



Certificate Of Analysis

Registration No. : L-KL-WR2104NGE-0165 Page: 2 of 6
Customer : Golden Ecosystem Sdn. Bhd.
Project : The Proposed Oil Palm and Coconut Palm Plantation at Lots PTD 4882, PTD 4085, PTD 4963, PTD 4118, PTD 4177 and PTD 4121 (3775.34 ha) Mukim Padang Endau, Daerah Mersing, Johor Darul Takzim.

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Parameters	Units	Results			Methods Used
		W1-HT	W2-HT	W3-HT	
Chemical Oxygen Demand (tested on 09/04/2021)	mg/l	9	74	4	APHA 5220 B, 2005
Feacal Coliform	Count/100ml	<1	<1	<1	APHA 9222 D, 2005
Potassium as K	mg/l	3.15	1.98	2.24	APHA 3120 B, 2005
Total Dissolved Solids	mg/l	555	136	39	APHA 2540 C, 2005
alpha-BHC	µg/l	<0.01	<0.01	<0.01	} APHA 6630 C, 2005
Gamma-BHC (Lindane)	µg/l	<0.01	<0.01	<0.01	
Heptachlor	µg/l	<0.01	<0.01	<0.01	
Aldrin	µg/l	<0.01	<0.01	<0.01	
Heptachlor Epoxide (isomer B)	µg/l	<0.01	<0.01	<0.01	
Endosulfan I (alpha)	µg/l	<0.01	<0.01	<0.01	
Dieldrin	µg/l	<0.01	<0.01	<0.01	
4,4'-DDT	ug/l	<0.01	<0.01	<0.01	
*Chlordane	µg/l	<1	<1	<1	
#* 2,4-D	mg/l	<0.01	<0.01	<0.01	USEPA 8270 C
# *2,4,5-T	mg/l	<0.1	<0.1	<0.1	USEPA 8270 C
## 2,4,5-TP	mg/l	<0.1	<0.1	<0.1	USEPA 8270 C
## Paraquat	mg/l	<0.01	<0.01	<0.01	AOAC

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Kok Yin Yean
MMIC M/3299/6133/2011
(Chemist)

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Ummu Sa'odah Binti Md. Shah
MJMM 0806
(Microbiologist)

Notes:

1. The results reported relate only to the items tested submitted by the customer.
2. APHA means Standard Methods for Examination of Water and Wastewater by APHA, AWWA and WEF.
3. NTU means Nephelometric Turbidity Unit
4. "<" means 'less than the minimum detectable limit' or 'not detected'.
5. (*) means not SAMM Accredited.
6. (##) means subcontracted and not SAMM Accredited.
7. (-) means not available
8. USEPA means United States Environmental Protection Agency.
9. AOAC means Association of Official Analytical Chemists.

Attention : **Wazfarina Abdul Wahid**
Address : **Golden Ecosystem Sdn. Bhd. (534338-P)**
Level 6, Menara Mitraland,
No 13A, Jalan PJU 5/1,
Kota Damansara PJU 5,
47810 Petaling Jaya, Selangor.



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Receiving Date : 9th April 2021
Reporting Date : 28th April 2021
Sample Description : Surface water
Sample Marking : 4. W4-HT
 5. W5-HT
 6. W6-HT

Results of analysis:-

Testing period: 8-April-2021 to 28-April-2021

Parameters	Units	Results			Methods Used
		W4-HT	W5-HT	W6-HT	
pH value (in-situ reading)	-	4.0	3.0	3.9	APHA 4500 H ⁺ B, 2005
*Temperature (in-situ reading)	°C	28.7	28.6	29.5	APHA 2550,B 2005
Dissolved Oxygen (in-situ reading)	mg/l	5.7	4.0	5.7	APHA 4500-O G, 2005
Salinity	%	<1	<1	<1	APHA 2520 B, 2005
Turbidity	NTU	4	58	8	APHA 2130 B, 2005
Total Suspended Solids (tested on 09/04/2021)	mg/l	4	52	8	APHA 2540 D, 2005
Ammoniacal Nitrogen as N	mg/l	1.2	2.7	0.9	APHA 4500-NH ₃ B&C, 1992
Oil & Grease (tested on 09/04/2021)	mg/l	<1	<1	<1	APHA 5520 B, 2005
Arsenic as As	mg/l	<0.005	<0.005	<0.005	APHA 3114 C, 2005
Boron as B	mg/l	<0.005	<0.005	<0.005	APHA 3120 B, 2005
Cadmium as Cd	mg/l	<0.005	<0.005	<0.005	APHA 3120 B, 2005
Copper as Cu	mg/l	<0.005	<0.005	<0.005	APHA 3120 B, 2005
Lead as Pb	mg/l	0.01	0.02	0.01	APHA 3120 B, 2005
Iron as Fe	mg/l	0.338	16.6	0.727	APHA 3120 B, 2005
*Iron (II) as Fe ²⁺	mg/l	0.26	1.31	0.18	HACH method 8146
Aluminium as Al	mg/l	0.52	14.5	0.77	APHA 3120 B, 2005
Mercury as Hg	mg/l	<0.001	<0.001	<0.001	APHA 3112 B, 2005
Manganese as Mn	mg/l	0.023	0.140	0.022	APHA 3120 B, 2005
Tin as Sn	mg/l	<0.004	<0.004	<0.004	In-house method (ESL/L/W-08) based on: APHA 3120 B, 2005
Phosphate as PO ₄	mg/l	0.1	<0.1	<0.1	APHA 4500-P D,2005
Nitrate as NO ₃	mg/l	<0.1	1.2	<0.1	APHA 4500-NO ₃ ⁻ B, 2005
Nitrite as NO ₂	mg/l	<0.1	<0.1	<0.1	APHA 4500-NO ₂ ⁻ B, 2005
Chromium Trivalent as Cr ³⁺	mg/l	<0.01	<0.01	<0.01	In-house method(ESL/L/W-01) based on APHA 3120 B, 2005&APHA 3500-Cr B, 2005 (Calculation)
Biochemical Oxygen Demand @ 5 days at 20 °C (tested on 09/04/2021)	mg/l	<2	<2	<2	APHA 5210 B, 2005& APHA 4500-O G, 2005

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Parameters	Units	Results			Methods Used
		W4-HT	W5-HT	W6-HT	
Chemical Oxygen Demand (tested on 09/04/2021)	mg/l	6	39	4	APHA 5220 B, 2005
Feacal Coliform	Count/ 100ml	36	2	2	APHA 9222 D, 2005
Potassium as K	mg/l	2.43	1.86	2.14	APHA 3120 B, 2005
Total Dissolved Solids	mg/l	45	405	40	APHA 2540 C, 2005
alpha-BHC	µg/l	<0.01	<0.01	<0.01	} APHA 6630 C, 2005
Gamma-BHC (Lindane)	µg/l	<0.01	<0.01	<0.01	
Heptachlor	µg/l	<0.01	<0.01	<0.01	
Aldrin	µg/l	<0.01	<0.01	<0.01	
Heptachlor Epoxide (isomer B)	µg/l	<0.01	<0.01	<0.01	
Endosulfan I (alpha)	µg/l	<0.01	<0.01	<0.01	
Dieldrin	µg/l	<0.01	<0.01	<0.01	
4,4'-DDT	ug/l	<0.01	<0.01	<0.01	
*Chlordane	µg/l	<1	<1	<1	
## 2,4-D	mg/l	<0.01	<0.01	<0.01	USEPA 8270 C
# *2,4,5-T	mg/l	<0.1	<0.1	<0.1	USEPA 8270 C
## *2,4,5-TP	mg/l	<0.1	<0.1	<0.1	USEPA 8270 C
## Paraquat	mg/l	<0.01	<0.01	<0.01	AOAC

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 Kok Yin Yean
 MMIC M3299/6133/2011
 (Chemist)

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 Ummu Sa'odah Binti Md. Shah
 MJMM 0806
 (Microbiologist)

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Receiving Date : 9th April 2021
Reporting Date : 27th April 2021
Sample Description : Surface water
Sample Marking : 8. W7-HT

Results of analysis:-

Testing period: 8-April-2021 to 28-April-2021

Parameters	Units	Results	Methods Used
		W7-HT	
pH value (tested on 09/04/2021)	-	4.1	APHA 4500 H ⁺ B, 2005
*Temperature	°C	29.5	APHA 2550,B 2005
Dissolved Oxygen	mg/l	5.8	APHA 4500-O G, 2005
Salinity	%	<1	APHA 2520 B, 2005
Turbidity	NTU	7	APHA 2130 B, 2005
Total Suspended Solids (tested on 09/04/2021)	mg/l	16	APHA 2540 D, 2005
Ammoniacal Nitrogen as N	mg/l	1.3	APHA 4500-NH ₃ B&C, 1992
Oil & Grease (tested on 09/04/2021)	mg/l	<1	APHA 5520 B, 2005
Arsenic as As	mg/l	<0.005	APHA 3114 C, 2005
Boron as B	mg/l	<0.005	APHA 3120 B, 2005
Cadmium as Cd	mg/l	<0.005	APHA 3120 B, 2005
Copper as Cu	mg/l	<0.005	APHA 3120 B, 2005
Lead as Pb	mg/l	0.01	APHA 3120 B, 2005
Iron as Fe	mg/l	0.597	APHA 3120 B, 2005
*Iron (II) as Fe ²⁺	mg/l	0.12	HACH method 8146
Aluminium as Al	mg/l	0.88	APHA 3120 B, 2005
Mercury as Hg	mg/l	<0.001	APHA 3112 B, 2005
Manganese as Mn	mg/l	0.020	APHA 3120 B, 2005
Tin as Sn	mg/l	<0.004	In-house method (ESL/L/W-08) based on: APHA 3120 B, 2005
Phosphate as PO ₄	mg/l	<0.1	APHA 4500-P D,2005
Nitrate as NO ₃	mg/l	<0.1	APHA 4500-NO ₃ ⁻ B, 2005
Nitrite as NO ₂	mg/l	<0.1	APHA 4500-NO ₂ ⁻ B, 2005
Chromium Trivalent as Cr ³⁺	mg/l	<0.01	In-house method(ESL/L/W-01) based on APHA 3120 B, 2005&APHA 3500-Cr B, 2005 (Calculation)
Biochemical Oxygen Demand @ 5 days at 20 °C (tested on 09/04/2021)	mg/l	<2	APHA 5210 B, 2005& APHA 4500-O G, 2005
Chemical Oxygen Demand (tested on 09/04/2021)	mg/l	9	APHA 5220 B, 2005

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Parameters	Units	Results	Methods Used
		W7-HT	
Feecal Coliform	Count/100ml	<1	APHA 9222 D, 2005
Potassium as K	mg/l	3.03	APHA 3120 B, 2005
Total Dissolved Solids	mg/l	112	APHA 2540 C, 2005
alpha-BHC	µg/l	<0.01	} APHA 6630 C, 2005
Gamma-BHC (Lindane)	µg/l	<0.01	
Heptachlor	µg/l	<0.01	
Aldrin	µg/l	<0.01	
Heptachlor Epoxide (isomer B)	µg/l	<0.01	
Endosulfan I (alpha)	µg/l	<0.01	
Dieldrin	µg/l	<0.01	
4,4'-DDT	ug/l	<0.01	
*Chlordane	µg/l	<1	
## 2,4-D	mg/l	<0.01	
# *2,4,5-T	mg/l	<0.1	USEPA 8270 C
## 2,4,5-TP	mg/l	<0.1	USEPA 8270 C
## Paraquat	mg/l	<0.01	AOAC

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