

TECHNICAL MEMORANDUM

City of John Day 450 East Main St John Day, OR 97845	Subject:	City of John Day – Water Quality and Nitrogen-Isotope Analysis
City of John Day 450 East Main St John Day, OR 97845 From: Robert Long, <i>RG, LHG, CWRE</i>	Date:	October 19, 2021
City of John Day 450 East Main St	From:	
IO: NICK Green. LICV IVIANAger	To:	450 East Main St

INTRODUCTION

CwM-H2O, LLC (CwM) is pleased to present this memorandum outlining the processes and results of Tasks 2.2 and 2.4 from Phase II of the Hydrogeologic Investigation proposed to the City of John Day (City) on March 12th, 2021. CwM field personnel collected water samples from sites around the current City wastewater percolation ponds and the proposed subsurface infiltration gallery (SIG) location to study the transport, distribution, and biogeochemical fate of several major wastewater constituents. Samples were collected from three water source groups: wastewater source, natural surface water, and alluvial aquifer groundwater. Field work was completed on July 7th, 2021, before the start of the aquifer pump test at the CwM-1 well (see CwM Site Visit III Field Memo: Sampling and Aquifer Pump Test). Several general water quality parameters were measured in the field concurrently with sample collection are summarized in the CwM Pump Test memo as well.

SAMPLING LOCATIONS

Wastewater Source

Grab samples were collected from two locations representing the wastewater source. The first sample (Pond 1) was collected from the point where water from the wastewater treatment plant (WWTP) enters the subsurface pipe which flows to the ponds (Figure 1). This sample represents the initial wastewater condition before any natural treatment or biological cycling in the ponds themselves. The second sample (Pond 2) was collected from the northern side of Percolation Pond #2 and is representative of the wastewater that actually infiltrates into the aquifer. Pond #2 was the focus of the sampling because it maintains standing water across its entire area. According to City records, Pond #2 has held water above the adjacent river level continuously since approx. 2007 (Chadwick, 1999; Chadwick, 2019). Ponds #1 and #3 maintain standing water in only a small portion of the ponds' areas.

Surface Water

Grab samples were collected from the John Day River at three points along the study area. Sampling locations were chosen to represent upstream conditions, conditions immediately adjacent to the ponds, and downstream from the ponds (Figure 1). The river samples represent the quality of the water that recharges the alluvial aquifer from losing reaches of the river, as well as in areas of infiltrated wastewater discharge. As a note, the flow rate (estimated 10-20 cfs) and water level in the John Day River at the time of collection were unusually low at the time of sampling due to extensive drought conditions. It is unclear how the low flow conditions may have impacted river water quality.

Alluvial Aquifer Groundwater

Groundwater from the shallow alluvial aquifer of the John Day River Valley was collected from a total of five wells. Based on drilling logs, it is understood that all five wells fully penetrated the two main dredged units of the alluvial aquifer (see CwM City of John Day Field Investigation Technical Memorandum). A low-flow electrical pump was used to purge the wells of at least 10 well volumes and until temperature, pH, and conductivity stabilized (see below), at which point samples were collected from the pump discharge tube. One well (MW-7) was located up-gradient of the percolation ponds. MW-5 and MW-6 are in close proximity to and located cross-gradient and down-gradient of Pond #2. CwM-2 and CwM-3 are located approx. 1,500 ft west (down-gradient) of the ponds and generally correspond with the water elevation at the RIV-3 sample location (Figure 1).

TARGET PARAMETERS AND METHODS

The following field parameters were measured using the designated calibrated field probes at or near the time of sample collection:

- Temperature Sper Scientific 850081 Water Quality Meter
- pH Sper Scientific 850081 Water Quality Meter w/ 840016 Probe
- Electrical Conductivity Sper Scientific 850037 Conductivity Pen
- Dissolved Oxygen
 YSI Pro Optical DO Meter 626281
- Flow Velocity (surface water) *Global Water Instruments FP111*

Because groundwater samples were not collected until these three parameters had stabilized from low-flow pumping, field readings are available from the precise time of sampling. Field parameters at the surface water and wastewater sources were generally measured once all sampling had been completed. Flow velocity measurements were also taken at the three surface water sampling sites, and for comparison, relative groundwater flow velocity was calculated after Phase II field work. A summary of temperature, pH, and conductivity data is included in Site Visit III Field Memo: Sampling and Aquifer Pump Test (CwM, 2021).

Unfiltered and unpreserved Group A samples were collected in prepared sample bottles from Box R Water Lab in Prineville, OR. They were kept in an ice-filled cooler throughout the sampling process and until Box R staff picked the samples up from the John Day shop building on the afternoon of July 7th. Box R prepared and shipped Group A subsamples for specific analyses at Nielson Labs in Medford, OR. Group A samples were tested for the following parameters using the following methods:

- Nitrate-N Method SM-4500 NO3-D (Ion Selective Electrode)¹
- Nitrate-Nitrite as N Method E353.2 (Automated Spectrophotometer)¹
- Ammonia as N Method E350.1 (Automated Spectrophotometer)¹
- Chloride Method E300.0 (Ion Chromatography)¹
- Total Phosphorus Method A4500-P-E (Spectroscopy (Colorimetry/Photometry))¹
- Total Dissolved Solids Method A2540C (Gravimetry)¹
- Iron (Fe) Method EPA 200.7 (ICP Spectrometry)¹

Group B samples were collected at the same time as Group A but were passed through 0.2-micron membrane filters. The samples were filtered into 40 mL pre-acidified amber glass vials (with 0.2 mL of 1:1 hydrochloric acid) for preservation. Acidified samples do not require refrigeration and are stabilized for a long holding period. Group B samples were shipped to Beta Analytics Lab in Miami, FL on July 7th for the following analyses:

٠	Nitrate-N	Method E353.2 (Automated Spectrophotometer) ¹
•	Nitrogen source tracking	δ 18O and δ 15N Continuous Flow Isotope Ratio Mass
		Spectrometry (IRMS) ²

RESULTS

Dissolved Oxygen (DO)

The concentration of oxygen in the groundwater and John Day Rivered were measured in the field to make a relative comparison between the slower subsurface groundwater and river water conditions. Before sampling of the groundwater sites, the concentration of dissolved oxygen (DO) was measured along a depth profile for each well. A YSI DO probe was lowered into the well to various depths and allowed to stabilize. DO was measured approximately every 3 ft through the water column of each well. Generally, DO was highest in the upper 1 ft of the groundwater column (0.80-1.14 ppm). DO decreased steadily with depth in MW-7 from 0.54 ppm at approximately 4 ft to 0.39 ppm at 8 ft (bottom of well). The other wells exhibited fairly constant DO below the upper 1 ft (0.45-0.58 ppm). The DO levels observed are low for a shallow alluvial aquifer and may suggest

¹ National Environmental Methods Index

² Beta Analytical Laboratories - ISO/IEC 17025: 2017 Accredited

biological oxygen demand in the aquifer. The DO of the river varied greatly by location and time but was generally 3.0-5.0 ppm. This oxygen level is in the low range for typical fast-flowing surface water. The low oxygen concentration measured is likely due to a number of factors including the near shore location of the measurements, low-flow conditions in the river, and the very warm water and air temperatures at the time of measurement. A full river profile of oxygen measurements and velocities would provide a more representative characterization of whole river environment.

Flow Velocity

Spot measurements of flow velocity within the John Day River channel were collected at three to four points at each of the sampling locations (RIV-1, RIV-2, and RIV-3). It was observed that the river channel was fairly even in depth and straight near RIV-1 and RIV-2. Flow velocities at these two sites were measured between 0.1 and 1.5 ft/s (3 - 46 cm/s). The channel near RIV-3 varied greatly in depth and was split in several places by debris piles and gravel bars upstream of the old logging bridge crossing. Flow velocities at RIV-3 ranged from 0.6 and 3.7 ft/s (18 - 113 cm/s). At the time of measurement, the John Day River was at near-record low flows (approx. 10-15 cfs). Average summertime low flows are roughly 40 cfs, and typical flow velocities are therefore expected to be greater than those presented here.

The maximum hydraulic conductivity estimated for the alluvial aquifer is approx. 0.06 ft/s (1.78 cm/s) based on aquifer pump test data (CwM-H2O, 2021). Monitoring well data collected from June-July 2021 suggests a range of groundwater gradients in the alluvial aquifer north of the river of approximately 0.005-0.008 ft/ft. The estimated range of groundwater flow velocities is therefore 0.001-0.0016 ft/s (0.03-0.05 cm/s). The maximum estimated groundwater flow velocity is 60 times less than the minimum flow rate observed in the river during record-low flow conditions. During typical river conditions, average flow velocities are likely 500 – 2,500 times greater than average groundwater flows.

Nitrogen

Nitrogen is a primary wastewater constituent of concern from the current percolation ponds and for the proposed wastewater infiltration system. Sampling was targeted at measuring nitrogen in three forms: Nitrate, nitrite, and ammonia. Nitrate is typically the most prominent form in wastewater and groundwater sources. Nitrite is produced as nitrate is broken down and is typically short-lived, so it tends not to accumulate at high levels. Ammonia can be present in wastewater sources but is also formed as a product of various anaerobic nitrate cycling processes.

Nitrate concentration was measured directly in raw water samples using an electrode method (Box R Labs). It was also measured directly and in combination with nitrite using a spectrographic method (Box R Labs through Neilson, Beta Analytic). With the exception of the Pond 1 and 2

samples, all other samples were returned as non-detects with an interference flag or were measured at low concentrations near the detection limit using the spectrographic method. According to the National Environmental Methods Index (NEMI), spectrographic method E353.2 is sensitive to interference from iron levels that approach or exceed the concentration of nitrate in the sample. The samples were later tested for iron, which does appear to have been the cause of the interference with the nitrate readings for this method (see Follow-Up Analysis section below). For this reason, the results from the electrode method were used and nitrite concentrations (calculated from the nitrate/nitrate-N data) were assumed to be negligible based on the relatively low concentrations detected in the Pond-1 and Pond-2 samples.

Sampling Site	Nitrate (ppm)	Nitrite (ppm)	Ammonia (ppm)	Approx. Distance from Center of Ponds	Relative Groundwater Position
Pond-1 (WWTP)	13.4	0.90	0.837	-	-
Pond-2	2.26	0.21	1.120	-	-
RIV-1	0.736*	ND ²	ND ³	950 ft	Up-gradient
RIV-2	0.531*	ND^2	ND ³	580 ft	Cross-gradient
RIV-3	0.456*	ND^2	ND ³	2,100 ft	Down-gradient
MW-7	2.86	ND^2	ND ³	950 ft	Up-gradient
MW-5	0.574*	ND^2	3.57	250 ft	Cross-gradient
MW-6	0.652*	ND ²	ND ³	600 ft	Down-gradient
CwM-3	ND^1	ND ²	ND ³	1,450 ft	Down-gradient
CwM-2	0.620*	ND ²	ND ³	1,600 ft	Down-gradient

Table 1 – Nitrogen as Nitrate, Nitrite, and Ammonia

*Samples measured above the detection limit of 0.100 ppm but below the 99.5% reporting limit of 1.0 ppm 1. Below the detection limit of 0.100 ppm

2. Not detected and assumed to be negligible

3. Below the detection limit of 0.136 ppm

Nitrate levels declined significantly between the wastewater plant and the percolation pond (~80% reduction). This reduction is likely the result of a mixture of processes including plant uptake, denitrification, and anammox (loss to atmosphere as nitrogen gas). Nitrate levels in the river were generally lower than the percolation ponds and decreased downstream (Figure 2). The highest river nitrate level (0.74 ppm) was detected upstream of the ponds and concentrations were possibly elevated due to warmer- and drier-than-usual conditions.

Nitrate concentrations in groundwater were similar to concentrations in the river (Figure 2). The exception was up-gradient well MW-7, where nitrate levels were higher than in Pond 2 (2.86 ppm). It is possible that this is a false reading due to unusually high iron levels (see Follow-Up Analysis section). MW-5 was the only groundwater or river site with measurable ammonia, which was

present at significant levels (3.57 ppm). This is higher than in the wastewater plant or the ponds, despite nitrate levels at MW-5 being about equivalent to the river and other wells. Short-term spikes in nitrate (like at MW-7) and ammonia (in MW-5) may represent temporary changes in redox and nitrogen-cycling conditions in the aquifer in response to pond operations and river flows. MW-5 appears to be at a critical location where changes in river level or groundwater mounding below Pond #2 of may significantly shift biochemical conditions.

Phosphorus

The concentration of total phosphorus (Total-P) at the WWTP and Pond 2 suggests a slight increase due to evaporation in the ponds. Only wells MW-6 (downgradient) and MW-5 (cross-gradient) showed significantly elevated phosphorus levels, which were almost identical to levels in the source pond. The up-gradient and far down-gradient wells exhibited much lower concentrations, though still elevated above the river concentrations which ranged from 0.104 to 0.120 ppm. Total-P demonstrates the clear influence of the percolation ponds on nearby groundwater but does not show a measurable impact on water quality in the river (Figure 3). Furthermore, the westward flow path from the ponds to the CwM wells suggests more than 90% dilution, dispersion, or removal of phosphorus in the alluvial aquifer.

Phosphorus binds strongly to clays and iron-oxide minerals and, though these materials are present in only trace amounts in the dredged aquifer, these interactions may play a role in phosphorus removal from groundwater downgradient from the infiltration ponds.

Sampling Sita	Total Phosphorus	Approx. Distance	Relative Groundwater
Sampling Site	(ppm) ¹	from Center of Ponds	Position
Pond-1 (WWTP)	6.180	-	-
Pond-2	6.520	-	-
RIV-1	0.104	950 ft	Up-gradient
RIV-2	0.120	580 ft	Cross-gradient
RIV-3	0.104	2,100 ft	Down-gradient
MW-7	0.146	950 ft	Up-gradient
MW-5	6.650	250 ft	Cross-gradient
MW-6	6.670	600 ft	Down-gradient
CwM-3	0.234	1,450 ft	Down-gradient
CwM-2	0.542	1,600 ft	Down-gradient

Table 2 – Total Phosphorus

1. Detection limit of 0.0166 ppm and reporting limit of 0.0250 ppm

Chloride and TDS

The conservative tracers chloride and total dissolved solids (TDS) show a very similar pattern to Total-P (Figures 4 and 5). Evaporation in the ponds appears to increase chloride levels slightly, as expected. Chloride and TDS are both about 15% lower in MW-5 and MW-6 than in the source pond. In the river there is no indication of an increase in chloride or TDS downstream of the ponds.

Sampling Site	Chloride (ppm)	TDS (ppm)	Approx. Distance from Center of Ponds	Relative Groundwater Position
Pond-1 (WWTP)	45.9	471	-	-
Pond-2	49.5	468	-	-
RIV-1	1.95	191	950 ft	Up-gradient
RIV-2	1.95	171	580 ft	Cross-gradient
RIV-3	1.95	178	2,100 ft	Down-gradient
MW-7	2.75	221	950 ft	Up-gradient
MW-5	42.1	440	250 ft	Cross-gradient
MW-6	42.4	405	600 ft	Down-gradient
CwM-3	1.79	181	1,450 ft	Down-gradient
CwM-2	4.85	196	1,600 ft	Down-gradient

The up-gradient and far down-gradient wells tend to be slightly elevated above the river levels. The exception is CwM-3, which had lower chloride and nearly equivalent TDS as the river. Chloride is not expected to interact significantly with the aquifer material. Therefore, the approx. 90% reduction from the ponds to the CwM wells is likely from dilution and dispersion only.

Nitrogen Isotopes

The isotope analysis examined the average atomic weight of the oxygen and nitrogen atoms that comprised the nitrate molecules (NO_3^-) present in the water samples. The amount of the heavier isotopes, Oxygen-18 and Nitrogen-15, relative to international standards can provide insight into the source and chemical history of the nitrate. In Table-4, negative values indicate that the isotope is depleted relative to the international standard values (^{18}O is based on global sea water data, ^{15}N is based on atmospheric nitrogen). Positive values indicate a relative enrichment of the isotope.

There was enough nitrate present in nine of the ten samples to complete the isotope analysis. The results from these nine samples can be divided into two primary groups based on their locations on the isotope plot (Plot 1):

- 1) ¹⁸O-enriched Samples
- 2) ¹⁵N-enriched Samples

Six of the samples are relatively enriched in ¹⁸O but not in ¹⁵N. This group includes all three of the river samples ($5.8 < \delta^{18}O < 10.9$), MW-5 and MW-7 ($9.4 < \delta^{18}O < 15.5$), and CwM-3 ($\delta^{18}O = 10.8$). These samples essentially share the same isotopic signature, suggesting that the nitrate present is from the same source (Plot 1). Low enrichment of ¹⁵N and high enrichment of ¹⁸O is indicative of nitrate fertilizer or soil-derived nitrogen ($5 < \delta^{18}O < 22$), so the background nitrate concentrations in the river and aquifer may derive from agricultural activity in the John Day River Valley. Nitrate derived purely from precipitation would be expected to have a higher degree of $\delta^{18}O$ enrichment ($20 < \delta^{18}O < 50$).

Sampling Site	δ ¹⁸ Ο (⁰ / ₀₀) (to VSMOW ¹)	δ ^{15N} (⁰ / ₀₀) (to Air-N ₂)
Pond-1 (WWTP)	-29.7	14.0
Pond-2	-13.8	21.3
RIV-1	5.85	5.44
RIV-2	10.9	4.78
RIV-3	10.5	0.48
MW-7	9.41	7.08
MW-5	15.5	6.98
MW-6	11.3	28.1
CwM-3	10.8	0.84
CwM-2	ND	ND

Table 4 – Nitrate Isotope Composition

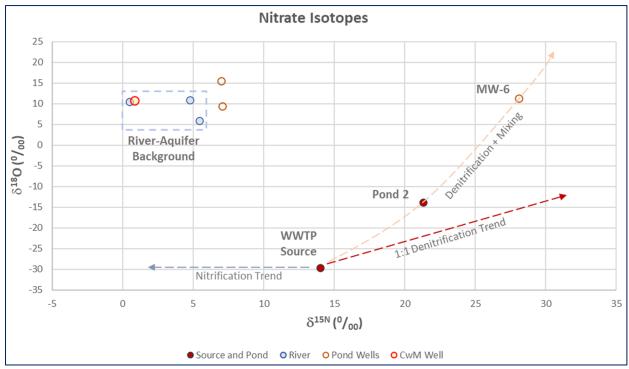
1. Vienna Standard Mean Ocean Water

The other three samples are much more enriched in ¹⁵N. However, the degree of enrichment of both ¹⁵N and ¹⁸O varies in a distinct manner. The water collected from the WWTP represents the isotopic identify of the wastewater, which exhibits a greater level of ¹⁸O depletion than the typical isotopic range for manure and septic waste (-8 < δ^{18} O < 15).

From the WWTP outflow to the water in Pond 2, there is an enrichment in ¹⁸O (+15.9%) and in ¹⁵N (+7.3%). This change is almost twice the expected slope for denitrification alone (1:1). Evaporation is known to enrich surface waters in ¹⁸O by 7-10% without effecting nitrogen, so the divergence from the expected denitrification trend line may be due to the effects of evaporation in the pond (Kim & Lee, 2011).

The role of plant uptake of nitrogen could also have a role in deflecting the isotope trend away from the ideal denitrification line. It is important to note that none of the sampling points suggest

nitrification (the oxidation (as by bacteria) of ammonium to nitrites and the further oxidation of nitrites to nitrates), or the aerobic formation of nitrate, within the ponds or alluvial aquifer (Plot 1). This is supported by the DO levels measured in the groundwater, which suggest marginally aerobic to fully anaerobic conditions throughout the groundwater column.



Plot 1 – Nitrate Isotope Composition Plot

The isotopic signature of nitrate from MW-6 is highly enriched in both ¹⁸O and ¹⁵N. The enrichment trend from the WWTP to Pond 1 appears to continue to MW-6, which is located in the center of the down-gradient plume from the percolation ponds (as demonstrated by chloride, TDS, and total-P data). The isotope data suggests that nitrate present at MW-6 may be a combination of the percolation ponds and the river sources.

The significant drop in nitrate concentrations from the ponds to down-gradient groundwater is therefore likely a mix of further denitrification and groundwater mixing (dilution and dispersion within the aquifer). The fact that the up-gradient and far down-gradient wells are isotopically identical to the nitrate in the river suggests that the pond operation has little effect on nitrogen within the aquifer in these locations.

FOLLOW-UP ANALYSIS

Iron

In response to the interference errors and inconsistent spectrographic nitrate analysis results, the same samples were tested for iron concentrations. The samples were processed on August 9, 2021, five days outside of the 28-day holding period for iron analysis. Despite this, the samples were run to give a general idea of the potential for iron interference. It is unlikely that the iron concentrations would change significantly even after 33 days.

All ten samples had measurable levels of iron, ranging from about 0.17 to 5.4 ppm (Figure 6). Eight of the ten samples contained iron above EPA Secondary Drinking Water Standard of 0.3 ppm. Given the range of nitrate concentrations detected in most of the river and groundwater samples using the electrode method (~0.4 to 0.8 ppm), these iron concentrations likely cause significant interference with the spectrographic method. Sample locations MW-7, RIV-1, MW-6, and CwM-2 exhibited iron concentration greater than the iron concentration of the wastewater treatment plant effluent (0.46-0.49 ppm) and appear unrelated to the wastewater plant operations.

Sampling Site	lron (ppm) ¹	Approx. Distance from Center of Ponds	Relative Groundwater Position
Pond-1 (WWTP)	0.460	-	-
Pond-2	0.485	-	-
RIV-1	2.97	950 ft	Up-gradient
RIV-2	0.249	580 ft	Cross-gradient
RIV-3	0.166	2,100 ft	Down-gradient
MW-7	5.36	950 ft	Up-gradient
MW-5	0.585	250 ft	Cross-gradient
MW-6	1.15	600 ft	Down-gradient
CwM-3	0.381	1,450 ft	Down-gradient
CwM-2	2.18	1,600 ft	Down-gradient

Table 5 – Iron in Water

1. Detection limit of 0.00983 ppm and reporting limit of 0.0150 ppm

Due to the highly disturbed nature and long mining history of the alluvium, the aquifer material itself may be the source of this iron. Variation in concentrations within the aquifer may suggest non-uniform distribution of iron source material buried within the cobble and gravel soils.

FIGURES

Figure 1	Site Map of Sampling Locations
Figure 2	Map of Nitrate Concentrations

Figure 3	Map of Total Phosphorus Concentrations
Figure 4	Map of Chloride Concentrations
Figure 5	Map of Total Dissolved Solids Concentrations
Figure 6	Map of Iron Concentrations

ATTACHMENTS

Attachment 1	Box R Water Lab Analysis Sheets
Attachment 2	Beta Analytic Isotope Analysis Sheets

REFERENCES

- Chadwick, G., 1999. Hydrogeological Characterization for the John Day Wastewater Percolation Ponds; John Day, Oregon. March 1999. George Chadwick Consulting.
- Chadwick, G., 2019. Proposed Sites and Approaches for Groundwater Recharge of Treated Effluent for the City of John Day, Oregon. George Chadwick Consulting.
- CwM, 2021. City of John Day Hydrogeologic Investigation, Site Visit III Field Memo: Sampling and Aquifer Pump Test. August 2021. CwM-H2O.
- CwM, 2021. City of John Day Hydrogeologic Investigation, Field Investigation Technical Memorandum. August 2021. CwM-H2O.
- Kim, K. & Lee, X., 2011. Isotopic Enrichment of Liquid Water During Evaporation from Water Surfaces, Journal of Hydrology. Vol. 399, pp. 364-375.



CwM-H2O	
Complete Water Management	\sim

Figure 1 Map of Water Quality Sampling Sites					0 150 300	600 ft		Groundwater Elev Contours - 2ft Groundwater Elev Contours - 0.5 ft
	1	DATE	AUTH	DRAFT	Proj#: 2111001	N	\odot	GW
					John Day Hydrogeologic Investigation	Â		SW
					City of John Day	\square		WW
	No.	Date	Ву	Revisions	Oregon	, ,		





		ap of N	ire 2 Nitrate-N trations	0 150 300	Nitrate (ppm) O 0.45 - 0.60	
1	DATE	AUTH	DRAFT	Proj#: 2111001	N	0.60 - 1.20
				John Day Hydrogeologic Investigation City of John Day	Â	
No.	Date	Ву	Revisions	Oregon		3.00 - 13.50





			re 3 Phosphorus trations	0 150 300 600 ft Scale: 1" = 320 ft	Total-P (ppm)
1	DATE	AUTH	DRAFT	Proj#: 2111001	0.50 - 1.00
				John Day Hydrogeologic	1.00 - 2.00
				City of John Day	6.00 - 6.67
No.	Date	Ву	Revisions	Oregon	0.00 - 0.07





			re 4 Chloride trations	0 150 300 600 ft Scale: 1" = 320 ft	Chloride (ppm)
1	DATE	AUTH	DRAFT	Proj#: 2111001 N	2.50 - 10.00
				John Day Hydrogeologic	10.00 - 40.00
				City of John Day	40.00 - 50.00
No.	Date	Ву	Revisions	Oregon	0.00 - 50.00





Figure 5 Map of Total Dissolved Solids Concentrations				0 150 300 L I I I I I Scale: 1" = 320 ft	600 ft	TDS (ppm)
1	DATE	AUTH	DRAFT	Proj#: 2111001	N	O 200 - 325
				John Day Hydrogeologic Investigation	Â	9 325 - 450
				City of John Day	\square	450 - 500
No.	Date	Ву	Revisions	Oregon	, ,	





	Figure 6 Map of Iron (Fe) Concentrations			0 150 300 L I I I I I I Scale: 1" = 320 ft				0.75 - 1.50 1.50 - 3.00 3.00 - 5.50
1	DATE	AUTH	DRAFT	Proj#: 2111001	N	0.25 - 0.75		3.00 - 5.50
				John Day Hydrogeologic Investigation	Â			
				City of John Day				
No	o. Date	Ву	Revisions	Oregon	,			





Box R Water Analysis Laboratory 567 NW Second Street Prineville, Oregon 97754 541-447-4911

Mr. Ian Godwin

July 30, 2021

c/o CWM - H2O

1319 SE MLK Blvd., Ste. 204

Portland, OR 97214

Sample Nbrs: X046671/673/675/677/679/681/683/685/687/689

Dear Mr. Godwin,

Attached is a copy of your monitoring water – TDS, Nitrite, Total Phosphorus, Ammonia, Chloride – test results, sampled on July 7, 2021, at City of John Day, John Day, OR. Your analysis was performed by Neilson Research Corp. in Medford, OR. Please do not hesitate to call Box R Water Analysis Laboratory with any questions you may have in regards to your water testing.

Thank you for using Box R Water Analysis Laboratory, we appreciate your business.

Sincerely,

Sherri K. Miyazaki – Box R Water Analysis Laboratory Director



July 22, 2021

Sherri Miyazaki Box R Waterlab 567 NW Second Street Prineville, OR 97754 TEL: (541) 447-4911 FAX (541) 447-4917

RE: X046671-89 City of John Day

Order No.: 21070398

Dear Sherri Miyazaki:

Neilson Research Corporation received 10 sample(s) on 7/9/2021 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

Tama Simedeman

Tamra Schmedemann Senior Project Manager

245 S Grape St Medford, OR 97501



Original



Case Narrative

WO#:	21070398
Date:	7/22/2021

CLIENT: Box R Waterlab Project: X046671-89 City of John Day

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.

Original



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:	Box R Waterlab
Lab ID:	21070398-01
Client Sample ID	X046671
Project:	X046671-89 City of John Day
Sample Location:	River #1

Collection Date: 7/7/2021 5:50:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP Status	Resul	t Qual	DF	MDL	RL	Units	MCL	Date A Analyzed	nalyst
ANIONS BY EPA 300.0)										
Chloride	E300.0	A	1.95		1	0.0704	1.00	mg/L		07/17/21 8:43	кмс
AMMONIA NITROGEN	AS N										
Nitrogen, Ammonia (As N)	E350.1	A	ND		1	0.136	0.500	mg/L		07/16/21 15:51	SCN
NITRATE NITROGEN	AS N										
Nitrogen, Nitrate-Nitrite	E353.2	A	ND	ER	1	0.0157	0.100	mg/L		07/09/21 17:17	KEC
TOTAL PHOSPHORUS	S AS P										
Phosphorus, Total (As P)	A4500-P-E	А	0.104		1	0.0116	0.0250	mg/L		07/13/21 15:07	ITN
TOTAL DISSOLVED S	OLIDS										
Total Dissolved Solids	A2540C		191		1	3.75	10.0	mg/L		07/14/21 16:53	кмс

 $\mathbf{C}\mathbf{I}$ Sample container temperature is out of limit as specified at testcode MI Receivery outside constrol limits due to Matrix Interference PI. Pennit Limit

н Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

Original

QUALIFIERS



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:	Box R Waterlab	
Lab ID:	21070398-02	
Client Sample ID	X046673	
Project:	X046671-89 City of John Day	
Sample Location:	River #2	

Collection Date: 7/7/2021 7:40:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP Status	Result	t Qual	DF	MDL	RL	Units	MCL	Date An Analyzed	nalyst
ANIONS BY EPA 300.0	D										
Chloride	E300.0	A	1.95		1	0.0704	1.00	mg/L		07/17/21 9:10	кмс
AMMONIA NITROGEN	I AS N										
Nitrogen, Ammonia (As N) E350.1	А	ND		1	0.136	0.500	mg/L		07/16/21 16:01	SCN
NITRATE NITROGEN	AS N										
Nitrogen, Nitrate-Nitrite	E353.2	A	ND	ER	1	0.0157	0.100	mg/L		07/09/21 17:18	KEC
TOTAL PHOSPHORUS	S AS P										
Phosphorus, Total (As P)	A4500-P-E	A	0.120		1	0.0116	0.0250	mg/L		07/13/21 15:07	ITN
TOTAL DISSOLVED S	OLIDS										
Total Dissolved Solids	A2540C		171		1	3.75	10.0	mg/L		07/14/21 17:01	кмс

C1 Sample container temperature is out of limit as specified at testeede
 ML Recovery outside control limits due to Matrix Interference
 PL Permit Limit

H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

Original

NELAP

QUALIFIERS



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:	Box R Waterlab
Lab ID:	21070398-03
Client Sample ID	X046675
Project:	X046671-89 City of John Day
Sample Location:	River #3

Collection Date: 7/7/2021 10:20:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP Status	Result Qua	DF	MDL	RL	Units	MCL	Date A Analyzed	nalyst
ANIONS BY EPA 300.0)	17 - 12		1						
Chloride	E300.0	A	1.95	1	0.0704	1.00	mg/L		07/17/21 9:37	кмс
AMMONIA NITROGEN	AS N									
Nitrogen, Ammonia (As N	E350.1	A	ND	1	0.136	0.500	mg/L		07/16/21 16:02	SCM
NITRATE NITROGEN	AS N									
Nitrogen, Nitrate-Nitrite	E353.2	А	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:19	KEC
TOTAL PHOSPHORUS	S AS P									
Phosphorus, Total (As P)	A4500-P-E	А	0.104	1	0.0116	0.0250	mg/L		07/13/21 15:07	ITN
TOTAL DISSOLVED S	OLIDS									
Total Dissolved Solids	A2540C		178	1	3.75	10.0	mg/L		07/14/21 17:05	КМС

 C1
 Sample container temperature is out of limit as specified at testeede

 MI
 Recovery outside control limits due to Matrix Interference

 PL
 Permit Limit

QUALIFIERS

H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit

Original



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:	Box R Waterlab
Lab 1D:	21070398-04
Client Sample ID	X046677
Project:	X046671-89 City of John Day
Sample Location:	Pond #1

Collection Date: 7/7/2021 10:30:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP Status	Result	DF	MDL	RL	Units	MCL	Date A Analyzed	nalyst
ANIONS BY EPA 300.0)		4						, and j 200	
Chloride	E300.0	A	45.8	10	0.704	10.0	mg/L		07/14/21 7:14	кмс
AMMONIA NITROGEN	AS N									
Nitrogen, Ammonia (As N	E350.1	А	0.837	1	0.136	0.500	mg/L		07/16/21 16:03	SCN
NITRATE NITROGEN	AS N									
Nitrogen, Nitrate-Nitrite	E353.2	A	14.3	10	0.157	1.00	mg/L		07/09/21 17:20	KEC
TOTAL PHOSPHORUS	S AS P									
Phosphorus, Total (As P)	A4500-P-E	A	6.18	1	0.116	0.250	mg/L		07/12/21 16:32	ITN
TOTAL DISSOLVED S	OLIDS									
Total Dissolved Solids	A2540C		471	1	3.75	10.0	mg/L		07/14/21 17:09	КМС

QUALIFIERS

NELAP

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Sample container temperature is out of limit as specified at testcode Recovery outside control limits due to Matrix Interference Permit Limit

 H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit

Original



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:Box R WaterlabLab ID:21070398-05Client Sample IDX046679Project:X046671-89 City of John DaySample Location:Pond #2

Collection Date: 7/7/2021 10:40:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP	Result	DF	MDL	RL	Units	MCL	Date Analys
		Status	Qual						Analyzed
ANIONS BY EPA 300.0)								
Chloride	E300.0	A	49.5	10	0.704	10.0	mg/L		07/14/21 7:44 KMC
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	A	1.12	1	0.136	0.500	mg/L		07/16/21 16:05 SCM
NITRATE NITROGEN	AS N								
Nitrogen, Nitrate-Nitrite	E353.2	А	2.47	2	0.0314	0.200	mg/L		07/09/21 17:21 KEC
TOTAL PHOSPHORUS	S AS P								
Phosphorus, Total (As P)	A4500-P-E	A	6.52	1	0.290	0.625	mg/L		07/16/21 13:30 RJC
TOTAL DISSOLVED S	OLIDS								
Total Dissolved Solids	A2540C		468	1	3.75	10.0	mg/L		07/14/21 17:13 KMC

C1 Sample container temperature is out of limit as specified at testcode
 M1 Recovery outside control limits due to Matrix Interference
 PL Pennik Limit

H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

Original

NELAP

QUALIFIERS



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:	Box R Waterlab	Collection Date:
Lab 1D:	21070398-06	Received Date:
Client Sample ID	X046681	Matrix:
Project:	X046671-89 City of John Day	
Samula Location	CWM #2	

Collection Date: 7/7/2021 9:10:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Sample Location: CWM #2

1

Analyses	Method	NELAP Status	Result Qu	DF Ial	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0									
Chloride	E300.0	A	4.85	1	0.0704	1.00	mg/L		07/17/21 10:57 KMC
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	А	ND	1	0.136	0.500	mg/L		07/16/21 16:06 SCM
NITRATE NITROGEN	NS N								
Nitrogen, Nitrate-Nitrite	E353.2	A	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:23 KEC
TOTAL PHOSPHORUS	AS P								
Phosphorus, Total (As P)	A4500-P-E	۸	0.542	1	0.0116	0.0250	mg/L		07/13/21 15:11 ITN
TOTAL DISSOLVED S	DLIDS								
Total Dissolved Solids	A2540C		196	1	3.75	10.0	mg/L		07/14/21 17:17 KMC

 C1
 Sample container temperature is out of limit is specified at testcode

 MI
 Recovery outside control limits due to Matrix Interference

 PL
 Permit Limit

 II
 Holding times for preparation or analysis exceeded.

 ND
 Not Detected at the Reporting Limit.

Original

NELAP

QUALIFIERS



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:	Box R Waterlab	Collection Date:	7/7/2021 8:05:00 AM
Lab ID:	21070398-07	Received Date:	7/9/2021 9:57:00 AM
Client Sample ID	X046683	Matrix:	AQUEOUS
Project:	X046671-89 City of John Day		
Sample Location:	MW #6		

Analyses NELAP Method Result DF MDL RL Units MCL Date Analyst Status Analyzed Qual ANIONS BY EPA 300.0 Chloride E300.0 42.4 A 10 0.704 10.0 mg/L 07/14/21 8:43 KMC AMMONIA NITROGEN AS N Nitrogen, Ammonia (As N) E350.1 A ND 1 0.136 0.500 mg/L 07/16/21 16:07 SCN NITRATE NITROGEN AS N Nitrogen, Nitrate-Nitrite E353.2 A ND ER 0.0157 1 0.100 mg/L 07/09/21 17:24 KEC TOTAL PHOSPHORUS AS P Phosphorus, Total (As P) A4500-P-E 6.67 A 1 0.250 0.116 07/15/21 16:12 RJC mg/L TOTAL DISSOLVED SOLIDS

1

3.75

10.0

mg/L

405

C1 Sample container temperature is out of limit as specified at testcode MI Recovery outside control limits due to Matrix Interference PI.

A2540C

Total Dissolved Solids

QUALIFIERS

NELAP

Permit Limit

н Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

Original

07/14/21 17:21 KMC



Analytical Report

WO#:	21070398	
Date Reported:	7/22/2021	

CLIENT:	Box R Waterlab
Lab ID:	21070398-08
Client Sample ID	X046685
Project:	X046671-89 City of John Day
Sample Location:	MW #5

Collection Date: 7/7/2021 7:00:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Sample Location: MW #5									
Analyses	Method	NELAP Status	Result Qual	DF	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0)								
Chloride	E300.0	A	42.1	5	0.352	5.00	mg/L		07/17/21 11:23 KMC
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	А	3.57	1	0.136	0.500	mg/L		07/20/21 15:09 SCN
NITRATE NITROGEN	AS N								
Nitrogen, Nitrate-Nitrite	E353.2	А	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:27 KEC
TOTAL PHOSPHORUS	SAS P								
Phosphorus, Total (As P)	A4500-P-E	Α	6.65	1	0.290	0.625	mg/L		07/16/21 13:30 RJC
TOTAL DISSOLVED S	OLIDS								
Total Dissolved Solids	A2540C		440	1	3.75	10.0	mg/L		07/14/21 17:25 KMC

Sample container temperature is out of limit as specified at testcode C1 Recovery outside control limits due to Matrix Interference MI P1.

QUALIFIERS

NELAP

Permit Limit

н Holding times for preparation or analysis exceeded. ND

Not Detected at the Reporting Limit

Original



Analytical Report

WO#:	21070398
Date Reported:	7/22/2021

CLIENT:	Box R Waterlab
Lab ID;	21070398-09
Client Sample ID	X046687
Project:	X046671-89 City of John Day
Sample Location:	MW #2

Collection Date: 7/7/2021 6:10:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP Status	Result Qual	DF	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0									
Chloride	E300.0	A	2.75	1	0.0704	1.00	mg/L		07/14/21 11:42 KMC
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	А	ND	1	0.136	0.500	mg/L		07/20/21 15:13 SCN
NITRATE NITROGEN A	NS N								
Nitrogen, Nitrate-Nitrite	E353.2	A	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:29 KEC
TOTAL PHOSPHORUS	AS P								
Phosphorus, Total (As P)	A4500-P-E	A	0.146	1	0.0116	0.0250	mg/L		07/13/21 15:11 ITN
TOTAL DISSOLVED S	DLIDS								
Total Dissolved Solids	A2540C		221	1	3.75	10.0	mg/L		07/14/21 17:29 KMC

QUALIFIERS

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Sample container temperature is out of limit as specified at testcode Recovery outside control limits due to Matrix Interference Permit Limit

н Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

Original



Analytical Report

WO#: 21070398 Date Reported: 7/22/2021

CLIENT:	Box R Waterlab
Lab ID:	21070398-10
Client Sample ID	X046689
Project:	X046671-89 City of John Day
Sample Location:	CWM #3

Collection Date:	7/7/2021 10:00:00 AM
Received Date:	7/9/2021 9:57:00 AM
Matrix:	AQUEOUS

mple Location: CWM #3

Analyses	Method	NELAP Status	Result Qual	DF	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0	1								
Chloride	E300.0	A	1.79	1	0.0704	1.00	mg/L		07/14/21 12:12 KMC
AMMONIA NITROGEN	AS N		52						
Nitrogen, Ammonia (As N)	E350.1	A	ND	1	0.136	0.500	mg/L		07/20/21 15:14 SCN
NITRATE NITROGEN	AS N								
Nitrogen, Nitrate-Nitrite	E353.2	А	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:30 KEC
TOTAL PHOSPHORUS	S AS P								
Phosphorus, Total (As P)	A4500-P-E	A	0.234	1	0.0116	0.0250	mg/L		07/13/21 15:12 ITN
TOTAL DISSOLVED S	OLIDS								
Total Dissolved Solids	A2540C		181	1	3.75	10.0	mg/L		07/14/21 17:33 KMC

CI Sample container temperature is out of limit as specified at testcode Receivery outside comtrol limits due to Matrix Interference MI PL. Permit Limit

11 Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

Original

NELAP

QUALIFIERS

CORPORATION	ATION	Neilson Rescarch Corporation 245 S Grape St Medford, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.melabs.com	Neilson Revearch Corporation 245 S Grape St Meiford, OR 97501 70-5678 FAX: (541) 770-2901 Website: www.mclabs.com	vration 12pe St 97501 5.2901 8.com			QC SUM	QC SUMMARY REPORT WO#: 21070398 22-Jul-21	PORT 21070398 22-Jul-21
Client: Box R Waterlab Project: X046671-89 City of John Day	, y of John Day						TestCode: A	M_AINORMA	
Sample ID: MB-13320 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13320 Result	TestCod TestN PQL	stCode: AMMONIA TestNo: E350.1 QL SPK value	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 PQL SPK value SPK Ref Val	AREC	Prep Date: Analysis Date: LowLimit H	Prep Date: 7/15/2021 Analysis Date: 7/16/2021 LowLimit HighLimit RPD Ref Val	RunNo: 23062 SeqNo: 369799 %RPD RPDLimit	Qual
Sample ID: LCS-13320 Client ID: LCSW	SampType: LCS Batch ID: 13320	TestCod	TestCode: AMMONIA_W TestNo: E350.1	LW Units: mg/L E350.1		Prep Date: Analysis Date:	e: 7/15/2021 e: 7/16/2021	RunNo: 23062 SeqNo: 369801	
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.98	0.500	2.000	0	98.8	90	110		
Sample ID: 21070321-04AMS Client ID: BatchQC Analyte	SampType: MS Batch ID: 13320 Result	TestCod TestN PQL	stCode: AMMONIA TestNo: E350.1 OL SPK value	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 PQL SPK value SPK Ref Val	A REC	Prep Date: Analysis Date: LowLimit H	Prep Date: 7/15/2021 Analysis Date: 7/16/2021 LowLimit HighLimit RPD Ref Val	RunNo: 23062 SeqNo: 369810 %RPD RPDLimit	Qual
Nitrogen, Ammonia (As N)	2.02	0.500	2.000	0	101	8	120		
Sample ID: 21070321-04AMSD Client ID: BatchQC	SampType: MSD Batch ID: 13320	TestCod	stCode: AMMONIA TestNo: E350.1 Ol SDK volue	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 DOI SDK value SDK Baf Vial		Prep Date Analysis Date	Prep Date: 7/15/2021 Analysis Date: 7/16/2021 Lowd imit Hichl imit RPD Ref Val	RunNo: 23062 SeqNo: 369811 %.RPD RPDI imit	Ğ
Nitrogen, Ammonia (As N)	2.12	0.500	2.000	0	106	8	120 2.022		
Qualifiers: Cl Surp's contained ND Nat Detected at	Surple container temperature is out of limit as spacified at testcode Not Detected at the Reporting Limit	fied at lestcode	H Holdrag turos P.1. Permat Limit	Hold-ap times for preparation or analysis exceeded Permat Limit	yss exceeded		MI Karovry outsile control RL Reporting Detection Linit	Kerovery ourside condrol lands due to Matrix In Reporting Detection Limit	Original

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24

CORPORATION	ATION	TEL: (541) 770-5678 PAX: (541) 770-2901 Reiford, OR 97501 Rebaire: www.nrclabs.com	Nesson nevertex corporation 245 S Grape St Medford, OR 97501 70-5678 FAX: (341) 770-2901 Website: www.nrclabs.com	raunn ape Si 97501 2901 18.com			QCSUMMAKY KEPOKI WO#: 21070398 22-Jul-21		WO#:	21070398 22-Jul-21	398
Client: Box R Waterlab Project: X046671-89 Cit	Box R Waterlab X046671-89 City of John Day						TestCode:		W_MONIA_W		
Sample ID: MB-13348 Client ID: PBW	SampType: MBLK Batch ID: 13348 Result	TestCod TestN	TestCode: AMMONIA_W TestNo: E350.1 POL SPK value SP	W Units: mg/L E350.1 SPK Ref Val	%REC	Prep Date: 7/16/2021 Analysis Date: 7/20/2021 LowLimit HighLimit R	Prep Date: 7/16/2021 Malysis Date: 7/20/2021 LowLimit HighLimit RPD Ref Val		RunNo: 23102 SeqNo: 370390 %RPD RP	02 390 RPDLimit	Qual
Nitrogen, Ammonia (As N)	Q	0.500									
Sample ID: LCS-13348 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13348 Result	TestCod TestN PQL	TestCode: AMMONIA_W TestNo: E350.1 PQL SPK value SP	_W Units: mg/L E350.1 SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hi	Prep Date: 7/16/2021 nalysis Date: 7/20/2021 LowLimit HighLimit RPD Ref Val		RunNo: 23102 SeqNo: 370392 %RPD RP	02 892 RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.99	0.500	2.000	0	9.66	06	110				
Sample ID: 21070398-08AMS Client ID: X046685 Analyte	SampType: MS Batch ID: 13348 Result	TestCod TestN	stCode: AMMONIA TestNo: E350.1 QL SPK value	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 PQL SPK value SPK Ref Val		Prep Date: 7/16/2021 Analysis Date: 7/20/2021 LowLimit HighLimit R	Prep Date: 7/16/2021 nalysis Date: 7/20/2021 LowLimit HighLimit RPD Ref Val		RunNo: 23102 SeqNo: 370413 %RPD RP	12 113 RPDLimit	Qual
Nitrogen, Ammonia (As N)	5.30	1.00	2.000	3.569	86.7	80	120				
Sample ID: 21070398-08AMSD Client ID: X046685 Analyte	Batch ID: 13348 Result	TestCod TestN PQL	stCode: AMMONIA TestNo: E350.1 QL SPK value	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 PQL SPK value SPK Ref Val	%REC	Prep Date: 7/16/2021 Analysis Date: 7/20/2021 LowLimit HighLimit R	Prep Date: 7/16/2021 nalysis Date: 7/20/2021 LowLimit HighLimit RPD Ref Val	Alexand	RunNo: 23102 SeqNo: 370414 %RPD RP)2 114 RPDLimit	Qual
Nitrogen, Ammonia (As N)	5.27	1,00	2.000	3.569	85.2	8	120 5.3	5.302	0.567	20	
Qualifiers: CI Sample cortain ND Not Detected a	Sample container temperature is out of irruit as specified at testcode Not Detected at the Reporting Limit	fied at testcode	H Halding time PL Purnt Linut	Halding times for preparation or analysis exceeded Permit Linut	yes exceeded		MI Rerovery surfactor Constrol RL Reporting Detection Linut	de comtrol limi etion Limit	Recovery putside countrol lumits due to Matrix in Reporting Detection Limit	s	

Page 14 of 24

20	RESEARCH CORPORATION	ATION	1EL: (54	Neitson B 1) 770-5678 I Websi	TEL: (541) 770-5678 EAX: (541) 770-2901 Wedford, OR 97501 Website: www.urclahs.com	anos ape St 97501 5.com			0	C SUM	QC SUMMARY REPORT WO#: 21070398 22-Jut-21	EFOR 7 21070398 22-Jul-21	8T 21
Client: Project:	Box R Waterlab X046671-89 City of John Day	y of John Day							H	TestCode: E	EPA300_W		
Sample ID: MBLK Client ID: PBW	: MBLK PBW	SampType: MBLK Batch ID: R22940	1BLK 22940	TestCod	TestCode: EPA300_W TestNo: E300.0	/ Units: mg/L		Prep Date: Analysis Date:	te: 7/14/2021	ম	RunNo: 22940 SeqNo: 367564	6 0	
Analyte Chloride			Result ND	PQL 1.00	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit	RPD Ref Val	%RPD F	RPDLimit	Qual
Sample ID: LCS Client ID: LCS	LCSW LCSW	SampTypa: LCS Batch ID: R22940	LCS R22940	TestCode TestNo	TestCode: EPA300_W TestNo: E300.0	Units: mg/L		Prep Date: Analysis Date: 7/14/2021 Lowitimit Hindi Imit B	Prop Date: nalysis Date: 7/14/200	21 PPD Perval	RunNo: 22940 SeqNo: 367565 %PD PP	10 665 801 (mit	
Chloride			10.9	1.00		0	90.9	60					
Sample ID: Client ID:	Sample ID: 21070398-07BMS Client ID: X046683	SampType: MS Batch ID: R22940	45 22940	TestCode	TestCode: EPA300_W TestNo: E300.0	r Units: mg/L		Prep Date: Analysis Date: 7/14/2021 Lowitimit Hichlinit P	Prep Date: .nalysis Date: 7/14/201	21 PPD PetVal	RunNo: 22940 SeqNo: 367573 **#PD PD	10 173 173	
Chloride			98.3	10.0		42,40	93.2	88					
Sample ID: Client ID:	Sample ID: 21070398-07BMSD Client ID: X046683	SampType: MSD Batch ID: R22940	1SD 22940	TestCod	TestCode: EPA300_W TestNo: E300.0	r Units: mg/L		Prep Date: Analysis Date: 7/14/2021	e: 7/14/20:	5	RunNo: 22940 SeqNo: 367574	6 4	
Analyte			Result	PQL	SPK value	SPK Ref Val 42 40	%REC 92.7	LowLimit 80	HighLimit 120	LowLimit HighLimit RPD Ref Val 80 120 98.33	%RPD R	RPDLimit 15	Qual
CIIIO			2.00	2	22.20			8	2			2	
Qualifiers:	58	Somple container temperature is out of limit as specified at testoods Not Detected at the Recording Limit	it as specified at t	estrode	II HoMing time PL Permit Limit	Holding times for preparation of analysis exceeded Permit Limit	yss exceeded		WI KI	Recovery outside condrol I Reporting Detection Limit	Recovery outside control limits due to Matrix In Reporting Detection Limit	e	1 8

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20	Zæð	NEILSON RESEARCH CORPORATION	TEL: (541) 7	Neilson A 70-5678 I Websi	Neilson Research Corporation 245 S Grape St Medford, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	ration ape St 97501 2001 s.com			•	QC SUM	QC SUMMARY REPORT W0#: 21070398 22-Jul-21	EPOR 21070398 22-Jul-21	E sa
Client: Projeet:	Box X04(Box R Waterlab X046671-89 City of John Day								TestCode: H	EPA300_W		
Sample ID: MBLK Client ID: PBW	: MBLK PBW	SampType: MBLK Batch ID: R22940 Result		TestO	TestCode: EPA300_W TestNo: E300.0 POL SPK value	/ Units: mg/L SPK Ref Val	%REC	Prep Date: Analysis Date: 7/17/2021 LowLimit HighLimit R	te: 7/17/20 HighLimit	021 RPD Ref Val	RunNo: 22940 SeqNo: 369718 %RPD RP	DLimit	Oual
Chloride			QN	1.00					1				
Sample ID: LCS Client ID: LCSW	LCS LCSW	SampType: LCS Batch ID: R22940	.CS (22940	TestCod	TestCode: EPA300_W TestNo: E300.0	/ Units: mg/L		Prep Date: Analysis Date: 7/17/2021	te: te: 7/17/2	021	RunNo: 22940 SeqNo: 369719	Sent	
Analyte Chloride			Result 10.9	PQL 1.00	SPK value 12.00	SPK Ref Val 0	%REC 91.0	LowLimit 90	LowLimit HighLimit 90 110	RPD Rof Val	%RPD RP	RPDLimit	Qual
Sample ID: LCS Client ID: LCS	LCSW	SampType: LCS Batch ID: R22940	940	TestCod	TestCode: EPA300_W TestNo: E300.0	/ Units: mg/L		Prep Date: Analysis Date: 7/13/2021	le: 7/13/2	021	RunNo: 22940 SeqNo: 359896		
Analyte Chloride			Result 11.3	Pal	SPK value 12.00	SPK Ref Val 0	%REC 94.1	LowLimit 90	HighLimit 110	LowLimit HighLimit RPD Ref Val 90 110	%RPD RPI	RPDLimit (Qual
Sample ID: MBLK Client ID: PBW Analyte	MBLK PBW	SampType: MBLK Batch ID: R22940 Result		TestCode TestNc	TestCode: EPA300_W TestNo: E300.0 POL SPK value	r Units: mg/L SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hi	le: te: 7/13/2021 HighLimit R	e: 7/13/2021 e: 7/13/2021 HighLimit RPD Ref Val	RunNo: 22940 SeqNo: 369897 %RPD RPI	40 897 RPDLimit (Qual
Chloride			9	1.00									
Qualifiers:	5 9	Sample container temperature is out of limit as specified at tosteode Not Detected at the Reporting Limit	uit as specified at testeo	ę	H Holding time PL Permat Lena	Holding times for prepuration or analysis exceeded Permit Linut	adysis exceeded		RL MI	Recevery outside cominal l Reporting Detection Limit	Recovery outside comitrel larges due to Matzix In Reporting Detection Lards		Original

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20	NEILSON RESEARCH CORPORATION	CH ATION	Neilson Revearch Corporation 245 S Grape St Medford, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	Neikson Revearch Corporation 245 S Grape St Medford, OR 97501 70-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	ution pe St 7501 2901 c.com			QC SUN	QC SUMMARY REPORT WO#: 21070398 22-Jut-21	REPOR7 21070398 22-Jui-21	RT 398
Client: Project:	Box R Waterlab X046671-89 City of John Day	y of John Day						TestCode:	NO2NO3_W		
Sample ID: MB Client ID: PBV	MB PBW	SampType: MBLK Batch ID: R22854	4	TestCode: NO2NO3_W TestNo: E353,2	v Units: mg/L		Prep Date: Analysis Date: 7/9/2021	7/9/2021	RunNo: 22854 SeqNo: 366159	54 159	
Analyle Nitrogen, Nitrate-Nitrite	trate-Nitrite	Result	sult Pat. ND 0.100	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	ghLimit RPD Ref Val	%RPD	RPDLimit	Oual
	LCSW	SampType: LCS Batch ID: R22854		TestCode: NO2NO3_W TestNo: E353.2	V Units: mg/L		Prep Dato: Analysis Date: 7/9/2021	7/9/2021	RunNo: 22854 SeqNo: 366161 & 200 DD	54 161 PDD1 imit	Č
Analyte Nitrogen, Nitrate-Nitrite	trate-Nitrite	0.915	Ĩ		0	91.5	60				
Sample ID: 2 Client ID: 1	Sample ID: 21070321-09AMS Client ID: BatchQC	SampType: MS Batch ID: R22854		TestCode: NO2NO3_W TestNo: E353.2	/ Units: mg/L		Prep Date: Analysis Date: 7/9/2021	7/9/2021	RunNo: 22854 SeqNo: 366163	54	
Analyte Nitrogen, Nitrate-Nitrite	trate-Nitrite	Result 2.25	esult PQL 2.25 0.200	SPK value 2.000	SPK Ref Val 0.1777	%REC 104	LowLimit His	LowLimit HighLimit RPD Ref Val 80 120	%RPD	RPDLimit	Qual
Sample ID: 3 Client ID: 1 Analyte	Sample ID: 21070321-09AMSD Client ID: BatchQC Analyte	SampType: MSD Batch ID: R22854 Result	14 2 5	TestCode: NO2NO3_W TestNo: E353.2 POL SPK value S	V Units: mg/L SPK Ref Val	%REC	Prep Date: Analysis Date: 7/9/2021 LowLimit HighLimit I	Prep Date: .nalysis Date: 7/9/2021 LowLimit HighLimit RPD Ref Val	RunNo: 2285 SeqNo: 3661 %RPD	54 164 RPDLimit	Qual
Nitrogen, Nitrate-Nitrite	trate-Nitrite	2.24	24 0.200	2.000	0.1777	103	8	120 2.251	0.499	20	<
Qualifiers:	C1 Sample containst temperature is out ND Not Detected at the Reporting Limit	Sample container temperature is out of limit as specified at fisituade Not Detected at the Reporting Limit	specified at testende	 II Iloking time PL. Perrot Limit 	Holding times for preparition or analysis exceeded Permit Limit	sis exceeded		MI Recovery autside cominal KL Reporting Detection Lind	Recovery autiside cominal limits due to Mairia la Reportreg Detection Limit	g	Original

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CORPORATION	ATION	Neilson Research Corporation 245 S Grape St Medford, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.arclabs.com	ation pe St 7501 2901 .com			QC SUMI	QC SUMMARY REPORT WOR: 21070398 22-Jul-21	RT 398 1-21
Client: Box R Waterlab Project: X046671-89 Cit	Box R Waterlab X046671-89 City of John Day					TestCode: P	W_T-SOH4	
Sample ID: LCS-13262 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13262 Result	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value	/ Units: mg/L A4500-P-E SPK Ref Val	, %REC	Prep Date: 7/12/2021 Analysis Date: 7/12/2021 LowLimit HighLimit R	Prep Date: 7/12/2021 nalysis Date: 7/12/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366763 %RPD RPDLimit	Qual
Phosphorus. Total (As P)	0.325	0.0250 0.3500	o	92.7	80	120		
Sample ID: MB-13262 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13262 Rasult	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value	/ Units: mg/L A4500-P-E SPK Ref Val	, krec	Prep Date: Analysis Date: LowLimit Hij	Prep Date: 7/12/2021 alysis Date: 7/12/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366764 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	Q	0.0250						
Sample ID: 21070234-01AMS Client ID: BatchQC Analyte	SampType: MS Batch ID: 13262 Result	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value	 Units: mg/L A4500-P-E SPK Ref Val 	%REC	Prep Date: Analysis Date: LowLimit Hi	te: 7/12/2021 te: 7/12/2021 HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366766 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	6.45	0.250 2.000	4.605	92.0	80	120		
Sample ID: 21070234-01AMSD Client ID: BatchOC Analyte	D SampType: MSD Batch ID: 13262 Result	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value	 Units: mg/L A4500-P-E SPK Ref Val 	%REC	Prep Date: 7/12/2021 Analysis Date: 7/12/2021 LowLimit HighLimit R	e: 7/12/2021 e: 7/12/2021 HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366767 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	6.47	0.250 2.000	4.605	93.4	8	120 6.445	0.437 15	
Qualifiers: C1 Sample cortain ND Not Detected #	Sample container temperature is out of land, as specified at testoode Not Detected at the Reporting Limit	포 없	Holding times for preparation of analysis exceeded Pertrat Limit	rus exceeded		MI Reporting Detection Linua RL Reporting Detection Linua	Recovery outside constrol limits due to Matrix In Reporting Detection Limit	Original

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CORPORATION	ATION	Neilson Research Corporation 245 S Grape St Medford, OR 97501 IEL: (541) 770-5678 EAX: (541) 770-2901 Website: www.urclabs.com	Neilson Research Corporation 245 S Grape St Medford, OR 97501 70-5678 EAX: (541) 770-2901 Website: www.urclabs.com	tion e St 501 901 :			QC SUI	QC SUMMARY REPORT WOM: 21070398 22-Jul-21	REPOR ⁷ 21070398 22-Jul-21	RT 398
Client: Box R Waterlab Project: X046671-89 City of John Day	y of John Day						TestCode:	M_T-SOH4		
Sample ID: LCS-13277 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13277 Result	TestCod TestN PQL	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value S	V Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hig	Prep Date: 7/13/2021 Vnalysis Date: 7/13/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22909 SeqNo: 366994	09 994 RPDLimit	Qual
Phosphorus, Total (As P)	0.325	0.0250	0.3500	0	92.9	80	120			
Sample ID: MB-13277 Client ID: PBW Analyto Phosphorus, Total (As P)	SampTypo: MBLK Batch ID: 13277 Result ND	TestCod TestN PQL 0.0250	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value S 0250	/ Units: mg/L A4500-P-E SPK Ref Val	, %REC	Prep Date: 7/13/20 Analysis Date: 7/13/20 LowLimit HighLimit	7/13/2021 7/13/2021 ighLimit RPD Ref Val	RunNo: 22909 SeqNo: 366995	09 995 RPDLimit	Qual
Sample ID: 21070398-01AMS Client ID: X046671 Analyte Phosphorus, Total (As P)	SampType: MS Batch ID: 13277 Result 0.301	TestCodi TestNi PQL 0.0250	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value S 0250 0.2000	A4500-P-E A4500-P-E SPK Ref Val 0.1043	/ %REC 98.4	Prep Date: 7/13/2021 Analysis Date: 7/13/2021 LowLimit HighLimit R 80 120	Prep Date: 7/13/2021 nalysis Date: 7/13/2021 LowLimit HighLimit RPD Ref Val 80 120	RunNo: 22909 SeqNo: 366997 II %RPD RP	09 997 RPDLimit	Qual
Sample ID: 21070398-01AMSD Client ID: X046671 Analyte	SampType: MSD Batch ID: 13277 Result	TestCode TestNk PQL	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value S	r Units: mg/L A4500-P-E SPK Ref Val	A %REC	Prep Date: 7/13/2021 Analysis Date: 7/13/2021 LowLimit HighLimit R	Prep Date: 7/13/2021 nalysis Date: 7/13/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22909 SeqNo: 366998	09 998 RPDLimit	Qual
Phosphorus, Total (As P)	0.294	0.0250	0.2000	0.1043	94.6 6	8	120 0.3011	2.54	15	
Qualifiers: Cl Sample container ND Not Detected at	Sample container temperature is out of linet as specified at testeode Not Detected at the Reporting Lunat	fied ar testorde	 Holding time Pt. Perrot Limit 	Holding times for preparation of analysis excended Permit Limit	sis excended		M1 Recovery cartile control R1 Reporting Detection Limit	Recovery particle control limits due to Matrix in Reporting Detection Limit	E	Original

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CORPORATION	ATION	Neikon Kesezch Corporation 245 S Grape SI Medford, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	Neilson Research Corporation 245 S Grape SI Medford, OR 97501 70-5678 FAX: (541) 770-2901 Pebsite: www.nrclabs.com	1011 - 51 - 611 - 011			QC SUM	QC SUMMARY REPORT WO#: 21070398 22-Jul-21	RT 398 1-21
Client: Box R Waterlab Project: X046671-89 City of John Day	y of John Day						TestCode: F	M_T-SOH9	
Sample ID: LCS-13317 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13317 Result	TestCode: TestNo: PQL	FestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value SF	r Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hig	te: 7/15/2021 te: 7/15/2021 HighLimit RPD Ref Val	RunNo: 22996 SeqNo: 369098 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	0.327	0.0250	0.3500	0	93.4	80	120		
Sample ID: MB-13317 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13317 Result	TestCode: TestNo: PQL	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value SF	r Units: mg/L A4500-P-E SPK Ref Val	"REC	Prep Date: 7/15/2021 Analysis Date: 7/15/2021 LowLimit HighLimit R	e: 7/15/2021 e: 7/15/2021 HighLimit RPD Ref Val	RunNo: 22996 SeqNo: 369099 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	Q.	0.0250	-						-
Sample ID: 21070398-05AMS Client ID: X046679 Analyte	SampType: MS Batch ID: 13317 Result	TestCode: TestNo: PQL	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value SF	 Units: mg/L A4500-P-E SPK Ref Val 	, %REC	Prep Date: Analysis Date: LowLimit Hig	Prep Date: 7/16/2021 Ilysis Date: 7/16/2021 owLimit HighLimit RPD Ref Val	RunNo: 22996 SeqNo: 369101 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	12.4	0.625	5.000	6.515	117	80	120		
Sample ID: 21070398-05AMSD Client ID: X046679 Analyte	SampType: MSD Batch ID: 13317 Result	TestCode: TestNo: PQL	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value SF	 Units: mg/L A4500-P-E SPK Ref Val 	, %REC	Prep Date: 7/16/2021 Analysis Date: 7/16/2021 LowLimit HighLimit R	a: 7/16/2021 a: 7/16/2021 HighLimit RPD Ref Val	RunNo: 22996 SeqNo: 369102 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	1.11	0.625	5.000	6.515	91.5	80	120 12.37	10.9 15	
Qualifiers: Cl Sample container 1 ND Not Detected at th	Sample container temperature is out of limit as sporthy at restords Not Detected at the Reporting Limit	kd at test.ede	H Holding time PL Perror Linut	Holding times for preparation or analysis exceeded Perrort Limit	sis executed		Vil Rarovery autside control RL Reportsg Detection Linut	Racovery autside control limits due to Matrix In Reporting Detection Limit	Original

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20	NEILSON RESEARCH CORPORATION	ATION	Neilson Recearch Corporation 245 S Grape St Medford, OR 97301 TEL: (541) 770-5678 FAN: (541) 770-2901 Website: www.nrclabs.com	Neilson Research Corporation 245 S Grape St Medford, OR 97301 76-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	veration Trape St V 97501 16-2901 the com			QC SI	NMU	QC SUMMARY REPORT WO#: 21070398 22-Jul-21	REPOR 21070398 22-Jul-21	RT 398 4-21
Client: Project:	Box R Waterlab X046671-89 City of John Day	y of John Day						TestCode:		M ⁻ Sal-Sallos	×	
Sample ID: MB-13300 Client ID: PBW	: MB-13300 PBW	SampType: MBLK Batch ID: 13300		stCode: SOLIDS_ TestNo: A2540C	TestCode: SOLIDS_TDS Units: mg/L TestNo: A2540C POI SPK value SPK Ref Val	"RFC	Prep Date: Analysis Date: Lowt imit H	Prep Date: 7/14/2021 Analysis Date: 7/14/2021 Lowl imit Hichl imit RPD Ref Val	ef Val	RunNo: 23126 SeqNo: 370685 %RPD RP	26 685 RPDI imit	Otal
Total Dissolved Solids	ved Solids	Q						5				
Sample ID: LCS-13300 Client ID: LCSW Analyte	LCS-13300 LCSW	SampType: LCS Batch ID: 13300 Result		stCode: SOLIDS_ TestNo: A2540C DL SPK value	TestCode: SOLIDS_TDS Units: mg/L TestNo: A2540C PQL SPK value SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit H	Prep Date: 7/14/2021 	ef Val	RunNo: 23126 SeqNo: 370686 %RPD RP	26 586 RPDLimit	Qual
Total Dissolved Solids	ved Solids	108	10.0	100.0	0	108	80	120				
Sample ID: 3 Client ID: 2 Analyte	Sample ID: 21070398-01CDUP Client ID: X046671 Analyte	SampType: DUP Batch ID: 13300 Result		stCode: SOLIDS_ TestNo: A2540C QL SPK value	TestCode: SOLIDS_TDS Units: mg/L TestNo: A2540C PQL SPK value SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit H	Prep Date: 7/14/2021 Analysis Date: 7/14/2021 LowLimit HighLimit RPD Ref Val	af Val	RunNo: 23126 SeqNo: 370688 %RPD RP	26 588 RPDLimit	Qual
Total Dissolved Solids	ved Solids	191	10.0						191.2	0	10	
Sample ID: 2 Client ID: 1 Analyte	Sample ID: 21070520-01ADUP Client ID: BatchQC Analyte	SampType: DUP Batch ID: 13300 Result		stCode: SOLIDS_ TestNo: A2540C OL SPK value	TestCode: SOLIDS_TDS Units: mg/L TestNo: A2540C POL SPK value SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hig	e: 7/14/2021 e: 7/14/2021 HighLimit RPD Ref Val	ef Val	RunNo: 23126 SeqNo: 370699 %RPD RP	26 599 RPDLimit	Qual
Total Dissolved Solids	ved Solids	725	10.0						727.5	0.344	10	
Qualifiers:	Cl Sample container ND Not Detected at th	Sourple contrainer femperature is out of limit as spacified at testende Not Detected at the Reperting Limit	eified at testende	II Rolding true PL. Perror Limit	Halding times for peepination or analysis exceeded Perror Limit	jstis exercided		MI Recovery ou RL Reporting D	Reporting Detection Land	Recovery sursals constrol lamits due to Mutrix In Reporting Detection Lamit	a.	Orieinal

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	NEILSON RESEARCH CORPORATION	TEL: (541) 770-5678 F	245 Medford AX: (54)	S Grape . , OR 9750) 770-290 welabs.co	ⁿ Samp	ole Log-In Chec	k Lis
Client Name	BOX_R_Waterlab	Work Order Number:	210703	98		ReptNo: 1	
Logged by:	Kalea Adams	7/9/2021 9:57:00 AM					
Completed I	By: Michelle Harsh	7/12/2021 8:26:19 AM			Hiendle	Harr	
Reviewed B	y: Dorie Maier	7/22/2021 11:58:43 AN	•		Di	m	
Chain of (Custody						
1. Is Chai	n of Custody complete?		Yes	1	No 🗌	Not Present	
2. How wa	is the sample delivered?		<u>UPS</u>				
<u>Log In</u>							
1	are present?		Yes	•	No 🗌		
4. Shippin	g container/cooler in good condi	tion?	Yes		No 🗌		
	y seals intact on shipping contain		Yes		No 🗌	Not Present	
No.	Seal Date	;	Signe	ed By:			
5. Was an	attempt made to cool the samp	les?	Yes	anness .	No 🗆	NA 🗌	
6. Were a	Il samples received at a tempera	ture of >0° C to 6.0°C	Yes	•	No 🗆		
7. Sample	e(s) in proper container(s)?		Yes	•	No 🗆		
8. Sufficie	nt sample volume for indicated to	est(s)?	Yes	-	No 🗔		
9. Are sar	nples (except VOA and ONG) pr	operly preserved?	Yes	•	No 🗌		
10. Was pr	eservative added to bottles?		Yes		No 🗹	NA 🗆	
11, is the h	eadspace in the VOA vials less t	than 1/4 inch or 6 mm?	Yes		No 🗆	No VOA Vials 🔽	
	ny sample containers received b		Yes		No 🔽		
	aperwork match bottle labels? iscrepancies on chain of custody	ń	Yes		No 🗌		
	trices correctly identified on Cha		Yes		No 🗌		
15. Is it cle	ar what analyses were requested	1?	Yes		No 🗌		
	II holding times able to be met? notify customer for authorization.)		Yes		No 🗌		
Special H	andling (if applicable)						
17. Was cl	ent notified of all discrepancies v	with this order?	Yes		No 🗆	NA 🔽	
P	erson Notified:	Date		~~~~~			
B	y Whom:	Via:	🗌 eMa	il 🗌 Ph	ione 🗌 Fax	In Person	
R	egarding:						
C	ient Instructions:						

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good				DLN

RESEARCH CORPORATION Environmental Testing Laboratory (341) 770-5678 fax (541) 770-2901	Chain of Custody is a LEGAL DOCUMENT and must be filled out accurately.	Chain of Custody Record ustody is a LEGAL DOCUMENT and must be filled out	Page	4
Section A Recuired Client Information	Section B Required Project Information	Section C Involce Information	Section D Rush Status (Subject to Schoduling)	(6
Company: Box R Water Analysis Laboratory	J WANDY LAND	ALATENTION SK ANUNAZAKU	X Standard 10-14 Days	
Address: 567 NW Second St	NUVISCAL -64	Company Name: Box R Water Analysis Lab	ab 5 Business Days (50% surcharge)	je)
Prineville, OR 97754	Report To: Box R Waler Lab	Address: 567 NW2448V	3 Business Days (75% surcharge)	(ət
Email boy rusher laber here water	COPY TO: SX WWWAZKU	PUL BE GFFFF	24 - 48 hours (100% surcharge)	-
Fax' Syl uur		P.O.#	Other	
Callected By (Print): (Days (-Collw111)		- ou chen Tlalas 7	Authorized Yes	No
Collected By (Sign): 10. (-ad with	and pu	Analysis Requested		
Email Report Ves No Mail Report Ves No	C Sal			
Fax Report Yes No	+10			
Section E Sample Information		a	NRC Workorder # DND/1 035	8
Sample ID CompGrab	Matrix Collected Collected V H	501 501 0140	Remarks/Field Data NRC Sample #	nple # Only]
	RED 3 X		MIVET RIVER 4-) 010	
Valle 123			MAR PLEABZ OR	
VIML 675	XX XX XX		1	86
Vale 677	XX 203 XX		MANAA FOND AT OU	
L L L L L L L L L L L L L L L L L L L	X El04:01		1	
XON6 681	XX E 0134	XXX	0	
XCN16 683			MURC DI	Τ
NMP BSS			20 Stand -	
VILL CRU			UNS P 1	
Matrix: DW - Drinking Water VW - Wastewater W - Wa	ler S · SourSolid SL · Shudge O ·	Oil WP - Wipe DTC Other	10 G	
Section F RetinguistyReceive	Print	Date Triple	Lab Use Only	
All A	Shenn MINAZAILC	MACT2011 / TED	Temp: 0, 2 (V)	
Received By:			4"C+1-2"C: Yes X No	
Relinquished By:				
Received By:			Number of Bottles Received: 3 O	
Relinquished By.		Alrundi D. c.A	pH Checked: X	
Received By Laboratory. 120 CC Cl & CC	CON varval		ed Yes XNO	s.
		Received Via	a X UPS FedEX Other Hand	q

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- 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.
- HTL At the client's request, the sample was analyzed outside of method specified holding time.
- II 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.

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1
567 NW 2 nd Street	Report Date: 08/02/2021
Prineville OR 97754	X Identification Number: X046672A
Phone: 541 447-4911	Client ID number#: X046672A
Fax: 541 447-4917	
System Identification:	Source of Water: DW
PWID #: N/A	
Name: CWM- H2O Company c/o lan Godwin	
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG
City, State, Zip code: Portland OR 97214	
Sample identification:	Sample time: 0550
Sample Location: RIV-1	
Sample Date: 07/07/2021	
Laboratory Information	
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021
Time Received in Lab: 1750	Time Analyzed: 1800
Sample identification #: X046672A	Composite Sample: No
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054
Results Sent to State: No	
Analytical Results	

<u>Contaminant</u>	<u>Max</u> Contaminant Limit	<u>Your</u> <u>Analysis-</u> <u>Results</u>	<u>Units</u>	Lab Reporting Limit	Method	Notes
Nitrate	<u>10.</u>	<u>0.736</u>	<u>mq/L</u>	<u>1.0</u>	<u>SM4500-</u> NO3-D	<u>"P"</u>

Recommended holding time was in the range for the test method used per The Box R Water Analysis Laboratory LLC., Quality Assurance Plan, and in accordance with the National Environmental Laboratory Accreditation Conference, (NELAC). This is documented in the sample results section above in this report. All results are valid for the sample submitted only, and all results are for the client listed above and on the Chain of Custody form. Samples will be held for a maximum of 10 days from the report date unless prior arrangements have been set up. Thank-you for choosing the Box R Water Analysis Laboratory LLC., If you need further explanation or if you have any other questions in regards to the testing of your water, please do not hesitate to call us at 541 447-4911. This report can not be reproduced except in full without the written permission from Box R Water Analysis Laboratory LLC.

DATA QUALIFIERS AND DEFINITIONS

 MDL = Minimum Detection Limit
 MCL = Minimum Contaminant Level
 MRL = Minimum Reporting Limit

 ND = Not Detected at reporting limit
 LRL = Laboratory Reporting Limit
 n/a= Not Applicable
 GW=Ground Water

 J = result between Laboratory/MDL/and LRL

Laboratory Director

Sherr Miyazaki

Date: Aug. 2,2021

To be filled in by Person Submitting Sample Public Water System □ 0/4	J.
PWS ID #: 41 6114	Realty Transaction D N /A
Public Water System of D	
Public Water System or Property Owner: C CWM-HZO Com Address: 1310	10 Ian Godwin
The CE MAG AND I	
City, State, Zip: Partland (1)	atter King Blvd.
prod at.	
Date Collected: 07/07/2021	Sampled By: TAG
	Time Collected: 0550
Position, Raw or Treated Water Fr	om Source or Distribution Single or Combined Sample-

Date Received	The second s	7-07-202	Date Analy	red DT	-08-2021
Lab Sample ID	X041	67ZA	Sample Co	And a state of the second	the second se
Contaminant	Code	MCL mg/L	Analysis mg/L	LRL	Method Analyst
Nitrate	1040	10.	0.736	1.0 MylL	SM4500-NO, D SKUS
Nitrate-Nitrite	1038	10.		5	
Nitrite	1041	10. ···	It to reject any sample		

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procedures, or does not have a completed chain of custody form. Hithometmctreportstrep

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1
567 NW 2 nd Street	Report Date: 08/02/2021
Prineville OR 97754	X Identification Number: X046674A
Phone: 541 447-4911	Client ID number#: X046674A
Fax: 541 447-4917	
System Identification:	Source of Water: DW
PWID #: N/A	
Name: CWM- H2O Company c/o lan Godwin	
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG
City, State, Zip code: Portland OR 97214	
Sample Identification:	Sample time: 0740
Sample Location: RIV-2	
Sample Date: 07/07/2021	
Laboratory Information	
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021
Time Received in Lab: 1750	Time Analyzed: 1800
Sample identification #: X046674A	Composite Sample: No
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054
Results Sent to State: No	
Analytical Results	

<u>Contaminant</u>	<u>Max</u> Contaminant Limit	<u>Your</u> <u>Analysis-</u> <u>Results</u>	<u>Units</u>	Lab Reporting Limit	<u>Method</u>	Notes
Nitrate	<u>10.</u>	0.531	mg/L	<u>1.0</u>	<u>SM4500-</u> NO3-D	<u>"</u> т"

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DATA QUALIFIERS AND DEFINITIONS

 MDL = Minimum Detection Limit
 MCL = Minimum Contaminant Level

 ND = Not Detected at reporting limit
 LRL = Laboratory Reporting Limit

 J = result between Laboratory MPL and LRL

MBL = Minimum Reporting Limit n/a= Not Applicable GW=Ground Water

Laboratory Director

19 2.2021 Date:

Sherri Miyazaki

Public Water System D N A	Realty Transaction D N /A
Public Water System or Property Owner: C	N /A Source Name: 'CJD
Address: 1319 - HZO Com	10 Jan Godwin
	pany
City, State, Zip: Portland ar	utlerking Blvd.
Sampled at: RIV-Z	97214 July
Date Collected: 07/07/2021	Sampled By: TAG
Sample Composition: Raw a	Time Collected: '07 40
Naw of Freated Water Fr	rom Source or Distribution Single or Combined Second

Date Received	in Lab: D	7-07-202	Data Aug	. ~	·D 757	
Lab Sample ID.	XO41	0674A			-08-202	
		<u>e</u> l q A	Sample Co	mposited ir	Lab: Y N)
Contaminant	Code	MCL mg/L	Analysis mg/L	LRL	Method	
Nitrate	1040	10.	DISSINGL	1.0 MIL	SM4500-NC	Analyst 270 Sku)
Nitrate-Nitrite	1038	10.	0	5		
Nitrite Box R Water Anal	1041	10.				

procedures, or does not have a completed chain of custody form.

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1
567 NW 2 nd Street	Report Date: 08/02/2021
Prineville OR 97754	X Identification Number: X046676A
Phone: 541 447-4911	Client ID number#: X046676A
Fax: 541 447-4917	
System Identification:	Source of Water: DW
PWID #: N/A	
Name: CWM- H2O Company c/o lan Godwin	
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG
City, State, Zip code: Portland OR 97214	
Sample identification:	Sample time: 1030
Sample Location: RIV-3	
Sample Date: 07/07/2021	
Laboratory Information	
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021
Time Received in Lab: 1750	Time Analyzed: 1800
Sample Identification #: X046676A	Composite Sample: No
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054
Results Sent to State: No	
Analytical Results	

<u>Contaminant</u>	<u>Max</u> Contaminant Limit	<u>Your</u> Analysis- <u>Results</u>	<u>Units</u>	Lab Reporting Limit	<u>Method</u>	Notes
<u>Nitrate</u>	<u>10.</u>	0.456	mg/L	<u>1.0</u>	<u>SM4500-</u> NO3-D	<u>"</u> "

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 MRL = Minimum Reporting Limit

 ND = Not Detected at reporting limit
 LRL = Laboratory Reporting Limit
 n/a= Not Applicable
 GW=Ground Water

 J = result between Laboratory MDL and LRL

Laboratory Director

Date: Aug Z. 2021

Sherri Miyazaki

To be filled in by Person Submitting Sample Public Water System D () /A	and the second state of the se
PWSID #: 41 N A	Realty Transaction D N /A
Public Water System or Property Owner: C	N /A Source Name: CJD
	10 Jan Godwin
City, State, Zip: Portland ar	utter King Blud.
Sampled at: BNJ-3	<u>477214</u>
Date Collected: 07/07/2021	Sampled By: TAG
	Time Collected: 10 30
Position: Raw or Treated Water Fr	Time Collected: 10 30

To be complete		7 4 7 7 1	· · · · · · · · · · · · · · · · · · ·			
Date Received	: XOU	4-07-202 0676A		Construction of the second second	-08-202	the second state and the second state of the second
Contaminant	Code			nposited ir	Lab: Y N)
Nitrate	1040	MCL mg/L	Analysis mg/L 0.456 Ng/L	LRL 40Mjl	Method SM4500-M	Analyse 0. D Skup
Nitrate-Nitrite	1038	10.	U. Levye	nongic	3014300-10	y D SEA
Nitrite Box R Water Anal	1041	10.				

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procedures, or does not have a completed chain of custody form. H:thometmctmcyertreportstresults.no3 rev 8/25/95

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1
567 NW 2 nd Street	Report Date: 08/02/2021
Prineville OR 97754	X Identification Number: X046678A
Phone: 541 447-4911	Client ID number#: X046678A
Fax: 541 447-4917	
System Identification:	Source of Water: DW
PWID #: N/A	
Name: CWM- H2O Company c/o lan Godwin	
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG
City, State, Zip code: Portland OR 97214	SPARE IN CONTROLS IN CONTROLS OF
Sample identification:	Sample time: 1030
Sample Location: Pond #1	
Sample Date: 07/07/2021	
Laboratory Information	
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021
Time Received in Lab: 1750	Time Analyzed: 1800
Sample identification #: X046678A	Composite Sample: No
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054
Results Sent to State: No	
Analytical Results	

Contaminant	<u>Max</u> Contaminant Limit	<u>Your</u> Analysis- <u>Results</u>	<u>Units</u>	Lab Reporting Limit	Method	Notes
Nitrate	<u>10.</u>	<u>13.4</u>	<u>mq/L</u>	<u>1.0</u>	<u>SM4500-</u> NO3-D	

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DATA QUALIFIERS AND DEFINITIONS

MDL = Minimum Detection Limit MCL = Minimum Contaminant Level MRL = Minimum Reporting Limit ND = Not Detected at reporting limit LRL = Laboratory Reporting Limit n/a= Not Applicable GW=Ground Water J = result between Laboratory MDL and LRL

Laboratory Director

Date: An Z. 2021

Sherri Miyazaki

To be filled in by Person Submitting Sampl Public Water System D 0 /A	
PWSID#: 41 N A Source ID	Realty Transaction D N /A
Public Water System or Property Owner:	
	10 Jan Godwin
Address: 1319 - HZO Com	ypany
Address: 1319 SE Martin L City, State, Zip: Portland ar	utlerKing Blvd.
Sampled at: Rong # 1	44214
Date Collected: 07/07/2021	Sampled By: TAG
	Time Collected: 1030
POSICION. Raw or Treated Water F	tom Source or Distribution Single or Combined S

Date Received i	in Lab: D	7-07-202	1 Data And	. 07	D 76-	
Lab Sample ID:		OLOTRA			08-202	<u>1 </u>
Contaminant	-	<u>0n</u>	Sample Co	mposited ir	Lab: Y N)
	Code	MCL mg/L	Analysis mg/L	LRL	Method	
Nitrate	1040	10.	13.4	1.0ml	SM4500-M	Analyst Q.D. Sku
Nitrate-Nitrite	1038	10.		J-	P.	•1
Nitrite Box R Water Anal	1041	10.				

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Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1
567 NW 2 nd Street	Report Date: 08/02/2021
Prineville OR 97754	X Identification Number: X046680A
Phone: 541 447-4911	Client ID number#: X046680A
Fax: 541 447-4917	
System Identification:	Source of Water: DW
PWID #: N/A	
Name: CWM- H2O Company c/o lan Godwin	
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG
City, State, Zip code: Portland OR 97214	s in out a set of the way of the set of the set of the set of the
Sample identification:	Sample time: 1040
Sample Location: Pond #2	
Sample Date: 07/07/2021	
Laboratory Information	
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021
Time Received in Lab: 1750	Time Analyzed: 1800
Sample identification #: X046680A	Composite Sample: No
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054
Results Sent to State: No	
Analytical Results	

<u>Contaminant</u>	<u>Max</u> Contaminant Limit	<u>Your</u> <u>Analysis-</u> <u>Results</u>	<u>Units</u>	Lab Reporting Limit	Method	Notes
Nitrate	<u>10.</u>	2.26	<u>mq/L</u>	<u>1.0</u>	<u>SM4500-</u> NO3-D	

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DATA QUALIFIERS AND DEFINITIONS

 MDL = Minimum Detection Limit
 MCL = Minimum Contaminant Level

 ND = Not Detected at reporting limit
 LRL = Laboratory Reporting Limit

 J = result between Laboratory MDL and LRL

MRL = Minimum Reporting Limit n/a= Not Applicable GW=Ground Water

Laboratory Director

Sherri Miyazaki

9.2.2021 Date:

érfi Miyazaki

To be filled in by Person Submitting Same Public Water System $\Box = O / \Lambda$	mple:
PWS ID #: 41 61 16	Realty Transaction D N /4
	: N/A Source Name: CJD
Public Water System or Property Owner CWM - HZO CO Address: 1310 CP Discussion	90 Jan Godwin
City, State, Zip: Portland av	LutlerKing Blvd.
Sampled at: Dond# 2	E AJZER
Date Collected: 07/07/2021	Sampled By: TAG
	Time Collected: 1040
Particille Raw or Treated Wate	Time Collected: 1040

Date Received	in Lab: D	7-07-202		. ~ 1	-0 -+-	
Lab Sample ID	X041	068DA			08-202	<u> </u>
Contaminant	Code	MCL mg/L	Sample Co)
Nitrate	1040	10.	Analysis mg/L 2.264g/L	LRL	Method SM450D-NG	Analysi 2D Skuy
Nitrate-Nitrite	1038	10.	9	5		
Nitrite Box R Water A	1041	10.				

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procedures, or does not have a completed chain of custody form.

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1
567 NW 2 nd Street	Report Date: 08/02/2021
Prineville OR 97754	X Identification Number: X046682A
Phone: 541 447-4911	Client ID number#: X046682A
Fax: 541 447-4917	
System Identification:	Source of Water: DW
PWID #: N/A	
Name: CWM- H2O Company c/o lan Godwin	
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG
City, State, Zip code: Portland OR 97214	
Sample identification:	Sample time: 0910
Sample Location: CWM-2	
Sample Date: 07/07/2021	
Laboratory Information	
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021
Time Received in Lab: 1750	Time Analyzed: 1800
Sample Identification #: X046682A	Composite Sample: No
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054
Results Sent to State: No	
Analytical Results	

Analytical Results

Contaminant	<u>Max</u> Contaminant Limit	<u>Your</u> Analysis- Results	<u>Units</u>	Lab Reporting Limit	Method	<u>Notes</u>
Nitrate	<u>10.</u>	0.620	mg/L	<u>1.0</u>	SM4500- NO3-D	<u>"T"</u>

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DATA QUALIFIERS AND DEFINITIONS

MDL = Minimum Detection Limit MCL = Minimum Contaminant Level ND = Not Detected at reporting limit LRL = Laboratory Reporting Limit n/a= Not Applicable GW=Ground Water J = result between Labdratory MDb and LRL

MRL = Minimum Reporting Limit

Laboratory Director (

Aug Zo2021 Date:

Shérri Miyazaki

To be filled in by Person Submitting Sam	
PWS ID #: 41 N JA Source ID	Realty Transaction D N /A
Public Water System or Property Owner:	N /A Source Name: CJD
Address: 1319 - Azo Con	40 Jan Godwin
Address: 1319 - A	spany
City, State, Zip: Portland (12	utter King Blvd.
Sampled at: CWM - Z	97219
Date Collected: 07/07/2021	Sampled By: TAG
Sample Composition: Raw or Treated W	Time Collected: 0910 From Source or Distribution Single or Combined Sample- N
of freated water	From Source or Distribution Single or Combined Seconds N

Date Received	in Lab: D	7-07-202	Date Analy	- M	AD 7471
Lab Sample ID	: X041	0682A	Date Analy Sample Co	and the second se	08-2021
Contaminant	Code	MCL mg/L	Analysis mg/L		
Vitrate	1040	10.	D.620	LRL 1.0 Mill	Method Analyst SM4500-NO D SKM
vitrate-Nitrite	1038	10.			
Vitrite	1041	10.			

procedures, or does not have a completed chain of custody form.

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1	
567 NW 2 nd Street	Report Date: 08/02/2021	
Prineville OR 97754	X Identification Number: X046684A	
Phone: 541 447-4911	Client ID number#: X046684A	
Fax: 541 447-4917		
System Identification:	Source of Water: DW	
PWID #: N/A		
Name: CWM- H2O Company c/o lan Godwin		
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG	
City, State, Zip code: Portland OR 97214	9999 AND 12 CONSTRUCTION OF SHITLY AND AN	
Sample identification:	Sample time: 0805	
Sample Location: MW-6		
Sample Date: 07/07/2021		
Laboratory Information		
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021	
Time Received in Lab: 1750	Time Analyzed: 1800	
Sample Identification #: X046684A	Composite Sample: No	
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054	
Results Sent to State: No		
Analytical Results		

<u>Contaminant</u>	<u>Max</u> Contaminant Limit	<u>Your</u> Analysis- Results	<u>Units</u>	Lab Reporting Limit	Method	<u>Notes</u>
Nitrate	<u>10.</u>	0.652	<u>mg/L</u>	<u>1.0</u>	<u>SM4500-</u> NO3-D	<u>"I"</u>

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DATA QUALIFIERS AND DEFINITIONS

Laboratory Director

MDL = Minimum Detection Limit MCL = Minimum Contaminant Level ND = Not Detected at reporting limit LRL = Laboratory Reporting Limit n/a= Not Applicable GW=Ground Water J = result between Laboratory/MDL and LRL

29.2.2021 Date:

MRL = Minimum Reporting Limit

Sherti/Miyazaki

Public Water System D N /A PWS ID #: 41 N IA	Realty Town A 16
	N /A Realty Transaction D N /A
Public Water System or De	N 7A Source Name: 'CJD
Public Water System or Property Owner: C	10 Ian Godurus
Address: 1319 SE Martin L	pany
City, State, Zip: POR Hand Cie	GIEGA ICING DIVA.
City, State, Zip: Portland ar Sampled at: MW-6	4721Y
Date Collected: 07/07/2021	Sampled By: TAG
S-10+10+16021	
Sample Composition: Rev or Treated to	Time Collected: 15805
VI Fieuteo Water Fr	om Source m Distanting to the

Date Received	in Lab: D	7-07-707		. 1	10 7 4-	
Lab Sample ID	X041	06844		and more than the second of the	08-202	<u> </u>
Contra		<u> </u>	Sample Cor	mposited ir	Lab: Y N)
Contaminant	Code	MCL mg/L	Analysis mg/L	LRL		
Nitrate	1040	10.	0.652 Mg/L	HOMIL	Method SM4500-M	Analyst 2 D Skuy
Nitrate-Nitrite	1038	10.	0	2		
Nitrite Box R Water Anal	1041	10.				

procedures, or does not have a completed chain of custody form.

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1
567 NW 2 nd Street	Report Date: 08/02/2021
Prineville OR 97754	X Identification Number: X046686A
Phone: 541 447-4911	Client ID number#: X046686A
Fax: 541 447-4917	
System Identification:	Source of Water: DW
PWID #: N/A	
Name: CWM- H2O Company c/o lan Godwin	
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG
City, State, Zip code: Portland OR 97214	
Sample identification:	Sample time: 0700
Sample Location: MW-5	
Sample Date: 07/07/2021	
Laboratory Information	
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021
Time Received in Lab: 1750	Time Analyzed: 1800
Sample identification #: X046686A	Composite Sample: No
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054
Results Sent to State: No	
Analytical Results	

Contaminant Max Your Units Lab Reporting Method Notes Contaminant Analysis-Limit Limit Results Nitrate 10. "" 0.574 mg/L 1.0 SM4500-NO3-D

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 MRL = Minimum Reporting Limit

 ND = Not Detected at reporting limit
 LRL = Laboratory Reporting Limit
 n/a= Not Applicable
 GW=Ground Water

 J = result between Laboratory MDL and LRL

Laboratory Director(\(

Date: Aug 2.2021

Sherri Miyazaki

Public Water System D N /A	Deck and the
Source The state	Realty Transaction D N /A
Public Water System or Provide State	Source Name: CJD
Public Water System or Property Owner: 40 T CWM-HZO Compose Address: 1310	an Godwin
Sampled at: MUNES	ErKing Blud.
implade internal ar 972	214 January
NIN S	A REAL TO A
Date Collected: 07/07/2021	Sampled By: TAG
	Time Collected: OPDD
Sample Composition: Raw or Treated Water From Som	Ce or Distribution Single m Cambin 10
	- Combined Sample-

Date Received	in Lab: D	7-17-707	1	~	<u> </u>	
Lab Sample ID	: XOUI	0686A		and the second second second	-08-202	21
Contaminant	Code	MCL mg/L	Sample Co	mposited ir	Lab: Y N)
Nitrate	1040	10.	Analysis mg/L D57449K	LRL 1.0 Mjl	Method SM450D-N	Analyst 0,70 Skup
Nitrate-Nitrite	1038	10.	0.0110.0	10.912		
Nitrite Box R Water Anal	1041	10.				

procedures, or does not have a completed chain of custody form. H:home\mc\mcyer\reports\results.no3 rev 8/25/95

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1			
567 NW 2 nd Street	Report Date: 08/02/2021			
Prineville OR 97754	X Identification Number: X046688			
Phone: 541 447-4911	Client ID number#: X046688A			
Fax: 541 447-4917				
System Identification:	Source of Water: DW			
PWID #: N/A				
Name: CWM- H2O Company c/o lan Godwin				
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG			
City, State, Zip code: Portland OR 97214				
Sample identification:	Sample time: 0610			
Sample Location: MW-7				
Sample Date: 07/07/2021				
Laboratory Information				
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021			
Time Received in Lab: 1750	Time Analyzed: 1800			
Sample identification #: X046688A	Composite Sample: No			
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054			
Results Sent to State: No				
Analytical Results				

Contaminant	<u>Max</u> Contaminant Limit	<u>Your</u> Analysis- Results	<u>Units</u>	<u>Lab Reporting</u> <u>Limit</u>	Method	<u>Notes</u>
<u>Nitrate</u>	<u>10.</u>	2.86	<u>mg/L</u>	<u>1.0</u>	<u>SM4500-</u> NO3-D	

Recommended holding time was in the range for the test method used per The Box R Water Analysis Laboratory LLC. , Quality Assurance Plan, and in accordance with the National Environmental Laboratory Accreditation Conference, (NELAC). This is documented in the sample results section above in this report. All results are valid for the sample submitted only, and all results are for the client listed above and on the Chain of Custody form. Samples will be held for a maximum of 10 days from the report date unless prior arrangements have been set up. Thank-you for choosing the Box R Water Analysis Laboratory LLC., If you need further explanation or if you have any other questions in regards to the testing of your water, please do not hesitate to call us at 541 447-4911. This report can not be reproduced except in full without the written permission from Box R Water Analysis Laboratory LLC.

DATA QUALIFIERS AND DEFINITIONS

MDL = Minimum Detection Limit MCL = Minimum Contaminant Level MRL = Minimum Reporting Limit ND = Not Detected at reporting limit LRL = Laboratory Reporting Limit n/a= Not Applicable GW=Ground Water J = result between Laboratory MDL and LRL

Laboratory Director

Bug 2.2021 Date:

Shérri Miyazaki

To be filled in by Person Submitting Sample:
Public Water System D V /A
PWS ID #: 41 N A Same to the Realty Transaction D N /A
Public Water System or Property Owner: 40 Jan Godwing
City, State, Zip: Portland ar 97214
Sampled at: MW#7
Date Collected: 07/07/2021 Sampled By: TAG
Sample Composition: Raw or Time Collected: 'DGD
Sample Composition: Raw or Treated Water From Source or Distribution Single or Combined Sample- N/A
······································
To be completed by Laboratory:
Date Received in Lab: D7-07-Z021 Date Analyzed: 07-08-7021

Lab Sample ID	: X041	1-07-202 0684	Date Analy Sample Co		-08-2021
Contaminant	Code	MCL mg/L	Analysis mg/L	1995	
Nitrate	1040	10.		LRL 1.OM/L	Method Analyst SM4500-NQ D Skuy
Nitrate-Nitrite	1038	10.	2.86 mg/L		
Nitrite Box R Water Anal	1041 Vsis Laborat	10.			

procedures, or does not have a completed chain of custody form. H:\home\mc\mcyrtyreports\results.no3_rev 8/25/95

Box R Water Analysis Laboratory LLC	Sample RESULTS: Page 1 of 1		
567 NW 2 nd Street	Report Date: 08/02/2021		
Prineville OR 97754	X Identification Number: X046690A		
Phone: 541 447-4911	Client ID number#: X046690A		
Fax: 541 447-4917			
System Identification:	Source of Water: DW		
PWID #: N/A			
Name: CWM- H2O Company c/o lan Godwin			
Address: 1319 SE Martin Luther King Blvd	Sampled by: IAG		
City, State, Zip code: Portland OR 97214			
Sample identification:	Sample time: 1000		
Sample Location: CWM-3			
Sample Date: 07/07/2021			
Laboratory Information			
Date Received in Lab: 07/07/2021	Date Analyzed: 07/08/2021		
Time Received in Lab: 1750	Time Analyzed: 1800		
Sample identification #: X046690A	Composite Sample: No		
Location Analysis Took Place: Box R Laboratory	ORELAP #: 100054		
Results Sent to State: No			
Analytical Results			

Contaminant Max Your Units Lab Reporting Method Notes Contaminant Analysis-Limit Limit Results Nitrate 10. ND mg/L 1.0 SM4500-NO3-D

Recommended holding time was in the range for the test method used per The Box R Water Analysis Laboratory LLC. , Quality Assurance Plan, and in accordance with the National Environmental Laboratory Accreditation Conference, (NELAC). This is documented in the sample results section above in this report. All results are valid for the sample submitted only, and all results are for the client listed above and on the Chain of Custody form. Samples will be held for a maximum of 10 days from the report date unless prior arrangements have been set up. Thank-you for choosing the Box R Water Analysis Laboratory LLC., If you need further explanation or if you have any other questions in regards to the testing of your water, please do not hesitate to call us at 541 447-4911. This report can not be reproduced except in full without the written permission from Box R Water Analysis Laboratory LLC.

DATA QUALIFIERS AND DEFINITIONS

 MDL = Minimum Detection Limit
 MCL = Minimum Contaminant Level
 MRL = Minimum Reporting Limit

 ND = Not Detected at reporting limit
 LRL = Laboratory Reporting Limit
 n/a= Not Applicable
 GW=Ground Water

 J = result between Laboratory MBL and LRL

Laboratory Director

Date: 109 2.2021

Sherri Miyazaki

Box R Water Analysis
567 NW 2 nd St Prince in an Albert
567 NW 2 nd St. Prineville, OR 97754 Phone: (541)447-4911 Factor (541)
ORELAP # 100054

To be filled in b	y Person	Submitting Samp				
Public Water Sy	vstem D	N /A	ole:			
PWS ID #: 41	NIA	Saure		Realty Tr.	ansaction D	JA
Public Water Sy	stem or P	Source ID:		Source Nam	CID	
<u> </u>	NW-1	tzo Con	ypany (20dwn	n	
City, State, Zip:	PORTI	martin 1	utler K)	ng Bl	vd.	
Sampled at: C	WM-	3	<u>YIZEP</u>			
Date Collected:		<u> </u>		Sampled B	y: TAG	
Sample Compos	sition: Raw	or Treated Water+	From Source or Distr	Time Colle	cted: 1000) example_NA
To be complete	d by Labo	atory:				
Date Received	in Lab: D	7 ~ 7-	1			
Lab Sample ID:		1-01-202 0690A			-08-202 n Lab: Y N	2
Contaminant	Code	MCL mg/L	Analysis mg/l.			2
Nitrate	1040	10.	ND	LRL	Method SM4500-N	Analyst
Nitrate-Nitrite	1038	10.		norgie	511-1300-10	UN L' SKIM)
Nitrite Box P. Water to	1041	10.				

Box R Water Analysis Laboratory reserves the right to reject any sample that does not meet proper sampling procedures, or does not have a completed chain of custody form.



Box R Water Analysis Laboratory 567 NW Second Street Princville, Oregon 97754 541-447-4911

Mr. Ian Godwin

August 17, 2021

c/o CWM - H2O

1319 SE MLK Jr. Blvd., Ste 204

Portland, OR 97214

Sample Nbrs: X046671-73-75-77-79-81-83-85-87-89

Dear Mr. Godwin,

Attached is a copy of your 10 Lead sample results, that you requested for Project #2111001, CJD / CWM. Your analysis was performed by Neilson Research Corp. in Medford, OR. Please do not hesitate to call Box R Water Analysis Laboratory with any questions you may have in regards to your water testing.

Thank you for using Box R Water Analysis Laboratory, we appreciate your business.

Sincerely

Sherri K. Miyazaki - Box R Water Analysis Laboratory Director



August 12, 2021

Sherri Miyazaki Box R Waterlab 567 NW Second Street Princville, OR 97754 TEL: (541) 447-4911 FAX (541) 447-4917

RE: X046671-89 City of John Day-AMENDED

Order No.: 21070398

Dear Sherri Miyazaki:

Neilson Research Corporation received 10 sample(s) on 7/9/2021 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

Tamy Stmedenam

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







Case Narrative

WO#:	21070
Date:	8/12/2

398 021

CLIENT: Box R Waterlab **Project:** X046671-89 City of John Day-AMENDED

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.

The report is amended adding FE to each sample and changing the Sample Location for Client Sample ID 21070398-09 from "MW #2" to "MW #7" per client request on 8/5/2021. TRS

Revision vI



Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab	Collection Date:	7/7/2021 5:50:00 AM
Lab ID:	21070398-01	Received Date:	7/9/2021 9:57:00 AM
Client Sample ID	X046671		AQUEOUS
Project:	X046671-89 City of John Day-AMENDED		
Sample Location:	River #1		

Analyses	Method	NELAP Status	Result (Qual	DF	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0										
Chloride	E300.0	A	1.95	1	1	0.0704	1.00	mg/L		07/17/21 8:43 KMC
TRACE METALS BY E	PA 200.7 ICI	Р								
Iron	E200.7	А	2.97	1	1	0.00983	0.0150	mg/L		08/09/21 19:44 SJS
AMMONIA NITROGEN	AS N									
Nitrogen, Ammonia (As N)	E350.1	A	ND	1	1	0.136	0.500	mg/L		07/16/21 15:51 SCN
NITRATE NITROGEN A	N N									
Nitrogen, Nitrate-Nitrite	E353.2	A	ND E	R 1	1	0.0157	0.100	mg/L		07/09/21 17:17 KEC
TOTAL PHOSPHORUS	AS P									
Phosphorus, Total (As P)	A4500-P-E	А	0.104	1	1	0.0116	0.0250	mg/L		07/13/21 15:07 ITN
TOTAL DISSOLVED S	DLIDS									
Total Dissolved Solids	A2540C		191	1	r.	3.75	10.0	mg/L		07/14/21 18:53 KMC

QUALIFIERS

NELAP

CI

МІ

PL

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

Revision v1



Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab
Lab ID:	21070398-02
Client Sample ID	X046673
Project:	X046671-89 City of John Day-AMENDED
Sample Location:	River #2

Collection Date:	7/7/2021 7:40:00 AM
Received Date:	7/9/2021 9:57:00 AM
Matrix:	AQUEOUS

Analyses	Method	NELAP Status	Result Qua	DF	MDL	RL	Units	MCL	Date Analy Analyzed
ANIONS BY EPA 300.0)								
Chloride	E300.0	А	1.95	1	0.0704	1.00	mg/L		07/17/21 9:10 KM
TRACE METALS BY E	PA 200.7 IC	Р							
Iron	E200.7	A	0.249	1	0.00983	0.0150	mg/L		08/09/21 19:47 SJS
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	A	ND	1	0.136	0.500	mg/L		07/16/21 16:01 SCM
NITRATE NITROGEN	AS N								
Nitrogen, Nitrate-Nitrite	E353.2	A	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:18 KEC
TOTAL PHOSPHORUS	AS P								
Phosphorus, Total (As P)	A4500-P-E	A	0.120	1	0.0116	0.0250	mg/L		07/13/21 15:07 ITN
TOTAL DISSOLVED S	OLIDS								
Total Dissolved Solids	A2540C		171	1	3.75	10.0	mg/L		07/14/21 17:01 KM0

QUALIFIERS

NELAP

CI

Sample container temperature is out of limit as specified at testcode MI Recovery outside constrol limits due to Matrix Enterference PL. Pennit Limit

н Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit ND

Revision v1



Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab	С
Lab 1D:	21070398-03	
Client Sample ID	X046675	
Project:	X046671-89 City of John Day-AMENDED	
Sample Location:	River #3	

Collection Date:	7/7/2021 10:20:00 AM
Received Date:	7/9/2021 9:57:00 AM
Matrix:	AQUEOUS

Analyses Method NELAP Result DF MDL RL Units MCL Date Analyst Status Qual Analyzed ANIONS BY EPA 300.0 Chloride E300.0 A 1.95 1 0.0704 1.00 mg/L 07/17/21 9:37 KMC TRACE METALS BY EPA 200.7 ICP Iron E200.7 A 0.166 1 0.00983 0.0150 mg/L 08/09/21 19:50 SJS AMMONIA NITROGEN AS N Nitrogen, Ammonia (As N) E350.1 A ND 1 0.136 0.500 mg/L 07/16/21 16:02 SCN NITRATE NITROGEN AS N Nitrogen, Nitrate-Nitrite E353.2 А ND ER 1 0.0157 0.100 mg/L 07/09/21 17:19 KEC TOTAL PHOSPHORUS AS P Phosphorus, Total (As P) A4500-P-E A 0.104 1 0.0116 0.0250 mg/L 07/13/21 15:07 ITN TOTAL DISSOLVED SOLIDS Total Dissolved Solids A2540C 178 1 3.75 10.0 mg/L 07/14/21 17:05 KMC

QUALIFIERS

NELAP

C1 Sample container temperature is out of limit as specified at testeode
 M1 Recovery outside control limits due to Matrix Interference
 PL Permit Limit

 H
 Holding times for preparation or analysis exceeded.

 ND
 Not Detected at the Reporting Limit.

Revision v1



Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab
Lab ID;	21070398-04
Client Sample ID	X046677
Project:	X046671-89 City of John Day-AMENDED
Sample Location:	Pond #I

Collection Date:	7/7/2021 10:30:00 AM
Received Date:	7/9/2021 9:57:00 AM
Matrix:	AQUEOUS

Analyses	Method	NELAP Status	Result Qu	DF Jal	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0									
Chloride	E300.0	A	45.8	10	0.704	10.0	mg/L		07/14/21 7:14 KMC
TRACE METALS BY E	PA 200.7 ICI	Р							
Iron	E200.7	А	0.460	1	0.00983	0.0150	mg/L		08/09/21 19:54 SJS
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	А	0.837	1	0.136	0.500	mg/L		07/16/21 16:03 SCN
NITRATE NITROGEN	AS N								
Nitrogen, Nitrato-Nitrite	E353.2	A	14.3	10	0.157	1.00	mg/L		07/09/21 17:20 KEC
TOTAL PHOSPHORUS	AS P								
Phosphorus, Total (As P)	A4500-P-E	A	6.18	1	0.116	0.250	mg/L		07/12/21 16:32 ITN
TOTAL DISSOLVED S	DLIDS								
Total Dissolved Solids	A2540C		471	1	3.75	10.0	mg/L		07/14/21 17:09 KMC

QUALIFIERS

C1 Sample container temperature is out of limit as specified at testcode ML Recovery outside control limits due to Matrix Interference Permit Limit FL.

Holding times for preparation or analysis exceeded. 11 Not Detected at the Reporting Limit ND.

Revision v1



Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab
Lab ID:	21070398-05
Client Sample 1D	X046679
Project:	X046671-89 City of John Day-AMENDED
Sample Location:	Pond #2

Collection Date: 7/7/2021 10:40:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP Status	Result Q	DF ual	MDL	RL	Units	MCL	Date A Analyzed	Analysi
ANIONS BY EPA 300.0)									
Chloride	E300.0	A	49.5	10	0.704	10.0	mg/L		07/14/21 7:44	кмс
TRACE METALS BY E	PA 200.7 ICI	5								
Iron	E200.7	A	0.485	1	0.00983	0.0150	mg/L		08/09/21 19:57	' SJS
AMMONIA NITROGEN	AS N									
Nitrogen, Ammonia (As N)	E350.1	А	1.12	1	0.136	0.500	mg/L		07/16/21 16:05	5 SCN
NITRATE NITROGEN /	AS N									
Nitrogen, Nitrate-Nitrite	E353.2	A	2.47	2	0.0314	0.200	mg/L		07/09/21 17:21	KEC
TOTAL PHOSPHORUS	S AS P									
Phosphorus, Total (As P)	A4500-P-E	A	6.52	1	0.290	0.625	mg/L		07/16/21 13:30	RJC
TOTAL DISSOLVED S	OLIDS									
Total Dissolved Solids	A2540C		468	1	3.75	10.0	mg/L		07/14/21 17:13	KMC

QUALIFIERS

NELAP

CL

MI

PL.

Sample container temperature is out of limit as specified at testoade Recovery outside control limits due to Matrix Interference Permit Limit

II Holding times for preparation or analysis exceeded NO Not Detected at the Reporting Limit

Revision v1



Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab
Lab ID:	21070398-06
Client Sample ID	X046681
Project:	X046671-89 City of John Day-AMENDED
Sample Location:	CWM #2

Collection Date:	7/7/2021 9:10:00 AM
Received Date:	7/9/2021 9:57:00 AM
Matrix:	AQUEOUS

Analyses	Method	NELAP Status	Result Qua	DF	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0									
Chloride	E300.0	A	4.85	1	0.0704	1.00	mg/L		07/17/21 10:57 KMC
TRACE METALS BY E	PA 200.7 ICI	Þ							
Iron	E200.7	A	2.18	1	0.00983	0.0150	mg/L		08/09/21 20:00 SJS
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	A	ND	1	0.136	0.500	mg/L		07/16/21 16:06 SCN
NITRATE NITROGEN A	AS N								
Nitrogen, Nitrate-Nitrite	E353.2	A	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:23 KEC
TOTAL PHOSPHORUS	AS P								
Phosphorus, Total (As P)	A4500-P-E	A	0.542	1	0.0116	0.0250	mg/L		07/13/21 15:11 ITN
TOTAL DISSOLVED S	OLIDS								
Total Dissolved Solids	A2540C		196	1	3.75	10.0	mg/L		07/14/21 17:17 KMC

QUALIFIERS

NELAP

 C1
 Sample container temperature is out of limit as specified at testcode

 M1
 Recovery outside control limits due to Matrix Interference

 P1
 Permit Limit

H Holding times for preparation or analysis exceeded
 NO Not Detected at the Reporting Limit

Revision v1



Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab	Colle
Lab ID;	21070398-07	Rec
Client Sample ID	X046683	
Project:	X046671-89 City of John Day-AMENDED	
Sample Location:	MW #6	

ollection Date: 7/7/2021 8:05:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses	Method	NELAP Status	Result C	DF Qual	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0)								
Chloride	E300.0	А	42.4	10	0.704	10.0	mg/L		07/14/21 8:43 KMC
TRACE METALS BY E	PA 200.7 ICI	P							
Iron	E200.7	А	1.15	1	0.00983	0.0150	mg/L		08/09/21 20:03 SJS
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	A	ND	1	0.136	0.500	mg/L		07/16/21 16:07 SCN
NITRATE NITROGEN	AS N								
Nitrogen, Nitrate-Nitrite	E353.2	A	ND E	R 1	0.0157	0.100	mg/L		07/09/21 17:24 KEC
TOTAL PHOSPHORUS	S AS P								
Phosphorus, Total (As P)	A4500-P-E	A	6.67	1	0.116	0.250	mg/L		07/15/21 16:12 RJC
TOTAL DISSOLVED S	OLIDS					18			
Total Dissolved Solids	A2540C		405	1	3.75	10.0	mg/L		07/14/21 17:21 KMC

QUALIFIERS

NELAP

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MI

PI.

Simple container temperature is out of limit as specified at testeode
 Receivery auxide comtrol limits due to Matrix Interference
 Permit Limit

 H
 Holding times for preparation or analysis exceeded

 ND
 Not Detected at the Reporting Limit

Revision v1



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

Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

Collection Date: 7/7/2021 7:00:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

CLIENT:	Box R Waterlab
Lab ID;	21070398-08
Client Sample ID	X046685
Project:	X046671-89 City of John Day-AMENDED
Sample Location:	MW #5

Analyses	Method	NELAP Status	Resul	t Qual	DF	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0										
Chloride	E300.0	А	42.1		5	0.352	5.00	mg/L		07/17/21 11:23 KMC
TRACE METALS BY E	PA 200.7 ICI	Þ								
Iron	E200.7	А	0.585		1	0.00983	0.0150	mg/L		08/09/21 20:13 SJS
AMMONIA NITROGEN	AS N									
Nitrogen, Ammonia (As N)	E350.1	А	3.57		1	0.136	0.500	mg/L		07/20/21 15:09 SCM
NITRATE NITROGEN A	AS N									
Nitrogen, Nitrato-Nitrite	E353.2	A	ND	ER	1	0.0157	0.100	mg/L		07/09/21 17:27 KEC
TOTAL PHOSPHORUS	AS P									
Phosphorus, Total (As P)	A4500-P-E	А	6.65		1	0.290	0.625	mg/L		07/16/21 13:30 RJC
TOTAL DISSOLVED SO	DLIDS									
Total Dissolved Solids	A2540C		440		1	3.75	10.0	mg/L		07/14/21 17:25 KMC

QUALIFIERS

NELAP

CI

MI

Pl.

Permit Limit

Sample container temperature is out of limit as specified at testcode Recovery outside control limits due to Matrix Interference

H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit

Revision v1

NELAP A Accredited in accordance with NELAP ORELAP 100016, OR-028



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

Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

Collection Date: 7/7/2021 6:10:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

CLIENT:	Box R Waterlab
Lab ID:	21070398-09
Client Sample ID	X046687
Project:	X046671-89 City of John Day-AMENDED
Sample Location:	MW #7

Analyses	Method	NELAP Status	Result Qual	DF	MDL	RL	Units	MCL	Date Analyst Analyzed
ANIONS BY EPA 300.0									
Chloride	E300.0	A	2.75	1	0.0704	1.00	mg/L		07/14/21 11:42 KMC
TRACE METALS BY E	PA 200.7 ICI	5							
Iron	E200.7	A	5.36	1	0.00983	0.0150	mg/L		08/09/21 20:17 SJS
AMMONIA NITROGEN	AS N								
Nitrogen, Ammonia (As N)	E350.1	A	ND	1	0.136	0.500	mg/L		07/20/21 15:13 SCN
NITRATE NITROGEN A	AS N								
Nitrogen, Nitrate-Nitrite	E353.2	A	ND ER	1	0.0157	0.100	mg/L		07/09/21 17:29 KEC
TOTAL PHOSPHORUS	AS P								
Phosphorus, Total (As P)	A4500-P-E	A	0.146	1	0.0116	0.0250	mg/L		07/13/21 15:11 ITN
TOTAL DISSOLVED S	DLIDS								
Total Dissolved Solids	A2540C		221	1	3.75	10.0	mg/L		07/14/21 17:29 KMC

QUALIFIERS

NELAP

CI

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PL

Sample comainer temperature is out of limit as specified at testeede Recovery outside comarol limits due to Matrix Interference Permit Limit

 H
 Holding times for preparation or analysis exceeded

 NO
 Not Detected at the Reporting Limit

Revision v1

NELAP A Accredited in accordance with NELAP ORELAP 100016, OR-028



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

Analytical Report

WO#: 21070398 Date Reported: 8/12/2021

CLIENT:	Box R Waterlab	C
Lab ID;	21070398-10	1
Client Sample ID	X046689	
Project:	X046671-89 City of John Day-AMENDED	
Sample Location:	CWM #3	

Collection Date: 7/7/2021 10:00:00 AM Received Date: 7/9/2021 9:57:00 AM Matrix: AQUEOUS

Analyses Method NELAP Result DF MDL RL Units MCL Date Analyst Status Analyzed Qual ANIONS BY EPA 300.0 Chloride E300.0 A 1.79 1 0.0704 1.00 07/14/21 12:12 KMC mg/L TRACE METALS BY EPA 200.7 ICP Iron E200.7 A 0.381 1 0.00983 0.0150 mg/L 08/09/21 20:20 SJS AMMONIA NITROGEN AS N Nitrogen, Ammonia (As N) E350.1 A ND 1 0.136 0.500 mg/L 07/20/21 15:14 SCN NITRATE NITROGEN AS N Nitrogen, Nitrate-Nitrite E353.2 A ND ER 1 0.0157 0.100 07/09/21 17:30 KEC mg/L TOTAL PHOSPHORUS AS P Phosphorus, Total (As P) A4500-P-E A 0.234 1 0.0116 0.0250 mg/L 07/13/21 15:12 ITN TOTAL DISSOLVED SOLIDS **Total Dissolved Solids** A2540C 181 1 3.75 10.0 mg/L 07/14/21 17:33 KMC

QUALIFIERS

NELAP

C1

MI

PL.

Somple container temperature is out of limit as specified at testcode Recovery outside control limits due to Matrix Interference Permit Limit

Holding times for preparation or analysis exceeded
 NO Not Detected at the Reporting Limit

Revision v1

NELAP A Accredited in accordance with NELAP ORELAP 100016, OR-028

COR	NEILSON Research Corporation	LEL: (S4	Neilson R TEL: (541) 770-5678 I Websi	Nedison Research Corporation 245 S Grape St Medford, OR 97501 70-5678 FAX: (541) 770-2901 Pebsite: www.mr/abs.com	rration 197501 9-2901 bs.com			QC SUI	QC SUMMARY REPORT WOP: 21070398 12-4ug-21	21070398 21070398 12-Aug-21	L * 7
Client: Box R Waterlab Project: X046671-89 Cit	Box R Waterlab X046671-89 City of John Day-AMENDED	-AMENDE	G					TestCode:	W_AIMONIA_W		
Sample ID: MB-13320 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13320 Result	MBLK 13320 Result	TestCode TestN(stCode: AMMONIA TestNo: E350.1 OL SPK value	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 POL SPK value SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit H	Prep Date: 7/15/2021 Analysis Date: 7/16/2021 LowLimit HighLimit RPD Ref Val	RunNo: 2306 SeqNo: 3697 %RPD	52 799 RPDLimit C	Qual
Nitrogen, Ammonia (As N)	6	Q	0.500								
Samplo ID: LCS-13320 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13320 Resul	LCS 13320 Result	TestCode TestNc POL	stCode: AMMONIA TestNo: E350.1 OL SPK value	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 POL SPK value SPK Raf Val	%REC	Prep Date: Analysis Date: LowLimit Hę	c: 7/15/2021 e: 7/16/2021 HighLimit RPD Ref Val	RunNo: 2306 SeqNo: 3698 %RPD	82 101 RPDLimit C	Qual
Nitrogen, Ammonia (As N)	(7	1.98	0.500	2.000	0	98.8	60	110			
Sample ID: 21070321-04AMS Client ID: BatchQC Analyte	SampType: Batch ID: -	MS 13320 Result	TestCode TestNc PQL	TestCode: AMMONIA_W TestNo: E350.1 PQL SPK value SP	W Units: mg/L E350.1 SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hig	Prep Date: 7/15/2021 Analysis Date: 7/16/2021 LowLimit HighLimit RPD Ref Val	RunNo: 2306 SeqNo: 3696 %RPD	82 110 RPDLimit Q	Qual
Nitrogen, Ammonia (As N)	(7	2.02	0.500	2.000	0	101	80	120			
Sample ID: 21070321-04AMSD Client ID: BatchQC Analyte	SampType: Batch ID: 1	MSD 13320 Result	TestCode TestNo PQL	TestCode: AMMONIA_W TestNo: E350.1 PQL SPK value SP	W Units: mg/L E350.1 SPK Ref Val	%REC	Prep Date: 7/15/2021 Analysis Date: 7/16/2021 LowLimit HighLimit R	: 7/15/2021 : 7/16/2021 HighLimit RPD Rof Val	RunNo: 2306 SeqNo: 3696 %RPD	82 111 RPDLimit Q	Qual
Nitrogen, Ammonia (As N)	7	2.12	0.500	2.000	٥	106	80	120 2.022	4.54	20	
Qualifiers: Cl Sample ND Not D	Sample container temperature is out uf limit as specified at testcode Not Detected at the Reporting Limit	rit as specified at t	stode	H Halding time PL Permet Linus	Halding times for preparation of analysis evcexied Permet Linur	ysis evcedud		MI Recovery outside constrol la RL Repecting Detection Limit	Recovery conside control lurits due to Matrix In Repecting Detection Limit		

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CORPORATI	NEILSON Research Corporation	Neilson I TEL: (541) 770-5678 Vebs	Resear Medj FAX: (lte: ww	Research Corporation 245 S Grape St Medford, OR 97501 FAX: (541) 770-2901 ite: www.nrclabs.com	21 25 11 11 11			QCS	IMU	QC SUMMARY REPORT WOF: 21070398 12-Aug-21	ZEPOR ⁷ 21070398 12-4ug-21	RT 398 7-21
Client: Box R Waterlab Project: X046671-89 Cit	Box R Waterlab X046671-89 City of John Day-AMENDED	MENDED						TestCode:		W_AIMONIA_W	A	
Sample ID: MB-13348 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13348 Resul		TestCode: AMMONU TestNo: E350.1 PQL SPK value	IONIA_W	e: AMMONIA_W Units: mg/L lo: E350.1 E350.1 SPK value SPK Ref Val	REC /	Prep Date: Analysis Date: LowLimit Hig	e: 7/16/2021 e: 7/20/2021 HighLimit RPD Ref Val	ef Val	RunNo: 23102 SeqNo: 370390 %RPD RP	12 190 RPDLimit	Qual
Nitrogen, Ammonia (As N)		ND 01	0.500								8	
Sample ID: LCS-13348 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13348 Resul	89 ¹¹	TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 PQL SPK value SPK Ref Val	IONIA_W	W Units: mg/L E350.1 SPK Ref Val	A %REC	Prop Dato: Analysis Date: LowLimit Hi	Prep Date: 7/16/2021 vnalysis Date: 7/20/2021 LowLimit HighLimit RPD Ref Val	ef Val	RunNo: 23102 SeqNo: 370392 %RPD RP	02 392 RPDLimit	Qual
Nitrogen, Ammonia (As N)	1	1.99 0.5	0.500 2.	2.000	o	9.66	06	110				
Sample ID: 21070398-08AMS Client ID: X046685 Analyte	SampType: I Batch ID: -	-	TestCode: AMMONIA_W TestNo: E350.1 PQL SPK value SP	ONIA_W .1 stue SPI	W Units: mg/L E350.1 SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hi	e: 7/16/2021 e: 7/20/2021 HighLimit RPD Ref Val	ef Val	RunNo: 23102 SeqNo: 370413 %RPD RP	02 113 RPDLimit	Qual
Nitrogen, Ammonia (As N)	2	5.30 1.	1.00 2.	2.000	3.569	86.7	8	120				
Sample ID: 21070398-08AMSD Client ID: X046685 Analyte	SampType: Batch ID: -		TestCode: AMMONIA_W Units: mg/L TestNo: E350.1 E350.1 POL SPK value SPK Ref Val	ONIA_W 1 SPk	W Units: mg/L E350.1 SPK Ref Val		Prep Date: vnalysis Date: Lowl imit Hi	Prep Date: 7/16/2021 Analysis Date: 7/20/2021 Lowl imit Hichl imit RDD Ref Val	ef Val	RunNo: 23102 SeqNo: 370414 %RPD RP	12 114 BPDI imit	
Nitrogen, Ammonia (As N)	<u>م</u>				3.569				5.302		50	
Qualifiers: Cl Sample con ND Not Detect	Sample container temperature is out of himit as specified at testende. Not Detected at the Reporting Limit	s specified at testende	य हो	Holding times f	Holding times for preparation or analysis exceeded Period Land	is exceeded		МІ Кжеменула КІ Хероніну D	Racivery outside cominal Reporting Detection Land	Receivery outside centrel limits due to Matrix In Reporting Detection Limit		Revision v1

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80	NEILSON RESEARCH CORPORATION		Neilsen I TEL: (541) 770-5678 Webs	Neilson Research Carporation 245 S Grape St Medford, OR 97501 70, 5678 FAX: (541) 770-2901 Webste: www.nrclabs.com	ution 0e Si 7501 2901 com	Ē.		QC SUN	QC SUMMARY REPORT WO#: 21070398 12-Aug-21	PORT 21070398 12-Aug-21
Client: B¢ Project: X(Box R Waterlab X046671-89 City	Box R Waterlab X046671-89 City of John Day-AMENDED	NDED					TestCode:	EPA300_W	
Sample ID: MBLK Client ID: PBW Analyte	× ,	SampType: MBLK Batch ID: R22940 Result	TestCoc TestN	TestCode: EPA300_W TestNo: E300.0 POL SPK value S	Punits: mg/L SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit P	Prep Date: Analysis Date: 7/14/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22940 SeqNo: 367564 %RPD RPDLimit	mit Qual
Chloride		QN	1.00							
Sample ID: LCS Client ID: LCSW Analyte	~	SampType: LCS Batch ID: R22940 Result	TestCodi TestNi	TestCode: EPA300_W Units: m TestNo: E300.0 PQL SPK value SPK Ref Val	Units: mg/L sPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hi	Prep Date: vnalysis Date: 7/14/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22940 SeqNo: 367565 %RPD RPDLimit	mit Qual
Chloride		10.9	1.00	12.00	0	6.06	06	110		-
Sample ID: 21070398-07BMS Client ID: X046683	0398-07BMS 683	SampType: MS Batch ID: R22940	TestCod TestN	15	Units: mg/L		Prep Date: Analysis Date:	7/14/20		
Analyte Chloride		Result 98.3	10.0	SPK value S 60.00	SPK Ref Val 42.40	%REC 93.2	LowLimit HighLimit 80 120	HighLimit RPD Ref Val 120	%RPD RPDLimit	mit Qual
Sample ID: 21070398-07BMSD Client ID: X046683 Analyte	0398-07BMSD 683	SampType: MSD Batch ID: R22940 Result	TestCod TestN PQL	TestCode: EPA300_W TestNo: E300.0 PQL SPK value S	Units: mg/L SPK Ref Val	%REC	Prep Date: 7/14/2021 Analysis Date: 7/14/2021 LowLimit HighLimit R	c 7/14/2021 HighLimit RPD Ref Val	RunNa: 22940 SeqNo: 367574 %RPD RPDLimit	mit Qual
Chloride		93.0	10.0	60.00	42.40	92.7	8	120 98.33	0.330	15
Qualifiers: CI		Sample contrained transportance is out of limit as sporthol at testcode. Not Detected at the Reporting Limit	ad #f testade	H Holding time PL Permit Limit	Holding times for preparation or analysis exceeded Permit Limit	sis exceeded		MI Recevery outside commod I RL Reporting Detection Limit	Recovery outside common limits due to Matrix In Reporting Detection Limit	Revision v1

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9 0		NEILSON Research Corporation	1EL: (54	ментен 1) 770-5678 Web	Netton Kesearch Corporation 245 S Grape St Mediord, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	oranon 12pe St 97501 bs.com bs.com				QC SUM	QC SUMMARY REPORT WO#: 21070398 12-Aug-21	EPOR 21070398 12-Aug-21	RT 98 21
Client: Project:	Box X04	Box R Waterlab X046671-89 City of John Day-AMENDED	AMENDE							TestCode:	EPA300_W		
Sample ID: MBLK Client ID: PBW Analyte): MBLK PBW	SampType: MBLK Batch ID: R22940 Result	MBLK R22940 Result	TestCo Test	TestCode: EPA300_W TestNo: E300.0 PQL SPK value	V Units: mg/L SPK Ref Val	/L %REC	Prep Date: Analysis Date: LowLimit Hi	ate: 7/17 ate: 7/17 HighLim	e: r/17/2021 HighLimit RPD Ref Val	RunNo: 22940 SeqNo: 359718 %RPD RP	t0 718 RPDLimit	Qual
Chloride			QN	1.00									
Sample ID: LCS Client ID: LCS Analyte	LCSW	SampType: Batch ID: 1	LCS R22940 Result	TestCo Testh PQL	TestCode: EPA300_W TestNo: E300.0 PQL SPK value	V Units: mg/L SPK Ref Val	r %REC	1 4	ate: 7/17, ate: 7/17, HighLim	Prep Date: vnalysis Date: 7/17/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22940 SeqNo: 369719 %RPD RP	t0 19 RPDLimit	Qual
Chloride			10.9	1.00	12.00	0	91.0	06	110	9			
Sample ID: LCS Client ID: LCSW Analyte): LCS	SampType: LCS Batch ID: R22940 Result	LCS R22940 Result	TestCor Testh PQL	TestCode: EPA300_W TestNo: E300.0 PQL SPK value	V Units: mg/L SPK Ref Val	۲ «Rec	<	Prep Date: nalysis Date: 7/13/20 LowLimit HighLimit	/2021 it RPD Ref Val	RunNo: 22940 SeqNo: 369896 %RPD RP	t0 896 RPDLimit	Qual
Chloride			11.3	1.00	12.00	0	94.1	90	110	0			
Sample ID: MBLK Client ID: PBW Analyte	: MBLK PBW	SampType: MBLK Batch ID: R22940 Result	MBLK R22940 Result	TestCoc Testh PQL	TestCode: EPA300_W TestNo: E300.0 POL SPK value	V Units: mg/L SPK Ref Val	L %REC	<	ate: te: 7/13/ HighLimi	Prep Date: .nalysis Date: 7/13/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22940 SeqNo: 369897 %RPD RP	DLimit	Qual
Chloride			Q	1.00									
Qualifiers:	5	Sample container temperature is out of limit as specified at testcode	rtit as specified at te	strođe	H Hokling time	Holding times for preparation or analysis exceeded	analysis exceeded		R	1	Recovery autside control limits due to Matrix In		

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90	RESEARCH CORPORATION		Neilson Research Carporation 245 S Grape St Meifjord, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.mrclubs.com	Neilson Research Corporation 245 S Grape St Medjord, OR 97501 70-5678 PAX: (541) 770-2901 Plebsite: www.nrclabs.com	ration ape St 2501 -2401 s.com			QC SUM	QC SUMMARY REPORT WOF: 21070398 12-Aug-21	21070398 21070398 12-Aug-21
Client: Project:	Box R Waterlab X046671-89 Cit	Box R Waterlab X046671-89 City of John Day-AMENDED	ENDED					TestCode: 1	ICP_200.7_W	
Sample ID: Client ID: Analyte	Sample ID: MB-13648 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13648 Result		TestCode: ICP_200.7_W TestNo: E200.7 PQL SPK value SP	.W Units: mg/L E200.7 SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hig	e: 8/9/2021 e: 8/9/2021 HighLimit RPD Ref Val	RunNo: 23628 SeqNo: 379325 %RPD RPDLimit	t Qual
Iron		QN	0.0150							
Sample ID: Client ID: Analyte	Sample ID: LCS-13648 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13648 Result	_	TestCode: ICP_200.7_W TestNo: E200.7 PQL SPK value SP	W Units: mg/L E200.7 SPK Ref Val	%REC	Prep Dale: 8/9/202 Analysis Date: 8/9/202 LowLimit HighLimit	: 8/9/2021 : 8/9/2021 HighLimit RPD Ref Val	RunNo: 23628 SeqNo: 379326 %RPD RPDLimit	t Qual
Iron		1.01	0.0150	1.000	0	101	85	115		
Sample ID: Client ID: Analyte	Sample ID: 21070398-10CMS Client ID: X046689 Analyte	SampType: MS Batch ID: 13648 Result		TestCode: ICP_200.7_W TestNo: E200.7 POL SPK value SP	.W Units: mg/L E200.7 SPK Ref Val	%REC	Prep Date: 8/9/202 Analysis Date: 8/9/202 LowLimit HighLimit	: 8/9/2021 : 8/9/2021 HighLimit RPD Ref Val	RunNo: 23628 SeqNo: 379339 %RPD RPDLimit	Qual
Iron		11.6	0.0150	11.00	0.3812	102	70	130		
Sample ID: Client ID: Analyte	Sample ID: 21070398-10CMSD Client ID: X046689 Analyte	SampType: MSD Batch ID: 13648 Result		TestCode: ICP_200.7_W TestNo: E200.7 PQL SPK value SP	.W Units: mg/L E200.7 SPK Ref Val	, %REC	Prep Date: 8/9/202 Analysis Date: 8/9/202 LowLimit HighLimit	: 8/9/2021 : 8/9/2021 4/ghLimit RPD Ref Val	RunNo: 23628 SeqNo: 379340 %RPD RPDLimit	Qual
Iron		£ č	0.0150	11.00	0.3812	101	20	130 11.63	1.04 20	
Qualifiers:	 C1 Sample container ND Not Detected at th 	Sample container tengenature is out af linet as spærfied at testeade Not Detected at the Reporting Linit	sufact at testende	H Holding tank PL Permat Limit	Holding times for preparation or analysis exceeded Permit Limit	sis extreded		 MI Reuvery outside control R1. Reporting Detection Lind 	imits due to Matrix In	Revision v1

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20	CORPORATION	L CH KATION	TEL: (5:	Neilson I Neilson I Nebs	Neilson Ruseurch Corporation 245 S Grape St Medford, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.mrclabs.com	ration ape St 2501 -2901 s.com			0	QC SUMMARY REPORT WO#: 21070398 12-Aug-21	MARY H wo#:	REPOR ⁷ 21070398 12-Aug-21	RT 198 -21
Client: Project:	Box R Waterlab X046671-89 City of John Day-AMENDED	y of John Day-	AMENDI	G					ſ	TestCode: N	NO2NO3_W		
Sample ID: MB Client ID: PBN Analyte	MB PBW	SampType: MBLK Batch ID: R22854 Result	MBLK R22854 Result	TestCod TestN	TestCode: NO2NO3_W TestNo: E353.2 POL SPK value S	V Units: mg/L SPK Ref Val	%REC	Prep Date: Analysis Date: 7/9/2021 LowLimit HighLimit R	e: 7/9/202 HighLimit	e: e: 7/9/2021 HighLimit RPD Ref Val	RunNo: 22854 SeqNo: 366159 %RPD RP	54 159 RPDLimit	Qual
Nitrogen, Nitrate-Nitrite	trate-Nitrite		Q	0.100									
Sample ID: LCS Client ID: LCS Analyte	LCSW	SampType: LCS Batch ID: R22854 Result	LCS R22854 Result	TestCod TestN PQL	TestCode: NO2NO3_W TestNo: E353.2 PQL SPK value S	N Units: mg/L SPK Ref Val	%REC	Prep Date: 7/9/202 Analysis Date: 7/9/202 LowLimit HighLimit	e: 7/9/2021 HighLimit 1	21 RPD Ref Val	RunNo: 22854 SeqNo: 366161 %RPD RP	54 161 RPDLimit	Qual
Nitrogen, Nitrate-Nitrite	rate-Nitrite		0.915	0.100	1.000	٥	91.5	06	110				
Sample ID: 2 Client ID: 1	Sample ID: 21070321-09AMS Client ID: BatchQC	SampType: MS Batch ID: R22854	IS 22854	TestCod	TestCode: NO2NO3_W TestNo: E353.2	V Units: mg/L		Prep Date: Analysis Date: 7/9/2021	a: 202/202	- N	1 8 5	63	
Analyte Nitrogen, Nitrate-Nitrite	rate-Nitrite		2.25	0.200	SPK value 2.000	SPK Ref Val 0.1777	%REC 104	LowLimit HighLimit 80 120	HighLimit 120	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 2 Client ID: 1 Analyte	Sample ID: 21070321-09AMSD Client ID: BatchQC Analyte	SampType: MSD Batch ID: R22854 Result	ASD 22854 Result	TestCode TestNe POL	TestCode: NO2NO3_W TestNo: E353.2 POL SPK value S	<pre>v Units: mg/L SPK Ref Val</pre>	%REC	Prep Date: Analysis Date: 7/9/2021 LowLimit HighLimit I	a: 7/9/202 HighLimit	r RPD Ref Val	RunNo: 22854 SeqNo: 366164 %RPD RP	54 164 RPDLimit	Oual
Nitrogen, Nitrate-Nitrite	rate-Nitrite		2.24	0.200	2.000	0.1777	¹⁰	80	120	2.251	0.499	20	
Qualifiers:	CI Sample container ND Not Detected at th	Sample container temperature is out of limit as specified at testande Not Detocted at the Reporting Limit	it as specified at 1	estande	H Holding time PL Permit Limit	Holding times for preparation or analysis exceeded Perror Lond	sis exceeded		MI KL	Recovery outside control limits due to Matrix in Reporting Detection Limit	ol limits due to Matrix I nut		Revision v1

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CORPORATION	CH ATION	Neilson Revearch Corporation 245 S Grape St Medford, OR 97501 IEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.mr/abs.com	lexearch Corporation 245 S Grape St Medjord, OR 97501 EAV: (541) 770-2901 te: www.arclabs.com			QC SUM	QC SUMMARY REPORT WOA: 21070398 12-4ug-21	RT 398 8-21
Client: Box R Waterlab Project: X046671-89 Cit		DED				TestCode: H	W_T-SOH1	
Sample ID: LCS-13262 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13262 Result	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value	S-T_W Units: mg/L 0-P-E A4500-P-E alue SPK Ref Val	ng/L -E %REC	Prep Date: Analysis Date: C LowLimit Hi	e: 7/12/2021 e: 7/12/2021 HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366763 %RPD RPDLimit	Oual
Phosphorus, Total (As P)	0.325	0.0250 0.3	0.3500 0	92.7	7 80	120		
Sample ID: MB-13262 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13262 Result	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value	S-T_W Units: mg/L 0-P-E A4500-P-E alua SPK Ref Val	ng/L -E %REC		Prep Date: 7/12/2021 Analysis Date: 7/12/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366764 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	QN	0.0250						
Sample ID: 21070234-01AMS Client ID: BatchQC Analyte	SampType: MS Batch ID: 13262 Result	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value	S-T_W Units: mg/L 0-P-E A4500-P-E alue SPK Ref Val	-e %REC	<	Prep Date: 7/12/2021 Analysis Date: 7/12/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366766 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	6.45	0.250 2.		92.0		120		
Sample ID: 21070234-01AMSD Client ID: BatchQC Analyte	SampType: MSD Batch ID: 13262 Result	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value	5-T_W Units: mg/L 0-P-E A4500-P-E slue SPK Ref Val	ıg∕L E %REC	Prep Dat Analysis Dat LowLimit	Prep Date: 7/12/2021 Analysis Date: 7/12/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22889 SeqNo: 366767 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	6.47	0.250 2.	2.000 4.605	93.4	8	120 6.445	0.437 15	
Qualifiers: Cl Sample contrast ND Not Detected at 1	Sample container temperature is out of limit as specified as rescoole Not Detorted at the Reporting Limit	ਸ਼ਾਫ਼	Holding times for preparation of analysis exceeded Permit Land	n et analysis exceeds	7	MI Retovery outside control RL Reparting Detection Linit	traits due to Marrix In	Revision v1

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CORPORATION	ATION	Neilson Research Corporation 245 S Grupe St Medford, OR 97501 TEL: (541) 770-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	ation pe Si 7501 2901 .com			QC SUM	QC SUMMARY REPORT WO#: 21070398 12-4ug-21	RT 1398 2-21
Client: Box R Waterlab Project: X046671-89 Cit	Box R Waterlab X046671-89 City of John Day-AMENDED	DED				TestCode: P	W_T-SOH1	
Sample ID: LCS-13277 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13277 Result	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value 5	/ Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hig	e: 7/13/2021 e: 7/13/2021 HighLimit RPD Ref Val	RunNo: 22909 SeqNo: 366994 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	0.325	0.0250 0.3500	0	92.9	80	120		
Sample ID: MB-13277 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13277 Result	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value 3	/ Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Dale: 7/13/2021 Analysis Dale: 7/13/2021 LowLimit HighLimit R	e: 7/13/2021 e: 7/13/2021 HighLimit RPD Ref Val	RunNo: 22909 SeqNo: 366995 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	QN	D.0250						
Sample ID: 21070398-01AMS Client ID: X046671 Analyte	SampType: MS Batch ID: 13277 Result	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value S	/ Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Date: 7/ Analysis Date: 7/ LowLimit HighL	e: 7/13/2021 e: 7/13/2021 HighLimit RPD Ref Val	RunNo: 22909 SeqNo: 366997 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	0.301	0.0250 0.2000	0.1043	98.4	80	120		
Sample ID: 21070398-01AMSD Client ID: X046671 Analyte	SampType: MSD Batch ID: 13277 Result	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value S	/ Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Date: 7/13/20 Analysis Date: 7/13/20 LowLimit HighLimit	7/13/2021 7/13/2021 hLimit RPD Ref Val	RunNo: 22909 SeqNo: 366998 %RPD RPDLimit	Qual
Phosphorus, Total (As P)	0.294	0.0250 0.2000	0.1043	94.6	80	120 0.3011	2.54 15	
Qualificrs: Cl Sample contains: ND Not Detected at	Sumple contrainer temperature is cut of limit as specified at restoole Not Detected at the Reporting Limit	포로	Holding times for preparation of analysis exceeded Permst Lumit	se excedad		MI Recovery uutside control I RL Reporting Detection Limit	imits due to Matrix In	Revision v1

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RESEARCY CORPOR	NEILSON RESEARCH CORPORATION	Neilson I TEL: (541) 770-5678 Webs		Neilson Research Carporation 245 S Grape St Meiljont, OR 97501 70-5678 FAX: (541) 770-2901 Website: www.nrclabs.com	rtion 2e St 7501 1911 com			QC SU	QC SUMMARY REPORT WO#: 21070398 12-Aug-21	XY REPOR WO#: 21070398 12-Aug-21	PORT 21070398 2-Aug-21
Client: Box R Waterlab Project: X046671-89 Cit	Box R Waterlab X046671-89 City of John Day-AMENDED	AMENDED						TestCode:	W_T-SOH4	M	
Sample ID: LCS-13317 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13317 Resul	LCS 13317 Result	TestCode TestNo PQL	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value S	 Units: mg/L A4500-P-E SPK Ref Val 	%REC	Prep Date: Analysis Date: LowLimit Hig	e: 7/15/2021 e: 7/15/2021 HighLimit RPD Ref Val	RunNo: 22996 SeqNo: 369098 Val %RPD RP	22996 369098 D RPDLimit	Qual
Phosphorus, Total (As P)		0.327	0.0250	0.3500	0	93.4	80	120			
Samplo ID: MB-13317 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13317 Result	MBLK 13317 Result	TestCode: TestNo: PQL	e: PHOS-T_W o: A4500-P-E SPK value S	/ Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit Hi	Prep Date: 7/15/2021 nalysis Date: 7/15/2021 LowLimit HighLimit RPD Ref Val	RunNo: 22996 SeqNo: 369099 /al %RPD RP	22996 369099 D RPDLimit	Qual
Phosphorus, Total (As P)		Q	0.0250								
Sample ID: 21070398-05AMS Client ID: X046679 Analyte	SampType: 1 Batch ID: 1	AS 13317 Result	TestCode: TestNo: POL	TestCode: PHOS-T_W TestNo: A4500-P-E PQL SPK value S	r Units: mg/L A4500-P-E SPK Ref Val	%REC	Prep Date: 7/16/20 Analysis Date: 7/16/20 LowLimit HighLimit	c 7/16/2021 c 7/16/2021 HighLimit RPD Ref Val	RunNo: SeqNo: %Rf	22996 369101 PD RPDLimit	Qual
Phosphorus, Total (As P)		12.4	0.625	5.000	6.515	117	80	120			
Sample ID: 21070398-05AMSD Client ID: X046679 Analyte	SampType: Batch ID: -	MSD 13317 Result	TestCode: TestNo: POL	TestCode: PHOS-T_W TestNo: A4500-P-E POL SPK value S	 Units: mg/L A4500-P-E SPK Ref Val 	%REC	Prep Date: 7/16/20 Analysis Date: 7/16/20 LowLimit HighLimit	: 7/16/2021 : 7/16/2021 HighLimit RPD Ref Val	RunNo: 22996 SeqNo: 369102 al %RPD RP	22996 369102 0 RPDLimit	onal
Phosphorus, Total (As P)		1:1	0.625	5.000	6.515	91.5	8	120 12.37			
Qualifiers: C1 Sumple ND Not De	Sumple container terrperature is out of limit as specified at testords. Not Detected at the Reporting Limit	as specified at tests		H Holding time PL Permit Lizzd	Holding times for preparation of analysis exceeded Permit Land	yes extended		 XII Recovery nutside control R1. Reporting Detection Lond 	Recovery sutside control limits due to Martix In Reporting Detection Land		Revision v1

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Client: Box R Waterlab Project: X046671-89 Cit	Box R Waterlab X046671-89 City of John Day-AMENDED	AENDED				TestCode:	M ⁻ SQL_SQLIOS		
Sample ID: MB-13300 Client ID: PBW Analyte	SampType: MBLK Batch ID: 13300 Result	<u> </u> ≞ ⊾	stCode: SOLIDS_TDS Units: mg/L TestNo: A2540C OL SPK value SPK Ref Val	its: mg/L of Val	Pr Analy %REC Low	Prep Date: 7/14/2021 Analysis Date: 7/14/2021 LowLimit HighLimit RPD Ref Val	RunNo: 231 SeqNo: 370 %RPD	26 585 RPDLimit Qu	Qual
Total Dissolved Solids	2	ND 10.0							
Sample ID: LCS-13300 Client ID: LCSW Analyte	SampType: LCS Batch ID: 13300 Result	_	ode: SOLIDS_TDS stNo: A2540C SPK value SPI	Units: mg/L < Ref Val	Pr Analy %REC Low	Prop Dato: 7/14/2021 Analysis Date: 7/14/2021 LowLimit HighLimit RPD Ref Val	RunNo: 23126 SeqNo: 370686 al %RPD RPDLimit		Qual
Total Dissolved Solids	1	108 10.0	0 100,D	0	108	80 120			
Sample ID: 21070398-01CDUP Client ID: X046671	ICDUP SampType: DUP Batch ID: 13300		TestCode: SOLIDS_TDS Uni TestNo: A2540C	Units: mg/L	Pn Analys	Prep Date: 7/14/2021 Analysis Date: 7/14/2021	RunNo: 23126 SeqNo: 370688		
Analyte	Result	uit PQL	. SPK value SPK Ref Val		%REC Low	LowLimit HighLimit RPD Ref Val	al %RPD RPDLimit		Qual
Total Dissolved Solids	1	191 10.0				191.2	2	10	
Sample ID: 21070520-01ADUP Client ID: BatchQC	SampType: I Batch ID: 1		ode: SOLIDS_TI stNo: A2540C			Prep Date: 7/14/2021 Analysis Date: 7/14/2021	RunNo: 23126 SeqNo: 370699		
Analyte Total Dissolved Solids	725	11 POL 25 10.0	SPK value SPK Ref Val		%REC Low!	LowLimit HighLimit RPD Ref Val 727.5	1 %RPD RPDLinit 5 0.344 10	10 Init Qual	na
Qualifiers: Cl Send ND Net D	Semple consider temperature is out of limit as specified at testcode Not Detected at the Reporting Limit	pecified at testoode	 H. Halding times for preparation of analysis exceeded P.L. Permit Limit 	paration or analysis	executed	 Recovery actside control I Reporting Detection Limit 	Recovery actude control limits due to Marine In Reporting Detection Limit	Revision vI	.s

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	NEILSON RESEARCH CORPORATION	TEL: (541) 770-5678	Research Corporation 245 S Grape Si Medford, OR 97501 FAX: (541) 770-2901 ite: www.nrclabs.com	Sam	ple Log-In Check L
Client Name:	BOX_R_Waterlab	Work Order Number	: 21070398		RcptNo: 1
Logged by:	Kalea Adams	7/9/2021 9:57:00 AM			4
Completed B	ly: Sara Stephens	8/5/2021 4:56:14 PM		pp	
Reviewed By	. Doric Maler	7/22/2021 11:58:43 A	м	pp Di	m
hain of C	ustody	1		-	
1. Is Chain	of Custody complete?		Yes 🔽	No 🗌	Not Present
2. How was	s the sample delivered?		UPS		
.og In					
10 100 100	are present?		Yes 🗹	Να 🗌	
4. Shipping	container/cooler in good conditi	on?	Yes 🔽	No 🗌	
	seals intact on shipping contain		Yes 🗌	No 🗌	Not Present 🖌
No.	Seal Date	:	Signed By:		
5. Was an	attempt made to cool the sample	es?	Yes 🗹	No 🗌	NA 🗌
6. Were all	samples received at a temperat	ure of >0° C to 6.0°C	Yes 🗹	No 🗌	
7. Sample(s) in proper container(s)?		Yes 🔽	No 🗌	
8. Sufficien	nt sample volume for indicated te	st(s)?	Yes 🖌	No 🗌	
9. Are sam	ples (except VOA and ONG) pro	perly preserved?	Yes 🖌	No 🗌	
10, Was pre	servative added to bottles?		Yes 🗹	No 🗌	NA 🗌 HNO3
11. Is the he	adspace in the VOA vials less th	an 1/4 inch or 6 mm?	Yes 🗌	No 🗌	No VOA Vials
	y sample containers received br		Yes 🔲	No 🔽	
	perwork match bottle labels? screpancies on chain of custody)		Yes 🔽	No 🗆	
	rices correctly identified on Chair		Yes 🔽	No 🗌	
	r what analyses were requested?		Yes 🔽	No 🗌	
	holding times able to be met? otify customer for authorization.)		Yes 🔽	No 🗆	
	ndling (if applicable)				
17, Was clie	nt notified of all discrepancies w	ith this order?	Yes 🗌	No 🗌	NA 🗹
Per	son Notified:	Date	r		
By	Whom:	Via:	/ □] eMail □□ Pho	ne 🗌 Fax	In Person
Reg	garding:	********			
Clie	ent Instructions:				

The sample submitted was tan in color and contained visible sediments.

Cooler Information

Cooler No	Temp °C	Condition Seal Intact	Seal No	Seal Date	Signed By
1	0.2	Good			DLN

Section E Section F Section C Section C <t< th=""><th>Chain of Custody is a LEGAL DOCUMENT and must be filled out accurately.</th></t<>	Chain of Custody is a LEGAL DOCUMENT and must be filled out accurately.
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By:	1760 Temp. 0.2 C
By:	4°C+/ 2°C: Yes & No
	Received on Ice: 🔨 Yes No
	Number of Bottles Received: 3 O
	pH Checked: X
Received By Latoralory Toy a Roll (Larler Actor 7/9/20 9:57 0	9:57 COC Seals Inlact. Yes No KNA
h	Field Blank Included: Yes X
Received Via A	Received Via & UPS FedEX Other Hand



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Website: www.nrclabs.com

Data Flags WO#: 21070398 Date: 8/12/2021

- 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 clution 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.
- II 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.



Beta Analytic, Inc. 4985 SW 74th Court Miami, FL 33155 USA Tel: 305-667-5167 Fax: 305-663-0964 info@betalabservices.com

ISO/IEC 17025:2017-Accredited Testing Laboratory

August 10, 2021

Mr. Ian Godwin CwM-H2O 1319 SE MLK Jr Blvd Suite 204 Portland, Oregon 97214 United States

Dear Mr. Godwin,

Please find enclosed the nitrate isotope (δ 18O and δ 15N) analysis results for 9 water samples submitted by Mr. Ian Godwin on 07/09/2021.

Samples were analyzed by the chemical reduction of nitrate to nitrous oxide followed by continuous flow (CF) Isotope Ratio Mass Spectrometry (IRMS) (Casciotti et al., 2002; Foreman et al., 2016; and Altabet et al., 2019).

Isotope ratio data are reported as delta (δ) values in units of parts per thousand (per mill) (‰) (Coplen, 2011). Nitrogen isotope ratios are reported relative to N2 in air (Mariotti, 1983) and oxygen isotope ratios are reported relative to VSMOW reference water and normalized on a scale such that δ 180SLAP = -55.5‰ (Coplen, 1994; IAEA, 2017).

The results are also presented graphically on a plot which includes representative areas of the isotopic composition (δ 18O and δ 15N) of various nitrate sources (Kendall et al., 2007; Hastings et al., 2013).

Thank you for prepaying the analyses. As always, if you have any questions or would like to discuss the results, don't hesitate to contact us.

Sincerely,

Chis Patrich

Chris Patrick Vice President of Laboratory Operations



Analysis Details

Submitter: Mr. Ian Godwin

Material submitted: Water

Date received: 07/09/2021

Date reported: 08/10/2021

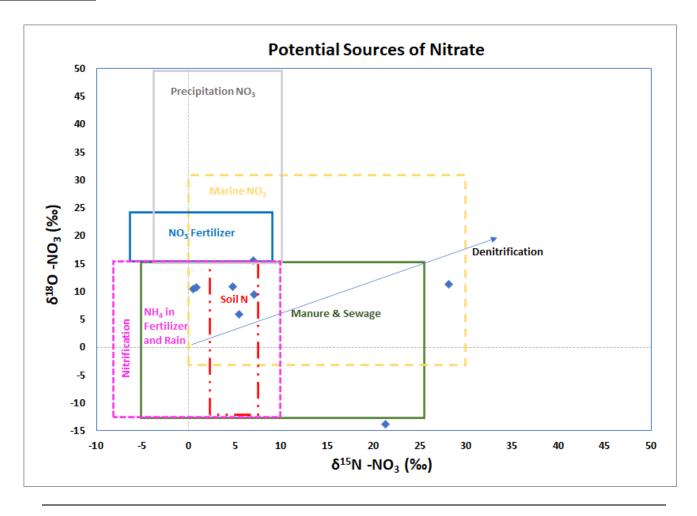
Isotopic analysis: ¹⁸O and ¹⁵N

Method: Chemical reduction of nitrate to nitrous oxide followed by continuous flow Isotope Ratio Mass Spectrometry (IRMS) (Foreman et al., 2016, and Altabet et al., 2019) Instrument: Thermo Scientific Denitrification Kit installed on a Gas Bench II connected to a Thermo Scientific Delta V IRMS

Lab Identification	Submitter ID	Material	Nitrate (mg-N/L)	δ ¹⁸ Ο (‰) (to VSMOW)	δ ¹⁵ N (‰) (to Air-N₂)
Beta-597295	Riv-1	Water	0.06	5.85	5.44
Beta-597296	Riv-2	Water	0.05	10.9	4.78
Beta-597297	Riv-3	Water	0.03	10.5	0.48
Beta-597298	MW-7	Water	0.03	9.41	7.08
Beta-597299	MW-6	Water	0.05	11.3	28.1
Beta-597300	MW-5	Water	0.02	15.5	6.96
Beta-597302	CwM-3	Water	0.03	10.8	0.84
Beta-597303	Pond-1	Water	15.4	-29.7	14.0
Beta-597304	Pond-2	Water	1.63	-13.8	21.3



Results (cont.)



Plot of ¹⁸O-NO₃ vs. ¹⁵N-NO₃ results for the tested samples. The data are presented on a plot with representative areas of the isotopic composition (¹⁸O and ¹⁵N) of various nitrate sources (Kendall et al, 2007; Hastings et al., 2013).

This graphical representation is for reference only and should not be construed as an interpretation of the nitrate sources for these test results. The areas for the various nitrate sources overlap and additional data is required to definitively identify sources.



<u>Methods</u>

Each reduced sample was loaded into a PAL auto-sampler which delivered sample gas to a Thermo Scientific Gas Bench II equipped with a denitrification kit installed as per Casciotti et al, 2002. Each sample was run on a continuous flow Delta V IRMS with 10 pulses of reference N₂O gas with a standard deviation of <0.1‰ for ¹⁸O and ¹⁵N. This laboratory reference gas is standardized to USGS-32, USGS-34 and USGS-35 (Coplen, 2018)). The nitrate isotope method uncertainty is ±2‰ (1 SD) for ¹⁸O and ±0.5‰ (1 SD) for ¹⁵N.

Quality Control Reference Standard-¹⁸O for Nitrate Isotope Analysis

Reference Standard	Measured ¹⁸ O (‰) (to VSMOW-SLAP)	Expected ¹⁸ O (‰) (to VSMOW-SLAP)
USGS 34	-28.5 ± 0.6	-27.9
USGS 35	57.4 ± 0.6	57.5
Lab Mix	-16.4 ± 0.3	-17.2

Quality Control Reference Standard-¹⁵N for Nitrate Isotope Analysis

Reference Standard	Measured ¹⁵ N (‰) (to Air-N ₂)	Expected ¹⁵ N (‰) (to Air-N ₂)
USGS 34	-2.3 ± 0.2	-1.80
USGS 35	2.9 ± 0.1	2.70
Lab Mix	34.5 ± 0.3	34.6

USGS standards are primary Reference Materials (RMs) prepared and distributed by the Reston Stable Isotope Lab (RSIL) (Coplen, 2018). Lab Mix is a secondary in-house standard traceable to the USGS RMs.



References

Casciotti, K. L., Sigman, D. M., Hastings, M. G., Böhlke, J. K., & Hilkert, A. (2002). Measurement of the oxygen isotopic composition of nitrate in seawater and freshwater using the denitrifier method. Anal. Chem, 74(19), 4905-4912.

Foreman, R. K., Segura-Noguera, M., & Karl, D. M. (2016). Validation of Ti (III) as a reducing agent in the chemiluminescent determination of nitrate and nitrite in seawater. Marine Chemistry, 186, 83-89.

Altabet, M.A., Wassenaar, L.I., Douence, C., and Rupsa, R. (2019). A Ti(III) reduction method for one-step conversion of seawater and freshwater nitrate into N₂O for stable isotopic analysis of $^{15}N/^{14}N$, $^{18}O/^{16}O$ and $^{17}O/^{16}O$. Rapid Communications in Mass Spectrometry, v. 33, 1227–1239.

Hastings, et al. (2013). Stable Isotopes as Tracers of Anthropogenic Nitrogen Sources, Deposition, and Impacts. Elements, 9(5), 339-344.

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