



Neilson Research Corporation
245 S Grape St
Medford, OR 97501
TEL: (541) 770-5678 FAX: (541) 770-2901
Website: www.nrclabs.com

October 23, 2020

Cary Midwood
PBS Environmental
3500 Chad Dr, Ste 100
Eugene, OR 97408
TEL: 541-686-8684
FAX: (541) 686-4602

RE: 52570.001 LCC Legionella

Order No.: 20100748

Dear Cary Midwood:

Neilson Research Corporation received 2 sample(s) on 10/15/2020 for the analyses presented in the following report.

The results relate only to the parameters tested or to the sample as received by the laboratory. This report shall not be reproduced except in full, without the written approval of Neilson Research Corporation. If you have any questions regarding these test results, please feel free to call.

Sincerely,
Neilson Research Corporation

Tamra Schmedemann
Senior Project Manager
245 S Grape St
Medford, OR 97501



Original



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Case Narrative

WO#: 20100748
Date: 10/23/2020

CLIENT: PBS Environmental
Project: 52570.001 LCC Legionella

WorkOrder Narrative:

20100748: The analyses were performed according to the guidelines in the Neilson Research Corporation Quality Assurance Program. This report contains analytical results for the sample(s) as received by the laboratory.

Neilson Research Corporation certifies that this report is in compliance with the requirements of NELAP. No unusual difficulties were experienced during analysis of this batch except as noted below or qualified with data flags on the reports.

Analytical Comments for LEGIOLERT, Samples 20100748-01A and 20100748-02A, Batch ID R15501: Legionella pneumophila serogroup 1 was confirmed using an antibody agglutination test.

Original



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Analytical Report

WO#: 20100748
 Date Reported: 10/23/2020

CLIENT: PBS Environmental
Lab ID: 20100748-01
Client Sample ID: 90539-16-164
Project: 52570.001 LCC Legionella
Sample Address:

Collection Date: 10/14/2020 1:55:00 PM
Received Date: 10/15/2020 10:40:00 AM
Matrix: DRINKING WATER

Sample Location: Grab

Analyses	Method	NELAP Status	Result	Qual	DF	RL	Units	MCL	Date Analyzed/Analyst
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LEGIONELLA PNEUMOPHILA BY LEGIOLERT

Legionella	LEGIOLERT	A	18.0	N	1	1.00	MPN/100mL		10/15/20 17:28 DJK
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QUALIFIERS

CI	Sample container temperature is out of limit as specified at testcode	H	Holding times for preparation or analysis exceeded
MI	Recovery outside control limits due to Matrix Interference	ND	Not Detected at the Reporting Limit
PL	Permit Limit		

Original

NELAP

NELAP A Accredited. ORELAP 100016, OR-028



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Analytical Report

WO#: 20100748
 Date Reported: 10/23/2020

CLIENT: PBS Environmental **Collection Date:** 10/14/2020 2:05:00 PM
Lab ID: 20100748-02 **Received Date:** 10/15/2020 10:40:00 AM
Client Sample ID: 111981-19-143 **Matrix:** DRINKING WATER
Project: 52570.001 LCC Legionella
Sample Address:

Sample Location: Grab

Analyses	Method	NELAP Status	Result	Qual	DF	RL	Units	MCL	Date Analyzed/Analyst
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LEGIONELLA PNEUMOPHILA BY LEGIOLERT

Legionella	LEGIOLERT	A	2.00	N	1	1.00	MPN/100mL		10/15/20 17:28 DJK
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QUALIFIERS

CI	Sample container temperature is out of limit as specified at testcode	H	Holding times for preparation or analysis exceeded
MI	Recovery outside control limits due to Matrix Interference	ND	Not Detected at the Reporting Limit
PL	Permit Limit		

Original

NELAP

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QC SUMMARY REPORT

WO#: 20100748
 23-Oct-20

Client: PBS Environmental
Project: 52570.001 LCC Legionella

TestCode: LEGIOLERT

Sample ID: MB-R15501	SampType: MBLK	TestCode: LEGIOLERT	Units: MPN/100mL	Prep Date:	RunNo: 15501						
Client ID: PBW	Batch ID: R15501	TestNo: LEGIOLERT		Analysis Date: 10/15/2020	SeqNo: 234887						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Legionella	ND	1.00									

Sample ID: LCS-R15501	SampType: LCS	TestCode: LEGIOLERT	Units: MPN/100mL	Prep Date:	RunNo: 15501						
Client ID: LCSW	Batch ID: R15501	TestNo: LEGIOLERT		Analysis Date: 10/15/2020	SeqNo: 234888						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Legionella	Positive	1.00	1.000	0	0	0	0				

Qualifiers: C1 Sample container temperature is out of limit as specified at testcode H Holding times for preparation or analysis exceeded MI Recovery outside control limits due to Matrix In
 ND Not Detected at the Reporting Limit PL Permit Limit RL Reporting Detection Limit

Original

Chain of Custody Record

This Chain of Custody is a LEGAL DOCUMENT and must be filled out accurately.

Section A Required Client Information	Section B Required Project Information	Section C Invoice Information	Section D Rush Status (Subject to Scheduling)
Company: PBS Engineering & Environmental	Project Name: LCC Legionella	Attention: Vanessa Stevenson	<input checked="" type="checkbox"/> Standard 10-14 Days
Address: 3500 Chad Drive Suite 100 Eugene, OR 97408	Project Number: 52570.001	Company Name: PBS	<input type="checkbox"/> 5 Business Days (50% surcharge)
Email: cary.midwood@pbsusa.com	Report To: cary.midwood@pbsusa.com	Address: 3500 Chad Drive Suite 100	<input type="checkbox"/> 3 Business Days (75% surcharge)
Phone: 541.716.4472 Fax:	Copy To: david.burrows@pbsusa.com	Eugene, OR 97408	<input type="checkbox"/> 24 - 48 hours (100% surcharge)
Collected By (Print): Cary Midwood		P.O. #	<input type="checkbox"/> Other _____
Collected By (Sign):			Authorized <input type="checkbox"/> Yes <input type="checkbox"/> No
Email Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Mail Report <input type="checkbox"/> Yes <input type="checkbox"/> No		
Fax Report <input type="checkbox"/> Yes <input type="checkbox"/> No			

Section E Sample Information

Sample ID	Comp/Grab	Matrix*	Date Collected	Time Collected	No. of Containers	IDENTIFICATION	Analysis Requested										NRC Workorder # (Lab Use Only) 20100748	Remarks/Field Data	NRC Sample # (Lab Use Only)
40539-16-164	Grab	DW	10/14/2020	1:55 pm	1	X													01
11991-19-143	Grab	DW	10/14/2020	2:05 pm	1	X													02

*Matrix: DW - Drinking Water WW - Wastewater W - Water S - Soil/Solid SL - Sludge O - Oil WP - Wipe OT - Other

Section F Relinquish/Receive	Sign	Print	Date	Time
Relinquished By: <i>Cary Midwood</i>		Cary Midwood	10/14/2020	1500
Received By:				
Relinquished By:				
Received By:				
Relinquished By: <i>Naomi Orr</i>		Naomi Orr	10-15-2020	10:40
Received By Laboratory:				

Section G Lab Use Only
Temp: <i>2.40C</i>
4°C +/- 2°C: <input type="checkbox"/> Yes <input type="checkbox"/> No
Received on Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Number of Bottles Received: <i>2</i>
pH Checked:
COC Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Field Blank Included: <input type="checkbox"/> Yes <input type="checkbox"/> No

Received Via UPS FedEX Other Hand

Payment: Invoice Cash VISA, M/C Check # _____ Amount _____

- B Analyte detected in the associated method blank.
- BA BOD Alternative Calculation: The initial results performed by Standard Methods did not fall within parameters of the Standard Methods calculation. An alternate approved calculation was performed using the HACH method and the value reported is an estimated concentration.
- C Sample(s) does not meet NELAP/ORELAP sample acceptance criteria. See Case Narrative.
- C1 Sample(s) does not meet NELAP/ORELAP sample acceptance criteria for temperature.
- CF Results confirmed by re-analysis.
- CU Cleanup performed as specified by method.
- D1 The diesel elution pattern for the sample is not typical.
- D2 The sample appears to be a heavier hydrocarbon range than diesel.
- D3 The sample appears to be a lighter hydrocarbon range than diesel.
- D4 Detected hydrocarbons do not have pattern and range consistent with typical petroleum products and may be due to biogenic interference.
- D5 Detected hydrocarbons in the diesel range appear to be weathered diesel.
- E Estimated value.
- ER Elevated reporting limit due to matrix. Report limits (MDLs, MRLs & PQLs) are adjusted based on variations in sample preparation amounts, analytical dilutions, and percent solids, where applicable.
- FC Fecal Coliforms: Sample(s) received past 40 CFR Part 136 specified holding time. Results reported as estimated values.
- G1 The gasoline elution pattern for the sample is not typical.
- G2 The sample appears to be a heavier hydrocarbon range than gasoline.
- G3 The sample appears to be a lighter hydrocarbon range than gasoline.
- G4 Detected hydrocarbons in the gasoline range appear to be weathered gasoline.
- HP Sample re-analysis performed outside of method specified holding time.
- HR Sample received outside of method specified holding time.
- HS Sample analyzed for volatile organics contained headspace.
- HT At the client's request, the sample was analyzed outside of method specified holding time.
- H Analysis performed outside of method specified holding time.
- J Analyte detected below the Minimum Reporting Limit (MRL) and above the Method Detection Limit (MDL). The J flag result is an estimated value and the user should be aware that this data is of limited reliability.
- L Dissolved metals were not filtered within 15 minutes of collection per 40 CFR Part 136.
- MI Surrogate, Duplicate Sample (DUP) or Matrix Spikes recoveries are out of control limits due to matrix interference. Sample results may be biased.
- N See Case Narrative on page 2 of report.
- NLR No Legionella Recovered.
- PLR Presence of Legionella Recovered.
- Q Initial calibration verification (ICV), continuing calibration verification (CCV) or laboratory control sample (LCS) exceeded high recovery limits, but associated samples are non-detect and the sample results are not affected. Data meets EPA/NELAP requirements.
- R Relative percent difference (RPD) is outside of the accepted recovery limits.
- R1 Relative percent difference (RPD) is outside of the accepted recovery limits. However, analyses are not controlled on RPD values for sample concentrations that are less than the reporting limit.
- R3 The relative percent difference (RPD) and/or percent recovery for the duplicate (DUP) or matrix spike (MS)/matrix spike duplicate (MSD) cannot be accurately calculated due to the concentration of analyte already present in the sample.
- R4 Duplicate analysis failed due to result being at or near the method reporting limit.
- S Surrogate and/or matrix spike recovery is outside of the accepted recovery limits. Sample results may be biased.
- S1 Surrogate or matrix spike recovery is outside of control limits due to dilution necessary for analysis.
- SC Sub-contracted to another laboratory for analysis.
- SP Sample(s) were not collected per EPA Method 5035A protocols. The results are considered minimum values.
- # Value exceeds regulatory level for TCLP contaminant.
- X1 The motor oil elution pattern for the sample is not typical.
- X2 The sample appears to be a heavier hydrocarbon range than motor oil.
- X3 The sample appears to be a lighter hydrocarbon range than motor oil.
- * Value exceeds Maximum Contaminant Level or is outside the acceptable range.