The Project Proponent, assured to adhere to this condition.	*Plate 14*	
iii	*Sebarang penyimpanan atau pelupusan*	*Comply*	• There were no signs of any	-	

	*bahan sedimen **tidak dibenarkan** di kawasan sungai atau simpanan sungai.*		sediments being disposed into any of the nearest natural waterways or the Riparian Reserves area as observed during the site visit.		
iv	*Sistem perparitan yang berkesan hendaklah dibina bagi mengawal larian air permukaan dari kawasan projek, terutamanya di sekitar kawasan rumah pekerja, kem pekerja, bengkel atau tapak semaian.*	*Comply*	• Refer to the comments in **AEC 5.4.3 (ii)**.	*Plates 10, 13 & 14*	
v	*Aliran parit tersebut hendaklah dilencongkan ke kolam perangkap mendap dan **tidak dibenarkan** dialir terus ke dalam sungai alur air.*	*Comply*	• Refer to the comments in **AEC 5.4.3 (ii)**.	*Plates 13 & 14*	
vi	*Sebarang pembinaan sistem perparitan dan kolam perangkap mendap **tidak dibenarkan** di dalam alur air semulajadi, kawasan simpanan sungai atau di dalam sungai.*	*Comply*	• Generally, there were no on-site surface runoff mitigation measures constructed within any of the existing natural waterways and the Riparian Reserves on-site.	*Plates 10, 13 & 14*	
vii	*Semua kawasan yang terdedah hendaklah dilindungi dan ditanam dengan tumbuhan tutup bumi untuk mengurangkan hakisan tanah.*	*Comply*	• The exposed area on-site were planted with cover crops to reduce the risk of soil erosion on-site.		
5.5	***Pemajuan Ladang Acacia mangium Secara Berfasa***				
i	*Operasi pemajuan ladang Acacia mangium hendaklah dilaksanakan secara berperingkat/berfasa dan terancang.*	*Comply*	• The development for the *Acacia mangium* plantation were carried out in phases.	-	
ii	*Pelan pengurusan operasi pemajuan*	*Comply*	• The Operation Management	-	

	ladang Acacia mangium hendaklah disediakan dan dilaksanakan serta satu salinan pelan tersebut hendaklah dikemukakan kepada JPAS.		Plan was presented in the EIA report.		
5.6	***Perlindungan Kawasan Sensitif***				
i	*Zon penampan sekurang-kurangnya selebar 50 meter hendaklah disediakan di sepanjang sempadan projek dengan Hutan Simpan Bengkoka dan Tambalugu (Kelas I), Hutan Simpan Semenanjung Bengkoka (Hutan Simpan Bakau Kelas V) dan Hutan Simpan Paitan (Kelas II). Sebarang aktiviti pemajuan ladang Acacia mangium atau aktiviti pembersihan kawasan* ***tidak dibenarkan*** *di dalam kawasan zon penampan ini sebagaimana yang dinyatakan di bawah perkara "2 (ii)" serta ditunjukkan di "Figure 6.1" dalam maklumat tambahan laporan EIA tersebut.*	*Comply*	• The 50 m wide buffer zone were retained as observed during the site visit. • According to the Project Proponent, the 50 m wide buffer zone of Hutan Simpan Semenanjung Bengkoka were no longer applicable since the forest reserve had now been developed by others.	-	
ii	*Sempadan kawasan zon penampan ini hendaklah dilindungi dan disukat sebelum aktiviti pemajuan ladang Acacia mangium atau aktiviti pembersihan kawasan dimulakan di kawasan projek berkenaan dan hendaklah mencapai ketepatan pengukuran standar kelas ketiga.*	*Comply*	• The survey work for the buffer zone had been previously carried out by the Project Proponent.	-	
iii	*Pelan penyukatan kawasan-kawasan zon penampan berkenaan hendaklah dikemukan kepada JPAS bersama-sama dengan bacaan koordinat latitud dan*	*Comply*	• The survey map was attached together with the EIA report.	-	

	longitud sebelum aktiviti pemajuan ladang Acacia mangium atau aktiviti pembersihan kawsan dimulakan di kawasan projek berkenaan.				
iv	*Sempadan kawasan zon penampan yang telah disukat, hendaklah ditanda di lapangan dengan cat merah serta dipasang dengan papan tanda di lokasi-loasi yang mudah dilihat sebelum aktiviti pemajuan ladang Acacia mangium atau aktiviti pembersihan kawasan dimulakan di kawasan projek berkenaan.*	*Comply*	• According to the Project Proponent, the demarcation process will be carried out as the Project progress into the area.	-	
5.7	***<u>Bahan Minyak dan Sisa Toksik</u>***				
i	*Bahan minyak dan sisa toksik yang digunakan dalam aktiviti pemajuan ladang Acacia mangium ini adalah **<u>tidak dibenarkan</u>** dilupuskan atau dibiarkan mengalir ke dalam parit, sungai atau alur air.*	*Comply*	• There were no signs of any oily and toxic material being disposed into the nearest natural waterways as observed during the site visit.	-	
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*	• Oily materials and spent oils were stored inside durable HDPE and metal drum containers, and labelled accordingly. • The oil and scheduled wastes on-site were stored at the storage facility located within the related company, Hijauan Bengkoka Sdn. Bhd. • The temporary scheduled wastes that were stored at the workshop situated at the	*Plates 17 to 22 & 23 to 25*	

			contractor's base camp will be brought to the storage facility located within the related company, Hijauan Bengkoka Sdn. Bhd. • According to the Project Proponent, the disposal of scheduled wastes were handled by Petrojadi Sdn. Bhd.		
iii	*Kawasan penyimpanan bahan minyak dan sisa toksik tersebut hendaklah terlindung dari hujan dan hendaklah terletak pada jarak mendatar tidak kurang 50 meter dari tebing sungai atau alur air.*	*Comply*	• The oil and scheduled wastes storage facility located within the related company, Hijauan Bengkoka Sdn. Bhd., were located at more than 50 m away from any nearest natural waterways. • The temporary oil and scheduled waste storage area situated at the workshop of the contractor's base camp were located at more than 50 m away from any nearest natural waterways. • The diesel skid tank on-site were located at more than 50 m away from any nearest natural waterways.	*Plates 17 to 25*	
iv	*Kawasan penyimpanan bahan minyak dan sisa toksik hendaklah disediakan dengan sistem saliran perangkap minyak.*	*Comply*	• The oil and scheduled wastes storage facility located within the related company, Hijauan Bengkoka Sdn. Bhd., were equipped with perimeter	*Plates 17 to 25*	

			concrete containment bund filled with sand to prevent any leakage from seeping directly into the ground. • The temporary oil and scheduled waste storage area situated at the workshop of the contractor's base camp were equipped with perimeter concrete drains and oil trap. • The diesel skid tank on-site were equipped with perimeter concrete containment bund filled with sand to prevent any leakage from seeping directly into the ground.		
v	*Bahan minyak dan sisa toksik tersebut hendaklah dilupuskan mengikut garispanduan, peraturan atau undang-undang kerajaan yang sedang berkuatkuasa.*	*Comply*	• According to the Project Proponent, the disposal of scheduled wastes were handled by Petrojadi Sdn. Bhd.	-	
5.8	***Bahan Sisa Pepejal dan Sisa Biomas***				
i	*Sebarang aktiviti pelupusan bahan sisa pepejal dan sisa biomass* ***tidak dibenarkan*** *ke dalam parit, alur air, di dalam sungai atau simpanan sungai.*	*Comply*	• There were no signs of any solid wastes and biomass being disposed within the Riparian Reserves area or any nearest natural waterways as observed during the site visit. • The biomass generated on-site were stacked properly on the exposed area of the	-	

			Project site and left in-situ for natural decomposition.		
ii	*Kemudahan mengumpul dan mengutip bahan sisa pepejal dan sisa biomass hendaklah disediakan. Lokasi kawasan pengumpulan bahan sisa pepejal dan sisa biomass hendaklah dikaji agar tidak mendatangkan kesan negatif kepada penduduk sekitar.*	*Comply*	• Old oil drum were recycled and utilised as garbage bins at the workshop area. • Garbage bins were provided at the workers' quarters and contractor's base camp.	*Plates 27 & 28*	
iii	*Semua kawasan pengumpulan bahan sisa pepejal dan sisa biomas hendaklah terletak pada jarak mendatar tidak kurang 30 meter dari alur air atau tebing sungai.*	*Comply*	• The waste collection facility were located at more than 30 m away from any nearest natural waterway as observed during the site visit.	*Plates 26 to 28*	
iv	*Semua bahan sisa pepejal seperti botol, tin, plastik, dan besi hendaklah dikumpul secara berasingan dan dikitar semula.*	*Comply*	• Recycle bins were provided at the contractor's base camp area. • Scrap metals from old machineries were temporarily stockpiled at the Project site and will be properly disposed at the later stage or recycled if applicable.	*Plate 26*	
v	*Sekiranya tiada kawasan pelupusan yang sesuai dalam kawasan projek, bahan sisa pepejal dan sisa biomas tersebut hendaklah dilupuskan di kawasan yang disediakan oleh pihak berkuasa tempatan.*	*Comply*	• Refer to the comments in **AEC 5.8 (ii)**.	*Plates 26 to 28*	

5.9	***Kawalan Kualiti Udara dan Kebakaran***				
i	*Pembakaran terbuka adalah **tidak dibenarkan**.*	*Comply*	• The traces of open burning on-site were conducted by the locals. • The Project Proponent assured that no open burning will be conducted during the Project development activities.	-	
ii	*Pelan pengurusan dan pencegahan kebakaran kawasan pemajuan ladang Acacia mangium hendaklah disediakan dan satu salinan pelan tersebut hendaklah dikemukakan kepada JPAS.*	*Comply*	• The Fire Prevention and Management Plan had been previously submitted to the EPD via the *November 2010 – February 2011 ECR* (YI/2011).	-	
5.10	***Penghentian Projek***				
I	*Semua struktur binaan yang tidak digunakan hendaklah dibuka secara teratur apabila berlaku penghentian projek tersebut*	*Not Applicable*	• Not applicable at the current stage of the Project development as it is still in progress.	-	
ii	*Semua struktur binaan yang didapati tidak selamat atau yang tidak dapat dipastikan selamat, hendaklah dibuka.*	*Not Applicable*	• Refer to the comments in **AEC 5.10 (i)**.	-	
iii	*Semua tanah yang tercemar dengan bahan minyak dan bahan berbahaya hendaklah dikeluarkan dan dibersihkan.*	*Not Applicable*	• Refer to the comments in **AEC 5.10 (i)**.	-	

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 : JUNEXTOPHER J. MAING

Jawatan : Protection Manager
ACACIA FOREST INDUSTRIES SDN BHD

Tarikh : 07.12.2018

Cop Rasmi syarikat :

ACACIA FOREST INDUSTRIES SDN. BHD. 611076-A

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 : **EDGAR NICHOLS COSMAS**

Tarikh : 4th December 2018

Cop Rasmi syarikat :

CHEMSAIN KONSULTANT SDN. BHD. (130904-U)

APPENDIX A

Plates

Kawalan Kawasan Pembangunan

Plate 1

The logging activities on-site were confined within the Project site only.

GPS coordinates of the picture taken: N 06° 55' 49.9 E 117° 07' 23.9"

Kualiti Sumber Air

Plate 2

Water sampling exercises were conducted at monitoring station **W2**.

GPS coordinates of the picture taken: N 06° 54' 12.9" E 117° 06' 37.8"

Plate 3

Water sampling exercises were conducted at monitoring station **W4**.

GPS coordinates of the picture taken: N 06° 51' 21.7" E 117° 12' 06.5"

Plate 4

Water sampling exercises were conducted at monitoring station **W1**.

GPS coordinates of the picture taken: N 06° 51' 18.9" E 117° 06' 41.2"

Plate 5

The fertilizer were stacked on a plastic pallet and stored at the storage area situated near the nursery area.

GPS coordinates of the picture taken: N 06° 49' 53.6" E 117° 09' 30.2"

Plate 6

The herbicides and pesticides on-site were stored at the storage area situated near the nursery area.

GPS coordinates of the picture taken: N 06° 49' 53.6" E 117° 09' 30.2"

Perlindungan Sungai

Plate 7

Signboard were erected to demarcate the Riparian Reserves on-site.

GPS coordinates of the picture taken: N 06° 54' 12.9" E 117° 06' 37.8"

Plate 8

The previous water pump house which located less than 50 m away from the nearest waterways were not in used anymore as observed during the site visit.

GPS coordinates of the picture taken: N 06° 50' 01.6" E 117° 06' 37.8"

Hakisan Tanah dan Pemendapan Kelodak

Plate 9

View towards the high risk area (≥slope area) located on-site.

According to the Project Proponent, there were no signboard or any markers erected to demarcate the area as the Project has not progress into the area yet.

GPS coordinates of the picture taken: N 06° 29' 41.8" E 117° 02' 38.0"

Pembinaan Rumah Pekerja, Kem Pekerja, Bengkel atau Tapak Semaian

Plate 10

View towards one of the contractor's base camp located on-site.

The facility were located at 30 m away from any nearest natural waterways.

Earth drainage were provided to facilitate surface runoff.

The earth drainage were diverted towards the vegetated areas.

GPS coordinates of the picture taken: N 06° 55' 33.0" E 117° 06' 49.9"

Plate 11

View towards one of the contractor's base camp located on-site.

The facility were located at 30 m away from any nearest natural waterways.

Earth drainage were provided to facilitate surface runoff.

The earth drainage were diverted towards the vegetated areas.

GPS coordinates of the picture taken: N 06° 55' 42.9" E 117° 06' 45.8"

Plate 12

View towards the nursery located within the Project site.

The facility were located at 50 m away from any nearest natural waterways.

GPS coordinates of the picture taken: N 06° 49' 55.0" E 117° 09' 31.2"

Plate 13

The nursery were equipped with concrete drainage that were diverted towards the nearby sedimentation pond.

GPS coordinates of the picture taken: N 06° 49' 55.0" E 117° 09' 31.2"

Plate 14

The drainage at the nursery were diverted towards the nearby sedimentation pond.

GPS coordinates of the picture taken: N 06° 49' 55.0" E 117° 09' 31.2"

GPS coordinates of the picture taken: N 06° 49' 46.1" E 117° 09' 11.8"

Plate 15

View towards the workshop located on-site and situated nearby the site office.

The workshop were located at more than 50 m away from any nearest natural waterways.

However, the workshop were not provided with proper drainage as observed during the site visit.

GPS coordinates of the picture taken: N 06° 29' 26.1" E 117° 02' 31.2"

Plate 16

View towards the workshop located at the contractor's base camp.

The facility were located at 50 m away from any nearest natural waterways.

However, the workshop were not provided with proper drainage as observed during the site visit.

Bahan Minyak dan Sisa Toksik

Plate 17

View towards the schedule wastes storage area situated at the workshop nearby the site office.

The facility were located at 50 m away from any nearest natural waterways and sheltered from weather exposure.

GPS coordinates of the picture taken: N 06° 49' 46.1" E 117° 09' 11.8"

Plate 18

Close up view of the scheduled wastes area situated at the workshop nearby the site office.

The facility were equipped with concretized floor & bunded.

Spillage kit (yellow box) that utilized sand were provided.

GPS coordinates of the picture taken: N 06° 49' 46.1" E 117° 09' 11.8"

Plate 19

The schedule wastes on-site were labelled accordingly.

GPS coordinates of the picture taken: N 06° 49' 46.1" E 117° 09' 11.8"

Plate 20

Half cut drum were utilized as drip trays at the workshop to contain any oil spill generated from vehicle maintenance on-site.

GPS coordinates of the picture taken: N 06° 49' 46.1" E 117° 09' 11.8"

Plate 21

View towards the temporary Schedule Wastes storage area located at the contractor's base camp.

The facility were equipped with concretized floor and perimeter concrete drainage.

GPS coordinates of the picture taken: N 06° 55' 41.7" E 117° 06' 45.25"

Plate 22

The temporary Schedule Wastes storage area located at the contractor's base camp were equipped with perimeter concrete drainage and oil trap.

GPS coordinates of the picture taken: N 06° 55' 41.7" E 117° 06' 45.25"

Plate 23

View towards one of the temporary Schedule Wastes storage area located at the contractor's base camp.

The facility was equipped with perimeter concrete containment bund, filled with sand to prevent any leakage from seeping directly into the ground.

GPS coordinates of the picture taken: N 06° 29' 26.8" E 117° 02' 28.1"

Plate 24

View towards one of the diesel skid tank located at the contractor's base camp.

The diesel skid tank were equipped with concretized floor, bunded and sheltered from weather exposure.

The facility were located at 50 m away from any nearest natural waterways.

GPS coordinates of the picture taken: N 06° 55' 42.9" E 117° 06' 45.8"

Plate 25

View towards one of the diesel skid tank located at the contractor's base camp.

The diesel skid tank were equipped with concretized floor, bunded and sheltered from weather exposure.

The facility were located at 50 m away from any nearest natural waterways.

GPS coordinates of the picture taken: N 06° 49' 46.1" E 117° 09' 11.8"

Bahan Sisa Pepejal dan Sisa Biomas

Plate 26

Recycle bins were provided at the contractor's base camp area to facilitate solid wastes segregation.

GPS coordinates of the picture taken: N 06° 55'33.0" E 117° 06' 49.9"

Plate 27

Old oil drums were recycled and utilized as garbage bins at the workshop area to facilitate solid wastes disposal.

GPS coordinates of the picture taken: N 06° 55'41.7" E 117° 06' 45.5"

Plate 28

Old oil drums were recycled and utilized as garbage bins at the contractor's base camp area to facilitate solid wastes disposal.

GPS coordinates of the picture taken: N 06° 47'04.4" E 117° 06' 17.3"

APPENDIX B

Environmental Monitoring Report

1.0 WATER QUALITY

1.1 MONITORING LOCATIONS

Water sampling was carried out on the 11th - 12th October 2018 at four (4) monitoring locations, **W1**, **W2**, **W3** and **W4** as shown in **Figure 1.0**. The weather were fine and sunny throughout the sampling exercises.

1.2 PARAMETERS AND STANDARD LIMIT

Parameters of Interest

pH, Turbidity, Total Suspended Solids (TSS), Oil & Grease, Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD) and Ammoniacal-Nitrogen (NH_3–N).

Standard Limit

All parameters for surface water quality analysis are subjected to ***Class IIB*** of ***National Water Quality Standard of Malaysia (NWQSM)***.

1.3 ANALYTICAL RESULTS

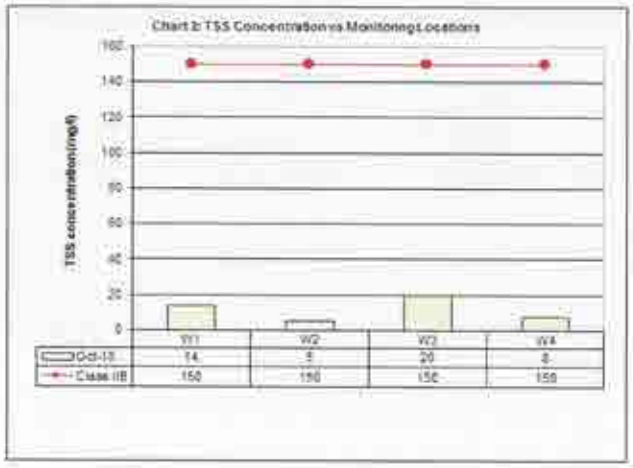
Water quality test results are tabulated on **Table 3.0** and compared against ***Class IIB*** of ***NWQSM***. **Chart 1 – 7** present the historical water quality results for **W1 – W4**. The test reports are presented in ***Appendix C.***

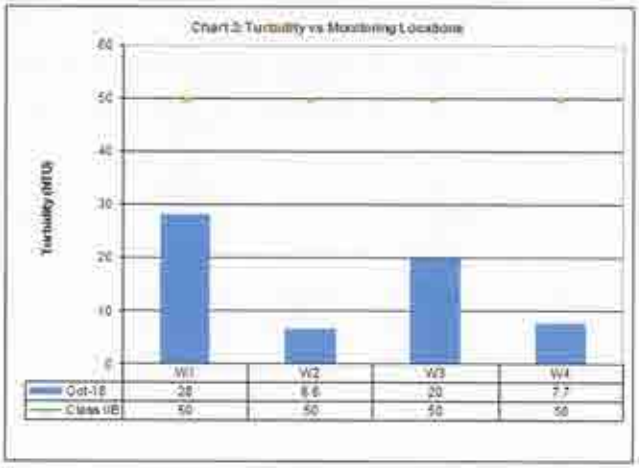
Table 3.0: Water quality results

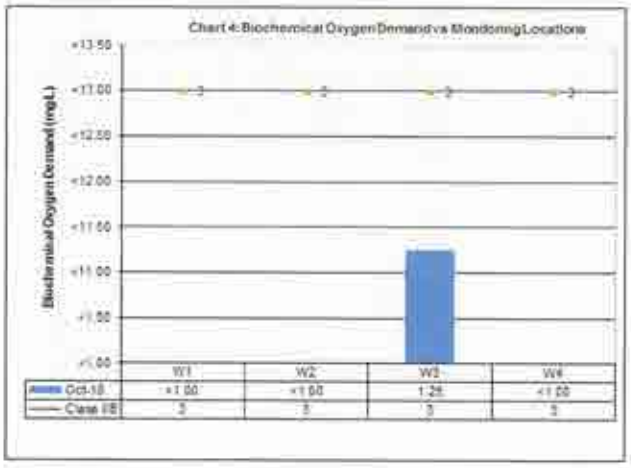
Monitoring Location	**Unit**	**W1**	**W2**	**W3**	**W4**	***Limit****
Sampling Time		**11/10/18 10:26 pm**	**11/10/18 10:58 pm**	**11/10/18 3:19 pm**	**11/10/18 2:26 pm**	
Physical / Chemical Analysis						
pH Value (*in-situ*)	mg/L	6.23	**3.59**	6.25	*7.34*	***6 – 9***
Total Suspended Solid, TSS	mg/L	14.0	5.00	20.0	*8.00*	***50***
Turbidity, NTU	NTU	28	6.6	20	*7.7*	***50***
Biochemical Oxygen Demand (BOD)	NTU	<1.00	<1.00	1.25	*<1.00*	***3***
Oil & Grease	mg/L	<1.50	<1.50	<1.50	*<1.50*	***40;N, 7 000;N***
Chemical Oxygen Demand (COD)	mg/L	<10.0	<10.0	11.2	*6.04*	***25***
Ammoniacal- Nitrogen (as NH_3-N)	mg/L	**0.46**	0.17	0.11	*0.09*	***0.3***

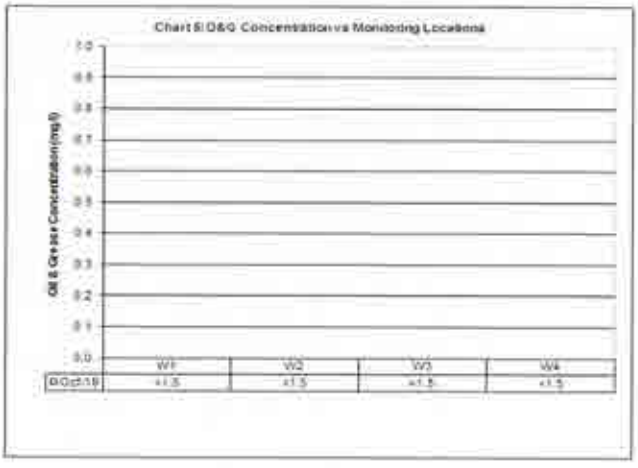
*Notes: * Class IIB of National Water Quality Standard Malaysia (NWQSM); < > Below / above detection limit; N/A – Not applicable*

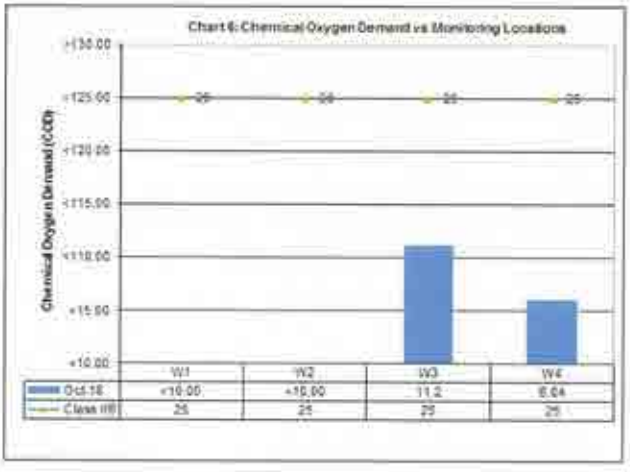
HISTORICAL WATER QUALITY RESULTS (W1 – W4)



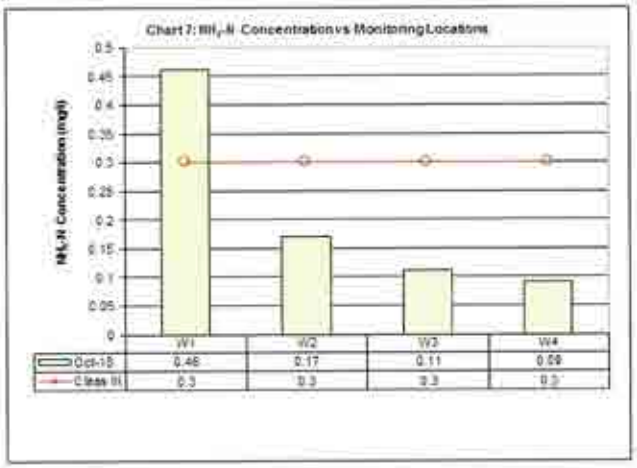








HISTORICAL WATER QUALITY RESULTS (W1 – W5)



1.4 OBSERVATION

Water quality results for locations **W1 – W4** show that overall parameters tested were fully comply with ***Class IIB*** except for the pH value at monitoring station **W2** and Ammoniacal-Nitrogen at monitoring station **W1**.

The low level of pH value at monitoring station **W2** indicate that the river water were acidic. This may be caused by the nearby agricultural runoff that were washed out during rainy weather and creates a weak acid when dissolved in the river water. However, there were no signs of any activities by the Project Proponent near the existing waterways or within the Riparian Reserves area as observed during the site visit.

The high level of Ammoniacal-Nitrogen (NH_3-N) at monitoring station **W1** could be contributed by the surface runoff flowed from upstream of the sampling location which brought out decayed plants and animal composition.

APPENDIX C

Test Reports for Water Quality

National Water Quality Standards for Malaysia (NWQSM)

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Phone +6088 - 389 671 / 381 278 **Fax** +6088 - 381 280
Email laboratory@chemsain.com
www.chemsain.com

ILAC-MRA STANDARDS MALAYSIA

MS ISO/IEC 17025 TESTING SAMM NO. 238

TEST REPORT

NOT FOR ADVERTISEMENT PURPOSES

Customer : Acacia Forest Industries Sdn Bhd
1st Floor, Wisma Perkasa, Jalan Gaya,
88100 Kota Kinabalu, Sabah.

Lab No. : CK/CL405/3899/18
Type (No.) of Sample : River Water (4)
Date Received : 15th October 2018
Date of Report : 13th November 2018
Project Code : CK/MO411/1188/18

Lab No.:	3899-1	*Test Method*	* *Standard Limit*
Parameter(s)	W1 Date: 11/10/18 Time: 10.26 am		
pH Value @ 25°C	6.23	*APHA 4500-H B, 2017*	6-9
Total Suspended Solids, mg/L	14.0	*APHA 2540 D, 2017*	50
Turbidity, NTU	28	*APHA 2130 B, 2017*	50
Biochemical Oxygen Demand in 5 days @ 20°C, mg/L	<1.00	*APHA 5210 B & 4500-O G, 2017*	3
Oil & Grease, mg/L	<1.50	*APHA 5520 B, 2017*	40;N, 7000;N
Chemical Oxygen Demand, mg/L	<10.0	*APHA 5220 C, 2017*	25
Ammoniacal-Nitrogen (as NH_3-N), mg/L	0.46	*APHA 4500-NH_3 F, 2017*	0.3

Lab No.:	3899-2	*Test Method*	* *Standard Limit*
Parameter(s)	W2 Date: 11/10/18 Time: 10.58 am		
pH Value @ 25°C	3.59	*APHA 4500-H B, 2017*	6-9
Total Suspended Solids, mg/L	5.00	*APHA 2540 D, 2017*	50
Turbidity, NTU	6.6	*APHA 2130 B, 2017*	50
Biochemical Oxygen Demand in 5 days @ 20°C, mg/L	<1.00	*APHA 5210 B & 4500-O G, 2017*	3
Oil & Grease, mg/L	<1.50	*APHA 5520 B, 2017*	40;N, 7000;N
Chemical Oxygen Demand, mg/L	<10.0	*APHA 5220 C, 2017*	25
Ammoniacal-Nitrogen (as NH_3-N), mg/L	0.17	*APHA 4500-NH_3 F, 2017*	0.3

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MS ISO/IEC 17025
TESTING
SAMM NO. 238

TEST REPORT

NOT FOR ADVERTISEMENT PURPOSES

Lab No.: CK/CL405/3899/18

Lab No.:	3899-3	3899-4	*Test Method*	* *Standard Limit*
Parameter(s)	W3 Date: 11/10/18 Time: 3.19 pm	W4 Date: 11/10/18 Time: 2.26 pm		
pH Value @ 25°C	6.25	7.34	*APHA 4500-H+ B, 2017*	*6-9*
Total Suspended Solids, mg/L	20.0	8.00	*APHA 2540 D, 2017*	*50*
Turbidity, NTU	20	7.7	*APHA 2130 B, 2017*	*50*
Biochemical Oxygen Demand in 5 days @ 20°C, mg/L	1.25	<1.00	*APHA 5210 B & 4500-O G, 2017*	*3*
Oil & Grease, mg/L	<1.50	<1.50	*APHA 5520 B, 2017*	*40:N; 7000:N*
Chemical Oxygen Demand, mg/L	11.2	-	*APHA 5220 C, 2017*	*25*
Chemical Oxygen Demand, mg/L	-	6.04	*In House Method 0560 based on APHA 5220 C, 2017 & USGS*	*25*
Ammoniacal-Nitrogen (as NH_3-N), mg/L	0.11	0.09	*APHA 4500-NH_3 F, 2017*	*0.3*

Date of commencement of BOD_5 analysis: 15th October 2018
** Class IIB of National Water Quality Standards Malaysia.*

CHEMSAIN KONSULTANT SDN. BHD. Laboratory Kota Kinabalu (130904-U)

.....
ZAYDIE LEONG @ BIN OSMAN
B. Sc. (Hons)
MMIC (3133/5377/08/11)
SENIOR CHEMIST

NATIONAL WATER QUALITY STANDARDS FOR MALAYSIA

Parameters	Classes						
	Unit	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	5 - 7	5 - 7	3 - 5	<3	<1
pH		6.5 - 8.5	6 - 9	6 - 9	5 - 9	5 - 9	-
Colour	TCU	15	150	150	-	-	-
Elec. Cond*	uS/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

a = 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.