Hill Laboratories
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Certificate of Analysis

Client:	4SIGHT Consulting Limited	**Lab No:**	2259956 SPv1
Contact:	Oliver Bone	**Date Received:**	17-Oct-2019
	C/- 4SIGHT Consulting Limited	**Date Reported:**	24-Oct-2019
	PO Box 402053	**Quote No:**	83367
	Tutukaka 0153	**Order No:**	AA1146
		Client Reference:	AA1146 - Matawhero Logyard [Dunstan Rd]
		Submitted By:	Oliver Bone

Sample Type: Aqueous

Sample Name:		MLYGW01 15-Oct-2019 11:40 am	MLYGW02 15-Oct-2019 11:50 am	MLY STD01 15-Oct-2019 10:35 am		
Lab Number:		2259956.1	2259956.2	2259956.3		
Individual Tests						
pH	pH Units	-	-	7.4	-	-
Electrical Conductivity (EC)	mS/m	-	-	51.4	-	-
Total Nitrogen	g/m³	0.33	0.21	2.5	-	-
Nitrate-N + Nitrite-N	g/m³	0.056	0.043	0.003	-	-
Total Kjeldahl Nitrogen (TKN)	g/m³	0.28	0.17	2.5	-	-
Total Petroleum Hydrocarbons in Water						
C7 - C9	g/m³	< 0.06	< 0.06	< 0.06	-	-
C10 - C14	g/m³	< 0.2	< 0.2	< 0.2	-	-
C15 - C36	g/m³	< 0.4	< 0.4	< 0.4	-	-
Total hydrocarbons (C7 - C36)	g/m³	< 0.7	< 0.7	< 0.7	-	-

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.
Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Aqueous

Test	Method Description	Default Detection Limit	Sample No
Total Petroleum Hydrocarbons in Water	Solvent extraction, GC-FID analysis. Headspace GC-MS analysis for C7-C9 carbon band. In-house based UEPA 8015, 8260 & 5021 / MfE Petroleum Industry Guidelines.	0.06 - 0.7 g/m³	1-3
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1-3
pH	pH meter. APHA 4500-H^+ B 23rd ed. 2017. Note: It is not possible to achieve the APHA Maximum Storage Recommendation for this test (15 min) when samples are analysed upon receipt at the laboratory, and not in the field. Samples and Standards are analysed at an equivalent laboratory temperature (typically 18 to 22 °C). Temperature compensation is used.	0.1 pH Units	3
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B 23rd ed. 2017.	0.1 mS/m	3
Total Nitrogen	Calculation: TKN + Nitrate-N + Nitrite-N. Please note: The Default Detection Limit of 0.05 g/m³ is only attainable when the TKN has been determined using a trace method utilising duplicate analyses. In cases where the Detection Limit for TKN is 0.10 g/m³, the Default Detection Limit for Total Nitrogen will be 0.11 g/m³.	0.05 g/m³	1-3
Nitrate-N + Nitrite-N	Total oxidised nitrogen. Automated cadmium reduction, flow injection analyser. APHA 4500-NO_3^- I (modified) 23rd ed. 2017.	0.002 g/m³	1-3
Total Kjeldahl Nitrogen (TKN)	Total Kjeldahl digestion, phenol/hypochlorite colorimetry. Discrete Analyser. APHA 4500-N_{org} D (modified) 4500 NH_3 F (modified) 23rd ed. 2017.	0.10 g/m³	1-3

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental

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Certificate of Analysis

Client:	4SIGHT Consulting Limited	**Lab No:**	2260244 SPv1
Contact:	Oliver Bone C/- 4SIGHT Consulting Limited PO Box 402053 Tutukaka 0153	**Date Received:**	17-Oct-2019
		Date Reported:	30-Oct-2019
		Quote No:	66824
		Order No:	AA1146
		Client Reference:	AA1146 Eastland Port-Dunstan Rd Surface Water
		Submitted By:	Oliver Bone

Sample Type: Aqueous

Sample Name:		MLYSW Site 1 15-Oct-2019 10:30 am	MLWSW Site 2 15-Oct-2019 10:50 am	MLYSW Site 3 15-Oct-2019 11:05 am		
Lab Number:		2260244.1	2260244.2	2260244.3		
Individual Tests						
Volatile Suspended Solids	g/m^3	44	4	81	-	-
Total Suspended Solids	g/m^3	270	17	440	-	-
Dissolved Copper	g/m^3	0.0010	0.0040	0.0012	-	-
Dissolved Lead	g/m^3	< 0.00010	< 0.0002	< 0.00010	-	-
Dissolved Zinc	g/m^3	0.0014	0.004	0.0013	-	-
Dissolved Inorganic Nitrogen*	g/m^3	< 0.011	0.46	< 0.011	-	-
Total Nitrogen	g/m^3	0.91	1.17	1.42	-	-
Total Ammoniacal-N	g/m^3	< 0.010	0.41	< 0.010	-	-
Nitrate-N + Nitrite-N	g/m^3	< 0.002	0.042	< 0.002	-	-
Total Kjeldahl Nitrogen (TKN)	g/m^3	0.91	1.13	1.42	-	-
Dissolved Reactive Phosphorus	g/m^3	0.039	0.36	0.110	-	-
Carbonaceous Biochemical Oxygen Demand ($cBOD_5$)	$g\ O_2/m^3$	44	2	50	-	-
Total Phenols	g/m^3	< 0.02	< 0.02	< 0.02	-	-
Tannin	g/m^3	10.3	0.6 #1	12.6	-	-
Absorbance at 440 nm	AU cm^{-1}	0.057	0.012	0.049	-	-
Transmittance at 440 nm*	%T, 1 cm cell	87.7	97.4	89.3	-	-
Total Petroleum Hydrocarbons in Water						
C7 - C9	g/m^3	< 0.06	< 0.06	< 0.06	-	-
C10 - C14	g/m^3	< 0.2	< 0.2	< 0.2	-	-
C15 - C36	g/m^3	< 0.4	< 0.4	< 0.4	-	-
Total hydrocarbons (C7 - C36)	g/m^3	< 0.7	< 0.7	< 0.7	-	-

Analyst's Comments

#1 Severe matrix interferences required that a dilution be performed prior to analysis , resulting in a detection limit higher than that normally achieved for the Tannin analysis.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.
Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Aqueous

Test	Method Description	Default Detection Limit	Sample No
Total Petroleum Hydrocarbons in Water	Solvent extraction, GC-FID analysis. Headspace GC-MS analysis for C7-C9 carbon band. In-house based UEPA 8015, 8260 & 5021 / MfE Petroleum Industry Guidelines.	0.06 - 0.7 g/m^3	1-3
Filtration, Glass Fibre	Sample filtration through glass fibre filter.	-	1-3
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1-3

Sample Type: Aqueous			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Volatile Suspended Solids	Filtration (GF/C, 1.2 µm). Ashing 550°C, 30 min. Gravimetric. APHA 2540 E (modified) 23rd ed. 2017.	3 g/m^3	1-3
Total Suspended Solids	Filtration using Whatman 934 AH, Advantec GC-50 or equivalent filters (nominal pore size 1.2 - 1.5µm), gravimetric determination. APHA 2540 D (modified) 23rd ed. 2017.	3 g/m^3	1-3
Filtration for dissolved metals analysis	Sample filtration through 0.45µm membrane filter and preservation with nitric acid. APHA 3030 B 23rd ed. 2017.	-	1-3
Dissolved Copper	Filtered sample, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.0005 g/m^3	1-3
Dissolved Lead	Filtered sample, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.00010 g/m^3	1-3
Dissolved Zinc	Filtered sample, ICP-MS, trace level. APHA 3125 B 23rd ed. 2017.	0.0010 g/m^3	1-3
Dissolved Inorganic Nitrogen*	Calculation: NH_4-N + NO_3-N + NO_2-N. In-House.	0.010 g/m^3	1-3
Total Nitrogen	Calculation: TKN + Nitrate-N + Nitrite-N. Please note: The Default Detection Limit of 0.05 g/m^3 is only attainable when the TKN has been determined using a trace method utilising duplicate analyses. In cases where the Detection Limit for TKN is 0.10 g/m^3, the Default Detection Limit for Total Nitrogen will be 0.11 g/m^3.	0.05 g/m^3	1-3
Total Ammoniacal-N	Phenol/hypochlorite colourimetry. Flow injection analyser. (NH_4-N = NH_4^+-N + NH_3-N). APHA 4500-NH_3 H (modified) 23rd ed. 2017.	0.010 g/m^3	1-3
Nitrate-N + Nitrite-N	Total oxidised nitrogen. Automated cadmium reduction, flow injection analyser. APHA 4500-NO_3^- I (modified) 23rd ed. 2017.	0.002 g/m^3	1-3
Total Kjeldahl Nitrogen (TKN)	Total Kjeldahl digestion, phenol/hypochlorite colorimetry. Discrete Analyser. APHA 4500-N_{org} D (modified) 4500 NH_3 F (modified) 23rd ed. 2017.	0.10 g/m^3	1-3
Dissolved Reactive Phosphorus	Filtered sample. Molybdenum blue colourimetry. Flow injection analyser. APHA 4500-P G (modified) 23rd ed. 2017.	0.004 g/m^3	1-3
Carbonaceous Biochemical Oxygen Demand ($cBOD_5$)	Incubation 5 days, DO meter, nitrification inhibitor added, dilutions, seeded. APHA 5210 B (modified) 23rd ed. 2017.	2 g O_2/m^3	1-3
Total Phenols	In-line distillation, segmented flow colorimetry. NB: Does not detect 4-methylphenol. APHA 5530 B & D (modified) 23rd ed. 2017 & Skalar Method I497-001 (modified).	0.02 g/m^3	1-3
Tannin	Colorimetric with Folin phenol reagent, tannic acid used for calibration. APHA 5550 B (modified) 23rd ed. 2017.	0.10 g/m^3	1-3
Absorbance at 440 nm	Filtered sample. Spectrophotometry, 1cm cell. APHA 5910 B 23rd ed. 2017.	0.002 AU cm^{-1}	1-3
Transmittance at 440 nm*	Calculation from Absorbance at the specified wavelength.	0.5 %T, 1 cm cell	1-3

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Client Services Manager - Environmental

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FORESTS ▪ PRODUCTS ▪ INNOVATION

Monday, 11 November 2019

4Sight Consulting (on behalf of Eastland Port).
Auckland Office.

Attn: Oliver Bone

TRACE RESIN ACID ANALYSIS – MLY GW01, GW02, STD01, SW Site1-3 – 15 October 2019.

CLIENT'S ORDER NUMBER:	AA1146 EPL Compliance Programme.
WORK PERFORMED BY:	Murray Robinson & Michael Robertson
WORK CHECKED BY:	Kim McGrouther
APPROVED BY:	**(SIGN)**
DATE OF ISSUE:	11 November 2019
DISTRIBUTION:	**CLIENT:** 1 copy **SCION Files:** 1 copy

SCION
Private Bag 3020, ROTORUA:
Fax (07) 343 5507 Phone (07) 343-5899 Email: murray.robinson@scionresearch.com

DATE SAMPLES RECEIVED 17/10/2019

SAMPLE DESCRIPTION Six water samples in 1L glass bottles (450°C muffled bottles supplied by Scion) – sent to Scion by Tom Needham 16/10/2019.

SAMPLE IDENTIFICATION

MLY GW01 15/10 11:40 1L
Light brown water, reddish-brown layer of sediment.

MLY GW02 15/10 11:50 1L
Clear water, small amount of brown sediment.

MLY STD01 15/10 10:35 1L
Brown water, brown sediment.

MLY SW Site 1 15/10 10:30 1L
Brown water, brown sediment.

MLY SW Site 2 15/10 10:50 1L
Clear water, very little sediment.

MLY SW Site 3 15/10 11:05 1L
Brown water, thin layer of sediment.

SAMPLING PROCEDURE

This report relates only to the items tested as received and therefore does not necessarily represent the sample from which it was taken.

DATE OF TESTING 24/10/2019

METHODS

In-house method using unfiltered, pH 9-buffered liquid/liquid extraction with dichloromethane (DCM), followed by gas chromatography - mass spectrometry (GC/MS) analysis.

RESULTS:

RESIN ACIDS (µg/L)

Sample name	MLY GW01 15/10/19	MLY GW02 15/10/19	MLY STD01 15/10/19	MLY SWSite1 15/10/19	MLY SWSite2 15/10/19	MLY SWSite3 15/10/19
Pimaric acid	n.d.	n.d.	73.2	13.4	n.d.	14.7
Sandaracopimaric acid	n.d.	n.d.	3.7	n.d.	n.d.	n.d.
Isopimaric acid	n.d.	n.d.	15.2	1.8	n.d.	n.d.
Palustric acid	n.d.	n.d.	4.8	4.4	n.d.	n.d.
Levopimaric Acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Dehydroabietic acid	n.d.	n.d.	584.9	233.1	n.d.	217.1
Abietic acid	n.d.	n.d.	97.6	24.7	n.d.	19.1
Neoabietic acid	n.d.	n.d.	4.9	1.3	n.d.	n.d.
Pimarenic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Sandaracopimarenic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Isopimarenic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
13-Abietenic acid	n.d.	n.d.	7.6	7.3	n.d.	6.3
Pimaranic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Isopimaranic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Abietanic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Seco-1-dehydroabietic acid	n.d.	n.d.	9.5	2.0	n.d.	n.d.
Seco-2-dehydroabietic acid	n.d.	n.d.	8.3	1.0	n.d.	n.d.
12-Chlorodehydroabietic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
14-Chlorodehydroabietic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
12,14-Dichlorodehydroabietic acid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
7-Oxodehydroabietic acid	n.d.	n.d.	4.8	1.6	n.d.	1.3
Total Resin Acids	**n.d.**	**n.d.**	**814.5**	**290.6**	**n.d.**	**258.6**

n.d. = not detected, method detection limit is 0.1µg/L
All results presented are from duplicate sample analysis and concentrations are in µg/L. Compounds are quantified if they have a response 2.5 times higher than the average blank.

Eastland Port

4SIGHT CONSULTING

Surface Water (Fresh) Sampling Form

Job Information			Equipment				
Date: 15.10.19	**Time:** Arrive: 1010 Depart: 1200		**Water quality equipment description:**	Calibration Records Filed?	(Y)	N	NA
Project Name: EPL Outsourced Compliance Programme	**Project Number:** AA1146		**Interface Probe Number:** MER 139	Calibration Records Filed?	(Y)	N	NA
Site Location: MLY	**Operator:** Tom, Libby		**Sampling Equipment Type:** Grab sample only				
Weather: Consistent rain → clearing	**Rainfall event start time/date:** 14.10.19@2200		**Event Rainfall Depth:** ~ 60mm	**Number of dry days before sampling:** NA			
Reason for sampling: Standard Compliance Programme (Circle frequency: Monthly/2 Monthly/(Quarterly)/6 Monthly) or Additional Monitoring (describe):							

	Sample Details					Water Quality Parameters				Observations				
	EPL Site Number	Lab Sample ID	Sample Time	Approx Depth (m)	Approx Stream Flow Rate	Temp (°C)	DO (%)	EC (µS/cm)	pH	Debris Present (Y/N: type)	Foams/Scums (Y/N)	Clarity (Clear/Lightly Turbid/Turbid/Very Turbid)	Photos Reference	Clarity (cm)
	GW01		1140	NA		15.2	19.5	830	7.4	NA	NA	Lighly Turbid	✓	65cm
	GW02		1150	NA		14.4	14.5	984	7.4	NA	NA	Clear	NA	37cm
	ST001		1035	0.6		13.2	59.6	458	8.1	N	N	Turbid	✓	1cm
	Site 1		1030	NA		12.9	30.3	731	7.2	N	N	Turbid	✓	2cm
Upstream	Site 2		1050	0.6		13.9	82.7	3990	8.2	N	N	Lightly Turbid	✓	20cm
Downstream	Site 3		1105	0.6		~~12.9~~ 13.2	~~30.3~~ 51.3	1560	7.6	N	N	Turbid	✓	2cm

Additional Comments: Site 2 & 3 were sampled wrong way round. Site 2 was upstream, site 3 was downstream (stream flowing in normal direction at mid-low tide.
Bores were purged before sampling.

Field Quality Control Checks					
Was pre-cleaning sampling equipment used for these samples?	(Y)	N	Consistent with COC form?	(Y)	N
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	COC Filled out?	(Y)	N

Eastland Port

4SIGHT CONSULTING

Groundwater Well Sampling Form

Job Information	
Date: 15.10.19	**Time:** Arrive: 1010 Depart: 1200
Project Name: EPL Outsourced Compliance Programme	**Project Number:** AA1146
Site Location: MLV	**Operator:** Tom + Libby
Well ID: GW01	**Weather:** Consistent rain → clearing

Equipment			
Water quality equipment description:	**Calibration records filed?**	Y	N
Interface Probe Number:	**Calibration records filed?**	Y	N
Purging Equipment Type? (Please circle)	**Bailer Type:** Plastic Teflon **Pump Type:** Peristaltic (Submersible) Micro-purge Other:		

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	50mm	50mm	50mm	(100mm)	100mm	100mm
Bore Diameter	(50mm)	100mm	125mm	150mm	200mm	125mm	200mm	250mm
Conversion Factor (L/m)	0.93	3.73	5.06	6.68	10.8	10.8	14.2	20.2

Total Well depth (-) Water Level (=) Water Column

9.5 - 1.65 = 7.85

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume

_____ m x _____ = _____ L

Volume of water in a well:
$V = \pi \times r2 \times h$
V = Volume in litres
$\pi = 3.142$
r = radius in m
h = Height of water column in m

Water Quality Parameters

Beginning Purging Time: 1020 | Ending Purging Time: | Fill Time: | Discharge Time:

Litres	Time	DO (mg/L)	Cond. (µS/cm)	pH	Redox (mV)	Temp (°C)	DTW (mbTPC)	Comments
	1020	1.96	830	7.4		19.5		Great recovery
								Purged prior to sampling.
								Sampled at 1140
10L in 90 seconds								

Stabilisation Criteria	±10%[1]	±3% or ±5% if <100*	± 0.1*	± 10mV[1]	± 0.1*	**Example Comments:** clear / slightly cloudy / turbid / very turbid / colour / no odour / slight odour / strong odour / describe odour (hydrocarbon/solvent/organic)

*Based on MfE National Protocol for SOE Groundwater Sampling in NZ, 2006,
[1]Based on Vic EPA (Australia) 669.
Low Flow: Max flow rate = 0.5 L/min Max drawdown = 0.2 cm -- Well stable when 3 consecutive readings (either 3 min or 0.5L apart)

Total Well Volume
Actual amount of water removed prior to sampling

Did field parameters stabilise? (Y) N
Was the well dry purged? Y (N)

Field Quality Control Checks

Was pre-cleaning sampling equipment used for these samples?	(Y)	N	Consistent with COC form?	(Y)	N
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	COC Filled out?	(Y)	N

Eastland Port

4SIGHT CONSULTING

Groundwater Well Sampling Form

Job Information	
Date: 15.10.19	**Time:** Arrive: 1010 Depart: 1200
Project Name: EPL Outsourced Compliance Programme	**Project Number:** AA1146
Site Location: MLY	**Operator:** Tom + Libby
Well ID: GW02	**Weather:** Consistent rain → clearing

Equipment			
Water quality equipment description:		**Calibration records filed?**	Y / N
Interface Probe Number:		**Calibration records filed?**	Y / N
Purging Equipment Type? (Please circle)	**Bailer Type:** Plastic Teflon **Pump Type:** Peristaltic (Submersible) Micro-purge Other:		

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	50mm	50mm	50mm	100mm	100mm	100mm
No casing								
Bore Diameter	(50mm)	100mm	125mm	150mm	200mm	125mm	200mm	250mm
Conversion Factor (L/m)	0.93	3.73	5.06	6.68	10.8	10.8	14.2	20.2

Total Well depth (-) Water Level (=) Water Column

4.24 - 1.75 = 2.49

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume

_____ m x _____ = _____ L

Volume of water in a well:
V = π x r2 x h
V = Volume in litres
π = 3.142
r = radius in m
h = Height of water column in m

Water Quality Parameters

Beginning Purging Time: 1025 | Ending Purging Time: | Fill Time: | Discharge Time:

Litres	Time	DO (mg/L)	Cond. (µS/cm)	pH	Redox (mV)	Temp (°C)	DTW (mbTPC)	Comments
	1025	1.49	984	7.4		14.5		Purged prior to sampling, poor recovery
								Sampled at 1150

Stabilisation Criteria	±10%[1]	±3% or ±5% if <100*	± 0.1*	± 10mV[1]	± 0.1*	**Example Comments:** clear / slightly cloudy / turbid / very turbid / colour / no odour / slight odour / strong odour / describe odour (hydrocarbon/solvent/organic)

*Based on MfE National Protocol for SOE Groundwater Sampling in NZ, 2006,
[1]Based on Vic EPA (Australia) 669.
Low Flow: Max flow rate = 0.5 L/min Max drawdown = 0.2 cm -- Well stable when 3 consecutive readings (either 3 min or 0.5L apart)

Total Well Volume
Actual amount of water removed prior to sampling

Did field parameters stabilise? (Y) N
Was the well dry purged? (Y) N

Field Quality Control Checks

Was pre-cleaning sampling equipment used for these samples?	(Y)	N	Consistent with COC form?	(Y)	N
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	COC Filled out?	(Y)	N

Eastland

Daily Summary Sheet

4SIGHT CONSULTING

Time	Comments
1010	Arrived at MLY
1020	Purged bore GW01 (was not dry purged because of good recovery)
1025	Purged bore GW02
1030	MLYSW Site 1 : High flow of turbid water running off.
	No foams or scums.
1035	MLYSTD 01 : Water level quite high, water also turbid. No
	foams or scums.
1050	MLYSW Site 2 (upstreams) : Lightly turbid with no foams, scums.
1105	MLYSW Site 3 (Downstream) : Turbid with no foams, scums.
	Note : Stream was flowing <u>into</u> the Waipaoa River
1140	GW01 : Lightly turbid water with good recovery.
1150	GW02 : Clear water with poor recovery (ditch next to bore
	full of water)
1200	Left MLY

Field D.O. Probe Calibration

Linnaeus LABORATORY

		Water - Saturated Air (100%)			Air - Saturated Water (100%)			Accept if ±0.1 of Meter D.O.	
Date	Probe	Check 100%	Meter (°C)	Cal OK?	Temp (°C)	DO (%)	DO (g/m³)	Analytical DO (g/m³)	Accept Initials
19/9/19	138	103.0	~~10.50~~ 24.3	✓	17.4	101.1	9.69	9.70	✓ BO
"	139	101.1	20.3	✓	17.~~54~~	104.8	10.05	10.05	✓ BO
26/9/19	138	98.5	20.5	✓	~~19.9~~ 20.3	~~98.7~~ 100.2	~~8.99~~ 9.07	9.05	✓ TN
	139	102.4	23.5	✓	20.2	100.0	9.05	9.06	✓ TN
2/10/19	138	99.3	24.2	✓	20.9	99.1	8.89	8.85	✓ TN
	139	98.7	25.1	✓	20.9	99.2	8.87	8.86	✓ TN
9/10/19	138	99.6	22.4	✓	21.4	100.3	8.87	8.85	✓ TN
	139	99.2	23.6	✓	21.5	101.0	8.92	8.91	✓ TN
16/10/19	138	98.8	19.2	✓	20.0	101.5	9.23	9.23	✓ TN
	139	99.0	19.7	✓	20.0	101.9	9.26	9.26	✓ TN