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Project	Default Project	SGS Reference	GH22-27781
Order n°	MASL	Received	21/12/2022
Matrix/samples	Water(3)	Analysis Started	22/12/2022
		Analysis Completed	18/01/2023
		Approved	18/01/2023
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		Report n°	GH22-27781 R0

SIGNATORIES

Joana Hayford
Laboratory Manager

COMMENTS

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RESULTS

	Sample n°		GH22-27781.001	GH22-27781.002	GH22-27781.003
	Sample Name		Banso	APM Final Pond	APM Inflow
	Sample Matrix		Water	Water	Water
Parameter	Units	RL	Result	Result	Result

[APHA 4500 H]

pH	pH	0.1	7.6	7.9	6.6
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[APHA 2540B]

Total Suspended Solids at 103-105°C	mg/L	1	8	99	3
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[APHA 2540C]

Total Dissolved Solids Dried at 180C	mg/L	4	263	1098	54
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[APHA 2510]

Conductivity	mS/m	0.5	40.7	176	7.7
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[APHA 5210B]

Biochemical Oxygen Demand (BOD5)	mg/L	5	10	10	<5
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[APHA 4500_O-G]

* Dissolved Oxygen	mg/L	0.1	5.5	4.7	5.7
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[APHA 5220D]

Chemical Oxygen Demand	mg/L	5	35	214	<5
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[APHA 5520 B]

Oil and Grease	mg/L	5	<5	<5	<5
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[APHA 2130]

Turbidity	NTU	0.2	7.0	52.8	9.9
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[APHA 4500N-B]

Total Nitrogen	mg/L	0.05	24.1	137	0.23
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QC SUMMARY

MB blank results are compared to the Limit of Reporting. LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample. DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: the absolute difference of the two results divided by the average of the two results as a percentage. Where the DUP RPD is 'NA', the results are less than the LOR and thus the RPD is not applicable.

LB54899

Dissolved Oxygen by Membrane Electrode [APHA 4500_O-G]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Dissolved Oxygen	LB54899	mg/L	0.10	<0.1	2%	NA

LB54900

COD in Water - Low level [APHA 5220D]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Chemical Oxygen Demand	LB54900	mg/L	5.0	<5	0%	NA

LB54901

BOD5 [APHA 5210B]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Biochemical Oxygen Demand (BOD5)	LB54901	mg/L	5.0	<5	2%	104%

LB54910

pH in water [APHA 4500 H]

QC SUMMARY

MB blank results are compared to the Limit of Reporting. LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample. DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: the absolute difference of the two results divided by the average of the two results as a percentage. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
pH	LB54910	pH	0.10	5.5	0%	100%

LB54911

Conductivity and TDS by Calculation - Water [APHA 2510]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Conductivity	LB54911	mS/m	0.50	0.1	0%	101%

LB54912

Turbidity [APHA 2130]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Turbidity	LB54912	NTU	0.20	<0.2	0%	102%

LB54914

Total Suspended Solids 103-105°C [APHA 2540B]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Total Suspended Solids at 103-105°C	LB54914	mg/L	1.0	<1	3%	102%

QC SUMMARY

MB blank results are compared to the Limit of Reporting. LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared to the amount of analyte spiked into the sample. DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: the absolute difference of the two results divided by the average of the two results as a percentage. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

LB54915

Total Dissolved Solids (TDS) in water [APHA 2540C]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Total Dissolved Solids Dried at 180C	LB54915	mg/L	4.0	<4	6%	100%

LB54976

Total Nitrogen [APHA 4500N-B]

Parameter	QC Reference	Units	RL	MB	DUP %RPD	LCS %Recovery
Total Nitrogen	LB54976	mg/L	0.050	<0.05	2%	88%

LB55184

Oil and Grease in Water [APHA 5520 B]

Parameter	QC Reference	Units	RL	MB	LCS %Recovery
Oil and Grease	LB55184	mg/L	5.0	<5	91 - 109%

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
APHA 2130	Turbidity in water samples. This method is based on APHA 2130
APHA 2510	Conductivity in water. This method is based on APHA 2510
APHA 2540B	A well-mixed water sample is filtered through a weighed standard glass-fibre filter and residue dried in an oven to a constant weight at 103-105oC. This method is based on APHA 2540B
APHA 2540C	Known quantity of a well-mixed filtered water sample is dried to constant weight in an oven at 180°C +/- 2oC. This method is based on APHA 2540C
APHA 4500 H	pH determination in water. This method is based on APHA 4500H
APHA 4500_O-G	Dissolved oxygen in water by membrane electrode. This method is based on APHA4500OG
APHA 5210B	BOD determination in water by winkler. This method is based on APHA 5210B
APHA 5220D	COD determination in water. This method is based on APHA 5220D
APHA 5520 B	Determination of Oil and grease in water. This method is based on APHA 5520B

LEGEND

FOOTNOTES

IS	Insufficient sample for analysis.	QFH	QC result is above the upper tolerance
LNR	Sample listed, but not received.	QFL	QC result is below the lower tolerance
^	Performed by another SGS laboratory	NA	The sample was not analysed for this analyte
^^	Performed by outside laboratory.	↑	Reporting limit raised
RL	Reporting Limit	↓	Reporting limit lowered
↑↓	Raised or Lowered Limit of Reporting	MS	Matrix Spike
NCP	Non Client Parent	DUP/REP	Duplicate/Replicate sample
RPD	Relative Percent Difference	FD	Field Duplicate
LCS	Lab Control Samples		

ACCREDITATION NOTES

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