2019 Groundwater Monitoring Report
Superlon Plastics Property

Prepared for:

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and

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Acronyms and Abbreviations

Acronym/Abbreviation	Description
Chemours	The Chemours Company FC, LLC
COC	Constituent of Concern
Ecology	Washington State Department of Ecology
MTCA	Model Toxics Control Act
MW	Monitoring Well
PERC	Pacific Environmental and Redevelopment Corporation
PIONEER	PIONEER Technologies Corporation
Property	Superlon Plastics Property
QA/QC	Quality Assurance / Quality Control
RI	Remedial Investigation
SAP/QAPP	Sampling and Analytical Plan / Quality Assurance Project Plan
USEPA	United States Environmental Protection Agency
White Birch	White Birch Group LLC

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1. Introduction

1.1 Overview

Annual groundwater monitoring has been completed at the Superlon Plastics Property (Property) as part of the remedial investigation (RI) for the Property. The RI is a requirement of the Washington State Department of Ecology (Ecology)-approved Agreed Order (No. DE 5940) between White Birch Group LLC (White Birch) and the Chemours Company FC, LLC (Chemours). All RI-associated activities are being conducted in accordance with Washington State Model Toxics Control Act (MTCA), Chapter 173-340 of the Washington Administrative Code.

Groundwater monitoring was conducted quarterly from third quarter 2011 until fourth quarter 2015, when the sampling frequency was reduced to one event per year (Ecology 2015). The results of the 2015-2018 groundwater monitoring events were documented in the 2015, 2016, 2017, and 2018 Groundwater Monitoring Reports. Based on the results of the 2015, 2016, 2017 and 2018 groundwater monitoring events, constituent concentrations were generally consistent with historical concentrations (Pacific Environmental and Redevelopment Corporation [PERC] and PIONEER Technologies Corporation [PIONEER] 2015, 2016, 2017, 2018).

The 2019 groundwater monitoring event was conducted on July 23rd, 2019. The purpose of this report is to document the results of the 2019 groundwater monitoring event. Once soil and perched water remediation activities are completed, new monitoring wells will be installed and will be included in the annual groundwater monitoring program.

1.2 Property Location and Description

The Property is located at 2116 Taylor Way in Tacoma, Washington in a highly industrialized area of the Tacoma tidal flats between the Blair and Hylebos Waterways (see Figure 1). The Property is currently owned by White Birch and operated by Superlon Plastics Incorporated, an extruded plastic pipe manufacturer. The Property is bordered by Taylor Way to the north-northeast, Lincoln Avenue to the north-northwest, the former Holbrook Log Yard to the southwest, and Gardner-Fields to the southeast (see Figure 2).

1.3 Report Organization

The remainder of this report is organized as follows:

- Section 2: Summary of Groundwater Monitoring
- Section 3: Groundwater Monitoring Results
- Section 4: Conclusions
- Section 5: References

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2. Summary of Groundwater Monitoring

2.1 Monitoring Well Locations and Installation Chronology

Twenty-four shallow and intermediate co-located monitoring wells (MWs) have been installed at 12 locations on and off of the Property. Sixteen of the MWs were installed between 2011 and 2012 and eight additional wells were installed in 2014. As of August 30, 2017, 16 of the 24 shallow and intermediate co-located MWs were decommissioned and only 8 wells remained in-place (see Figure 3). A brief history of MW locations is presented below:

- Seven shallow aquifer MWs (MW-1S – MW-7S) were installed during Phase I RI activities in 2011, in accordance with the Phase I RI Work Plan (PERC 2010).
- One shallow aquifer MW (MW-8S) and eight intermediate aquifer MWs (MW-1I – MW-8I) were installed during Phase III RI activities in 2012, in accordance with the Phase III RI Work Plan (PERC 2012).
- Four shallow aquifer MWs (MW-9S – MW-12S) and four intermediate aquifer MWs (MW-9I – MW-12I) were installed during Phase IV RI activities in 2014, in accordance with the Phase IV RI Work Plan (PERC 2014).
- Sixteen wells were decommissioned and included MW-1I, MW-1S, MW-3I, MW-3S, MW-5I, MW-5S, MW-6I, MW-6S, MW-7I, MW-7S, MW-8I, MW-8S, MW-11I, MW-11S, MW-12I, and MW-12S[1] (See Figure 3 and Appendix C).

2.2 Sampling Methods and Procedures

Groundwater sampling methodology and field quality controls were performed in accordance with the Project Sampling and Analytical Plan (SAP) & Quality Assurance Project Plan (QAPP) for the Superlon Plastics Property (PERC 2019). All samples were sent to a Washington State-certified laboratory in accordance with the SAP/QAPP (PERC 2019). Groundwater sampling field notes are presented in Appendix A.

2.3 QA/QC Methods

Laboratory results were verified for usability by performing Quality Assurance/Quality Control (QA/QC) data validation. QA/QC data validation generally followed the applicable guidance and requirements specified in:

- Guidance on Environmental Data Verification and Data Validation (United States Environmental Protection Agency [USEPA] 2002);
- USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review. Final. OSWER 9240.1-45. USEPA/540/R-08/01 (USEPA 2016a);
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OSWER 9240.1-51. EPA 540-R-10-011 (USEPA 2016b); and
- Method-specific and laboratory-established QC requirements, as applicable.

[1] The well decommissioning report in Appendix C presents the details of the sixteen decommissioned wells. MW-2S and MW-21 were mistakenly identified as decommissioned. MW-1S and MW-1I were decommissioned and MW-2S and MW-2I are still in-place.

QA/QC data validation procedures were performed in accordance with the SAP/QAPP (PERC 2019). The data validation reports are presented with laboratory reports in Appendix B. It should be noted that the arsenic results in MW-2I were qualified as estimated because one arsenic sample was reported as undetected and the corresponding field duplicate was reported as detected (see Appendix B). No results required restatement and no results were rejected.

2.4 Constituent Analyses

The 2019 groundwater samples were analyzed for dissolved arsenic and dissolved lead only (Ecology 2015). The number of constituents evaluated during the monitoring events has been reduced since sampling was initiated in 2011 as other constituents were consistently not detected or were below screening levels (PERC 2015; PERC and PIONEER 2013, 2015).[2]

[2] The constituent list was reduced to focus the monitoring on constituents of concern (COCs) and eliminate the analyses of constituents not detected or infrequently detected during consecutive sampling events.

3. Groundwater Monitoring Results

Shallow and intermediate groundwater samples were collected from the eight MWs and analyzed for dissolved arsenic and dissolved lead. The laboratory reports and associated QA/QC data validation reports for the 2019 monitoring event are presented in Appendix B. Data quality review indicated the data were of good quality and required no additional qualification.

Constituent concentrations are presented by well and groundwater monitoring event in Tables 1 and 2 and constituent concentration trends are presented on Figures 4 and 5. Historical groundwater monitoring data are included on tables and figures for context.

3.1 Arsenic

The 2019 dissolved arsenic concentrations were consistent with historic dissolved arsenic concentrations (see Table 1 and Figure 4). The arsenic concentration in MW-10S remained slightly elevated, similar to last year's results, at about 50% higher than the historic concentrations. In addition, the arsenic concentration at MW-9S was 38 mg/L which decreased from the 2018 concentration of 79 mg/L. Dissolved arsenic was not detected in 3 samples (MW-4I, MW-9I, and MW-10I).

3.2 Lead

The 2019 dissolved lead concentrations were consistent with historical dissolved lead concentrations (see Table 2 and Figure 5). Dissolved lead was not detected in seven of the eight MWs. MW-10S was the only location where lead was detected at 0.096 mg/L

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4. Conclusions

The 2019 dissolved arsenic and dissolved lead concentrations were consistent with historical concentrations at the Property.

Following the 2017 groundwater monitoring event, many of the on-Property groundwater monitoring wells were decommissioned for ongoing soil and perched water remediation activities. All remaining wells will continue be sampled annually. Once soil and perched water remediation activities are completed, new monitoring wells will be installed and will be included in the annual groundwater monitoring program.

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5. References

Ecology. 2015. Electronic mail from Marv Coleman to Jeff King with the subject "Reduction in groundwater monitoring." November 12.

PERC. 2010. Phase I Remedial Investigation Work Plan, for the Superlon Plastics Site, Tacoma, Washington. February.

PERC. 2012. Phase III Remedial Investigation Work Plan, for the Superlon Plastics Site, Tacoma, Washington. July.

PERC. 2014. Work Plan: Remedial Investigation for Groundwater – Phase IV. February 20.

PERC. 2015. Letter from Jeff King (PERC) to Marv Coleman (Ecology) regarding Proposed Revisions to the Current Groundwater Monitoring Program at the Superlon Plastics Property. September 14.

PERC. 2019. Sampling and Analytical Plan & Quality Assurance Project Plan for the Superlon Plastics Site, Tacoma, Washington. May 2019.

PERC and PIONEER. 2013. Proposed Reduction in Analysis – Groundwater Monitoring at the Superlon Plastics Site. September 16.

PERC and PIONEER. 2015. 2015 Groundwater Monitoring Report Superlon Plastics Property. March 9.

PERC and PIONEER. 2016. 2016 Groundwater Monitoring Report Superlon Plastics Property. October 26.

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USEPA. 2002. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. EPA/240/R-02/004. November 2002.

USEPA. 2016a. USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review. Final. OSWER 9240.1-45. USEPA/540/R-08/01. September 2016.

USEPA. 2016b. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OSWER 9240.1-51. EPA 540-R-10-011. September 2016.

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Tables

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Table 1: Dissolved Arsenic Concentrations by Well and Groundwater Monitoring Event

Well Location	3Q 2011	Qual	4Q 2011	Qual	2Q 2012	Qual	3Q 2012	Qual	4Q 2012	Qual	1Q 2013	Qual	2Q 2013	Qual	3Q 2013	Qual	4Q 2013	Qual	1Q 2014	Qual	2Q 2014	Qual	3Q 2014	Qual	4Q 2014	Qual	1Q 2015	Qual	2Q 2015	Qual	3Q 2015	Qual	4Q 2015	Qual	3Q 2016	Qual	3Q 2017	Qual	3Q 2018	Qual	3Q 2019	Qual
MW-1S	0.0052	J	0.0063	J	0.0026	J	0.0071	J	0.013	UB	0.0093	B	0.0060	UB	0.019		0.010		0.0083		0.011		0.037		0.044		0.057		0.13		0.11		1.2		44		57		NS		NS	
MW-2S	0.049		0.11		0.0063	J	0.0095	J	0.052	UB	0.028	B	0.021	B	0.020		0.075		0.058		0.053		0.040		0.067		0.079		0.24		0.13		0.13		0.18		0.13		0.24		0.160	
MW-3S	4.0		15		11		4.9		5.8	B	5.0	B	4.6	B	4.9		7.8		12		16		16		14		13		14		15		13		14		20		NS		NS	
MW-4S	0.013	J	0.026		0.0057	J	0.0069	J	0.015	UB	0.0072	UB	0.027	B	0.0073		0.011		0.024		0.028		0.045		0.050		0.055		0.061		0.083		0.073		0.093		0.15		0.10	U	0.160	
MW-5S	0.36		0.28		0.41		0.51		0.45	B	0.48	B	0.32	B	0.37		0.54		0.34		0.24		0.28		0.40		0.40		0.50		0.49		0.50		1.1		0.86		NS		NS	
MW-6S	1.3		2.0		1.8		1.7		1.8	B	1.8	B	1.4	B	1.9		1.9		1.7		1.6		0.50		1.9		1.8		1.5		1.6		1.4		1.6		1.1		NS		NS	
MW-7S	0.0032	J	0.0041	J	0.020	U	0.0032	J	0.0025	UB	0.0020	UB	0.0016	UB	0.0014		0.0030		0.0019		0.0022		0.0025		0.0047		0.0021		0.0019		0.0019		0.0023		0.0050	U	0.10	U	NS		NS	
MW-8S	NS		NS		NS		NS		21	B	13	B	21	B	7.7		8.9		27		0.66		13		25		5.5		40		32		32		40		41		NS		NS	
MW-9S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		5.8		7.4		6.0		12		23		80		88		79		38	
MW-10S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.42		0.49		0.50		0.64		0.61		0.59		0.61		1.1		0.950	
MW-11S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		1.4		2.2		2.2		2.5		1.8		3.6		9.7		NS		NS	
MW-12S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		100		71		90		120		110		67		59		NS		NS	
MW-1I	NS		NS		NS		NS		0.0042	UB	0.0011	UB	0.0031	UB	0.0028		0.0025		0.0024		0.0018		0.0026		0.0011		0.0015		0.0010		0.0012		0.0025		0.83		0.13		NS		NS	
MW-2I	NS		NS		NS		NS		0.0018	UB	0.0010	UB	0.0016	UB	0.00064		0.0027		0.0018		0.0018		0.0024		0.0013		0.0015		0.0012		0.0014		0.0010		0.58		0.10	U	0.019		0.012	
MW-3I	NS		NS		NS		NS		1.6	B	0.91	B	0.86	B	0.69		0.56		0.54		0.42		0.48		0.49		0.45		0.32		0.39		0.39		0.38		0.10	U	NS		NS	
MW-4I	NS		NS		NS		NS		0.0078	UB	0.0019	UB	0.0052	B	0.0012		0.0040		0.0023		0.0022		0.0030		0.0021		0.0024		0.0017		0.0017		0.0029		0.015		0.10	U	0.12		0.005	U
MW-5I	NS		NS		NS		NS		0.0047	UB	0.0034	UB	0.0049	B	0.00009		0.0027		0.0017		0.0017		0.0026		0.0013		0.0014		0.0016		0.0014		0.0025		0.0050	U	0.10	U	NS		NS	
MW-6I	NS		NS		NS		NS		0.0075	UB	0.0013	UB	0.0023	UB	0.0020		0.0033		0.0021		0.0020		0.0012		0.0014		0.0016		0.0011		0.0015		0.0028		0.0050	U	0.13		NS		NS	
MW-7I	NS		NS		NS		NS		0.0017	UB	0.00073	UB	0.0011	UB	0.00070		0.0029		0.0018		0.0017		0.0027		0.0019		0.0013		0.0010	U	0.0012		0.0026		0.0059		0.10	U	NS		NS	
MW-8I	NS		NS		NS		NS		0.021	UB	0.0027	UB	0.0040	UB	0.0017		0.0043		0.0026		0.0023		0.012		0.0063		0.0016		0.0048		0.011		0.0012		0.0050	U	0.10	U	NS		NS	
MW-9I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.0020		0.0023		0.0028		0.0061		0.0010		0.18		0.10	U	0.0010	U	0.005	U
MW-10I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.0027		0.0030		0.0018		0.0023		0.0038		0.0050	U	0.10	U	0.0010	U	0.005	U
MW-11I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.0025		0.086		0.097		0.067		0.025		0.12		0.80		NS		NS	
MW-12I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.29		0.22		0.15		0.13		0.22		0.098		1.0		NS		NS	

Notes:

Results shown are in mg/L.

Detection limit changed in 3Q17 event due to the analytical laboratory changing the analytical method for testing.

NS: Not sampled

Data Qualifiers:

U: Constituent was not detected, reporting limit is shown

J: Constituent was detected, concentration is estimated

B: Constituent was detected in an associated blank sample

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Table 2: Dissolved Lead Concentrations by Well and Groundwater Monitoring Event

Well Location	3Q 2011	Qual	4Q 2011	Qual	2Q 2012	Qual	3Q 2012	Qual	4Q 2012	Qual	1Q 2013	Qual	2Q 2013	Qual	3Q 2013	Qual	4Q 2013	Qual	1Q 2014	Qual	2Q 2014	Qual	3Q 2014	Qual	4Q 2014	Qual	1Q 2015	Qual	2Q 2015	Qual	3Q 2015	Qual	4Q 2015	Qual	3Q 2016	Qual	3Q 2017	Qual	3Q 2018	Qual	3Q 2019	Qual
MW-1S	0.010	U	0.010	U	0.010	U	0.010	U	0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-2S	0.010	U	0.010	U	0.010	U	0.010	U	0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	0.0010	U	0.004	U
MW-3S	0.0052	J	0.30		0.28		0.034		0.13		0.11	B	0.15	B	0.090		0.18		0.13		0.083		0.094		0.14		0.15		0.14		0.083		0.14		0.10		0.11		NS		NS	
MW-4S	0.010	U	0.0022	J	0.0020	J	0.010	U	0.0010	U	0.00010	U	0.00072	UB	0.00015		0.00040	U	0.00040	U	0.00044		0.00053		0.00097		0.00061		0.00072		0.00080		0.00070		0.0020	U	0.080	U	0.10	U	0.004	U
MW-5S	0.010	U	0.010	U	0.010	U	0.010	U	0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-6S	0.022		0.0032	J	0.010	U	0.010	U	0.0031		0.00062	UB	0.00081	B	0.00037		0.00040	U	0.00040	U	0.00064		0.0013		0.00092		0.0012		0.00042		0.0013		0.0012		0.0020	U	0.080	U	NS		NS	
MW-7S	0.012		0.010	U	0.010	U	0.010	U	0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00065		0.00040	U	0.0012		0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-8S	NS		NS		NS		NS		0.0012		0.00010	U	0.00010	U	0.00024		0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-9S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	0.0010	U	0.004	U
MW-10S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.017		0.023		0.027		0.042		0.031		0.018		0.080	U	0.077		0.096	
MW-11S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.027		0.052		0.047		0.058		0.087		0.15		0.27		NS		NS	
MW-12S	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.087		0.010		0.019		0.060		0.051		0.0020	U	0.080	U	NS		NS	
MW-1I	NS		NS		NS		NS		0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-2I	NS		NS		NS		NS		0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00043		0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	0.0010	U	0.004	U
MW-3I	NS		NS		NS		NS		0.014		0.00084	UB	0.0010	UB	0.00026		0.00040	U	0.00040	U	0.0011		0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-4I	NS		NS		NS		NS		0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	0.0010	U	0.004	U
MW-5I	NS		NS		NS		NS		0.0010	U	0.00010	UB	0.00011	UB	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-6I	NS		NS		NS		NS		0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-7I	NS		NS		NS		NS		0.0010	U	0.00010	U	0.00010	U	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-8I	NS		NS		NS		NS		0.0010	U	0.00050	U	0.00010	UB	0.00010	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	NS		NS	
MW-9I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.0031		0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	0.0010	U	0.004	U
MW-10I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.00040	U	0.0020	U	0.080	U	0.0010	U	0.004	U
MW-11I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.00040	U	0.015		0.023		0.014		0.0040		0.042		0.12		NS		NS	
MW-12I	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.00097		0.00040	U	0.00040	U	0.00040	U	0.0011		0.0020	U	0.080	U	NS		NS	

Notes:
Results shown are in mg/L.
Detection limit changed in 3Q17 event due to the analytical laboratory changing the analytical method for testing.
NS: Not sampled
Data Qualifiers:
U: Constituent was not detected, reporting limit is shown
J: Constituent was detected, concentration is estimated
B: Constituent was detected in an associated blank sample

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Figures

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Legend

Superlon Property Boundary

0 400 800 1,200 Feet

PIONEER TECHNOLOGIES CORPORATION

Superlon Property Location
2019 Groundwater Monitoring Report
Superlon Plastics Property, Tacoma, Washington

Figure 1

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Legend

- Superlon Property Boundary
- City of Tacoma
- Gardner-Fields
- Port of Tacoma
- 2102 Taylor Way (Port Owned)
- Railroad
- Fence
- Ditch

0 50 100 150 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Property Features
2019 Groundwater Monitoring Report
Superlon Plastics Property, Tacoma, Washington

Figure 2

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Legend

Monitoring Wells
- Shallow Aquifer
- Intermediate Aquifer
- Decommissioned Well

Property Features
- Railroad
- Fence
- Ditch
- Property Boundary

0 50 100 Feet

PIONEER TECHNOLOGIES CORPORATION

Monitoring Well Locations
2019 Groundwater Monitoring Report
Superlon Plastics Site, Tacoma, Washington

Figure 3

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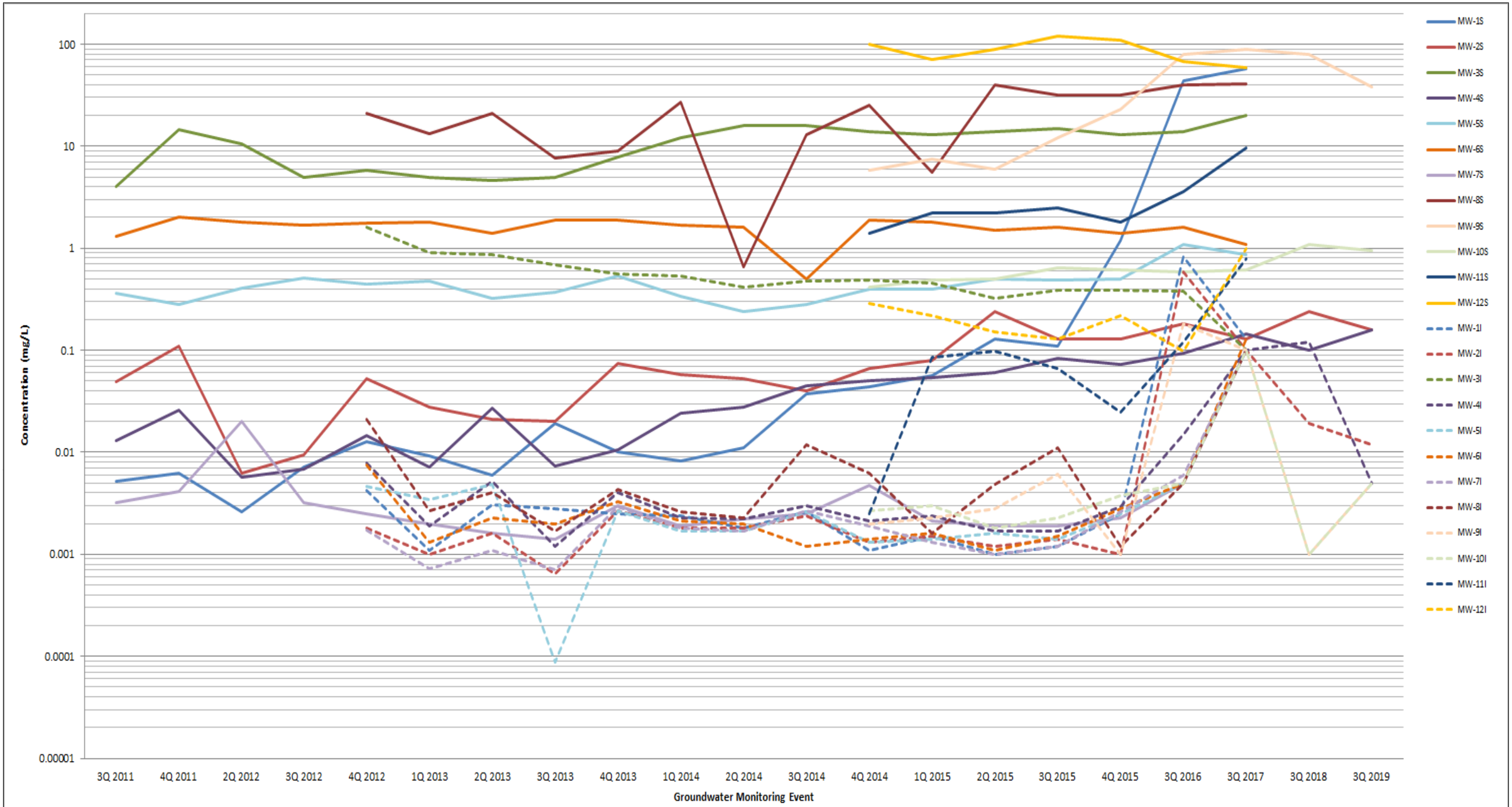

PIONEER TECHNOLOGIES CORPORATION

Dissolved Arsenic Trend in the Shallow and Intermediate Aquifers
2019 Groundwater Monitoring Report
Superlon Plastics Property, Tacoma, Washington

Figure 4

Document Path: G:\Projects\Superlon\Maps\2018\August\Figure 4_Dissolved_Arsenic_Trend_Analysis.mxd; Author: Connor Haydon; Date Saved: 9/5/2018

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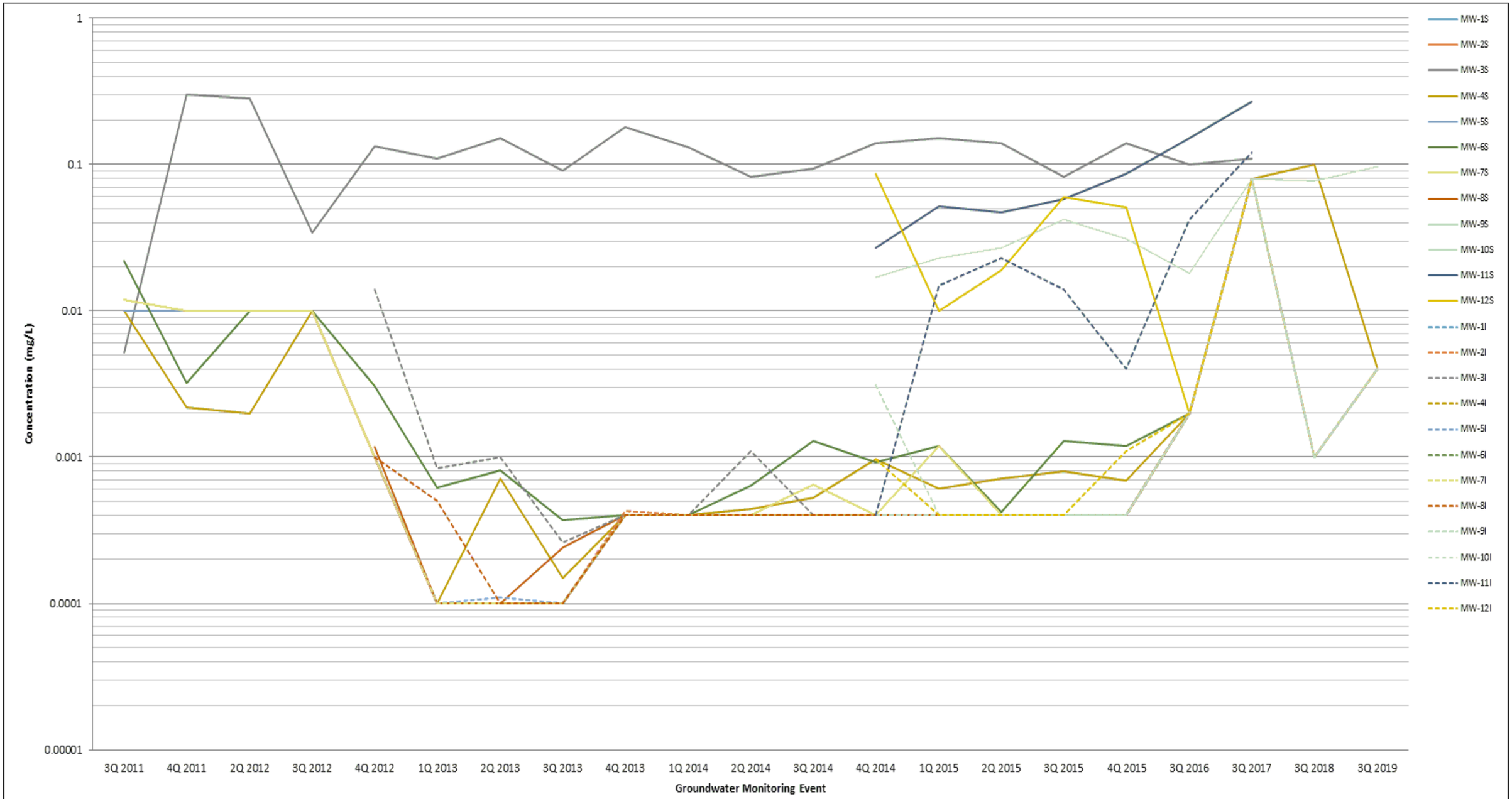

PIONEER TECHNOLOGIES CORPORATION

Dissolved Lead Trend in the Shallow and Intermediate Aquifers
2019 Groundwater Monitoring Report
Superlon Plastics Property, Tacoma, Washington

Figure 5

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Appendix A

2019 Groundwater Sampling Field Notes

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
GROUNDWATER MONITORING FORM

Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

SITE NAME: Superior FIELD TECHNICIAN(S): Connor Haydon DATE: 7/23/19

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
2I	47.45		good condition	7:00	/	10.43	/	peri	~20	10	1 L/min	10.4	7.62	1.726	33.3	0.34	13.8	-141	7:20	mostly clear water, no odor, no sheen	~1	
										12		10.4	7.62	1.726	44.0	0.33	13.7	-142				
										14		10.4	7.61	1.725	153.0	0.32	138	-142				
										16		10.4	7.61	1.724	62.9	0.31	14.1	-141.9				
										18		10.4	7.60	1.728	66.5	0.31	14.0	-142				
										20		10.4	7.60	1.728	72.1	0.30	13.9	-142				
2S	29.3		good condition	8:00	/	9.45	/	peri	~25	20		9.4	6.77	0.862	209.4	0.62	15.2	-92	8:40	" "	~1	
										22		9.4	6.77	0.857	222.2	0.61	15.3	-92.8				
										24		9.4	6.76	0.854	235.9	0.59	15.2	-93.3				
4I	50.49		flush mount good condition	9:20	/	5.51	/		~20	14		5.5	7.58	1.979	1798	0.34	14.6	-95.2	9:45	flush mount varying turbidity	~1	
										16		5.5	7.58	1.977	575.8	0.32	14.5	-99				
										18		5.5	7.59	1.971	380.5	0.30	14.5	-102.4				
										20		5.5	7.6	1.982	316.5	0.29	14.6	-104.6				
										22		5.5	7.6	1.981	331.2	0.28	14.5	-107.3				
4S	26.94		flush mount	10:05	/	4.62	/		~20	10		4.6	6.86	3.324	4.8	0.33	14.3	-88.7		dark brown water @ first	~1	
										12		4.6	6.86	3.323	5.7	0.30	14.4	-90.9				
										14		4.6	6.87	3.325	5.8	0.28	14.3	-91.4				
10S	26.79		stick up - bugs under cap	12:00	/	9.46	/		~20	12		10.5	6.78	3.307	49.2	0.26	15.9	-108	7	dark brown water		
										14		10.5	6.77	3.300	94.8	0.26	16.1	-108.7				
										16		10.5	6.77	3.297	91.6	0.26	16.2	-111.1				
10I	~~26~~ 7 45.36		" "	12:30	/	9.8	/		~30	10		10.5	7.16	8.361	23.1	0.36	15.9	-100.5	12:50			
										12		10.5	7.16	8.360	33.6	0.33	15.8	-102.0				
										14		10.5	7.16	8.361	48.3	0.31	15.7	-103.7				
										16		10.5	7.17	8.344	7.7	0.30	16.1	-104.6	6			
										18		10.5	7.17	8.346	8.0	0.30	16.4	-105.4				
										20		10.5	7.17	8.354	11.4	0.30	16.5	-106.3				

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PIONEER TECHNOLOGIES CORPORATION (PIONEER)
GROUNDWATER MONITORING FORM

Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

SITE NAME: Superior FIELD TECHNICIAN(S): Conner Hayden DATE: 8/23/19

WELL INFO				DTW				PURGING												SAMPLE COLLECTION		PURGE WATER	
										Stabilization													
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
9I	57.67	1	good	1:20	/	11.27	/	peri	~30 ft	10	1 L/m	[illegible]	8.01	6.241	77.0	0.30	16.2	-179.1				
										12		12 ft	8.01	6.221	96.6	0.28	16.4	-180.5				
										14			8.02	6.231	106.8	0.28	16.6	-181	1:40	tkrbidity refused to stabilize the entire purge	1	
										16			8.02	6.236	80.8	0.27	16.7	-181.4				
										18			8.02	6.234	123.7	0.27	16.7	-181.9				
										20			8.02	6.237	83.6	0.26	16.7	-182.1				
9S	31.75	/	good	[illegible] 13:50	/	11.72	/		~20	8		~12 ft	7.01	4.636	27.3	0.28	16.3	-143.1				
										10			7.01	4.635	38.1	0.26	16.2	-144.1				
										12			7.01	4.632	52.5	0.24	16.4	-145.3	2:05		1	
										14			7.01	4.633	53.3	0.24	16.6	-145.9				
										16			7.00	4.629	60.0	0.24	16.7	-146.4				

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Appendix B

2019 Laboratory Reports and QA/QC Data Validation Reports

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QA/QC SOLUTIONS, LLC

James J. Mc Ateer, Jr., Managing Member
7532 Champion Hill Rd. SE
Salem, Oregon 97306
Telephone: 503.763.6948
Facsimile: 503.566.2114
Cellular: 503.881.1501
email: jjmcateer@msn.com

August 29, 2019

Jeff King, L.G.
Pacific Environmental and Redevelopment (PERC-NW)
8424 East Meadow Lake Drive
Snohomish, WA 98290

Subject: Data Validation Review for the Superlon Plastics Site Annual 2019
Groundwater Monitoring Well Sampling Event
Task Order No.: 16-3
QA/QC Solutions, LLC Project No.: 081519.1

Sent via e-mail to jking@perc-nw.com on August 29, 2019

Dear Jeff:

This letter documents the results of the data validation review for the analysis of dissolved arsenic and dissolved lead completed on groundwater samples associated with Superlon Plastic Site Annual 2019 groundwater monitoring well sampling event.

The data reported were validated to verify the laboratory quality assurance and quality control (QA/QC) procedures were documented and of sufficient quality to support its intended purpose(s). A summary of the overall assessment of data quality, the data set, a summary of the analytical methods used to complete the chemical analyses, a summary of the data validation procedures used, and a summary of the reasons why data were qualified (including other items noted during data validation) is presented below.

Overall Assessment of Data Quality

Overall, the data reported are of good quality and the results for the applicable QA/QC procedures that were used by the laboratory during the analysis of the samples were acceptable. During data validation no results required qualification as estimated (*J*), restatement as undetected (*U*), or rejection (*R*).

Data Set

The data set consisted of nine (9) groundwater samples, (8 filtered samples and 1 field duplicate sample) which were collected on July 23, 2019. A summary of the samples collected and the analyses completed is presented in Table 1. Analyses were completed by TestAmerica Laboratories, Inc., TestAmerica Seattle, located in Tacoma, Washington under Job ID 580-87870-1. TestAmerica Seattle submitted a complete data validation deliverable and electronic data deliverable (EDD).

Analytical Methods

Analysis of dissolved arsenic and lead was completed by filtration through 0.45-µm filter at the laboratory, digestion using nitric and hydrochloric acids, and analysis by inductively coupled plasma-mass

spectrometry (ICP-MS) using U.S. EPA SW-846 Methods 3005A and 6020A (U.S. EPA 2019). Data users should note that filtration through 0.45-µm filter does not yield a "truly dissolved" water fraction.

Data Validation Procedures

Data validation procedures included evaluating a summary of the sample results and applicable quality control results reported by the laboratory. This level of validation is also referred to as an abbreviated data review. The analytical data were validated generally following the applicable guidance and requirements specified in:

- *Guidance on Environmental Data Verification and Validation* (U.S. EPA 2002).
- *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*. OSWER No. 9200.1-85. EPA 540-R-08-005. (U.S. EPA 2009).
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Superfund Data Review*. Final. OSWER 9240.1-51. EPA 540-R-10-011 (U.S. EPA 2010).
- Method-specific and laboratory-established quality control requirements, as applicable.

The laboratory data deliverables that were validated included the following:

- Case narrative discussing analytical problems (if any) and procedures.
- Chain-of-custody (COC) documentation to verify completeness of the data set.
- Sample preparation logs or laboratory summary result forms to verify analytical holding times were met.
- Results for the method blank to determine whether an analyte that was reported as detected in any sample was the result of possible contamination introduced at the laboratory.
- Results for laboratory control sample (LCS) (i.e., blank spike), duplicate LCS, matrix spike (MS), and matrix spike duplicate (MSD) recoveries to assess analytical accuracy.
- Results for applicable laboratory duplicate sample, duplicate LCS, and MSD analyses to assess analytical precision.
- Results for the field duplicate sample to provide additional information in support of the quality assurance review.
- Laboratory summaries of analytical results.

Verification and validation of 100-percent of all applicable laboratory calculations, transcriptions, review of instrument printouts, and review of bench sheets were not completed during the data validation review. There may be analytical problems that could only be identified by reviewing every instrument printouts and associated analytical quality control results. Verification of all possible factors that could result in the degradation of data quality was not completed nor should be inferred at this time. The laboratory case narratives did not indicate any significant problems with data that were not reviewed during data validation. The adequacy of the sampling procedures was not completed during the data validation.

Performance based control limits established by the laboratory and applicable control limits specified in the analytical methods were used to evaluate data quality and to determine if specific data required qualification. No data required qualification.

General Comments:

- At the top of the COC an incorrect date of 7/24/19 was written. During data validation it was confirmed with the PTC sample (Mr. Connor Haydon) the correct date should have been 7/23/19, which matches the date listed for each sample and date the samples were relinquished and received. This discrepancy does not affect the overall quality of the data reported.
- TestAmerica Seattle client sample numbers listed on the hardcopy and EDD were incorrect. Specifically, the number "8" was added as the last digit for all samples. For example, one sample listed by the laboratory as GW-MW-02S-0723198 should actually be GW-MW-02S-072319 per the COC. The samples IDs were corrected on the EDD during data validation to accurately reflect the correct sample nomenclature as listed on the COC. Data users must note the hardcopy is not correct.
- In some instances, selected samples required dilution prior to analysis (as is required by the analytical methods) to obtain concentrations that were within the linear range of the instrument or to minimize the effects of matrix interferences to obtain reportable results.

This concludes the data validation review. Should you have any questions regarding the information presented herein, please contact me by telephone at 503.763.6948 or by e-mail at jjmcateer@msn.com.

Cordially,

QA/QC Solutions, LLC
James J. Mc Ateer, Jr., Managing Member

cc: Brad Grimsted, Pioneer Technologies Corporation via email at GrimstedB@uspioneer.com
Connor Haydon, Pioneer Technologies Corporation via email at HaydonC@uspioneer.com

Attachment

References

U.S. EPA 2002. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. EPA/240/R-02/004. November 2002. U.S. Environmental Protection Agency, Office of Environmental Information, Washington DC.

U.S. EPA 2009. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. January 13, 2009. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC.

U.S. EPA 2010. USEPA Contract Laboratory Program national functional guidelines for inorganic data superfund data review. Final. OSWER 9240.1-51. EPA 540-R-10-011. January 2010. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC.

U.S. EPA 2019. SW-846 on-line. Test methods for evaluating solid wastes, physical/chemical methods. https://www.epa.gov/hw-sw846/sw-846-compendium (last updated on April 24, 2019). U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC

Table 1. Summary of Samples Collected and Analyses Completed

Sample Number	Laboratory Sample Number	Sample Date	Dissolved Arsenic and Lead by 6020A
GW-MW-2I-072319	580-87870-1	07/23/19	✓
GW-MW-2S-072319	580-87870-2	07/23/19	✓
GW-MW-4I-072319	580-87870-3	07/23/19	✓
GW-MW-4S-072319	580-87870-4	07/23/19	✓
GW-MW-9I-072319	580-87870-5	07/23/19	✓
GW-MW-9S-072319	580-87870-6	07/23/19	✓
GW-MW-10I-072319	580-87870-7	07/23/19	✓
GW-MW-10S-072319	580-87870-8	07/23/19	✓
GW-MW-10S-072319-D	580-87870-9	07/23/19	✓

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eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-87870-1
Client Project/Site: Superlon

For:
Pioneer Technologies Corporation
5205 Corporate Ctr. Ct. SE
Ste A
Olympia, Washington 98503

Attn: Brad Grimsted

M. Elaine Walker

Authorized for release by:
8/2/2019 3:25:58 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

Table of Contents

Job ID: 580-87870-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-87870-1

Receipt
Nine samples were received on 7/23/2019 3:28 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 11.6º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-2I-0723198

Lab Sample ID: 580-87870-1

Date Collected: 07/23/19 07:20

Matrix: Water

Date Received: 07/23/19 15:28

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**12**		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:22	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:22	5

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-2S-0723198
Date Collected: 07/23/19 08:10
Date Received: 07/23/19 15:28

Lab Sample ID: 580-87870-2
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	160		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:43	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:43	5

Client Sample Results

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-4I-0723198

Lab Sample ID: 580-87870-3

Date Collected: 07/23/19 09:45

Matrix: Water

Date Received: 07/23/19 15:28

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:10	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:10	5

Client Sample Results

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-4S-0723198

Lab Sample ID: 580-87870-4

Date Collected: 07/23/19 10:20

Matrix: Water

Date Received: 07/23/19 15:28

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**160**		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:35	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:35	5

Client Sample Results

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-9I-0723198

Lab Sample ID: 580-87870-5

Date Collected: 07/23/19 13:40

Matrix: Water

Date Received: 07/23/19 15:28

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:18	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:18	5

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-9S-0723198
Date Collected: 07/23/19 13:50
Date Received: 07/23/19 15:28

Lab Sample ID: 580-87870-6
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**38000**		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:39	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:39	5

Client Sample Results

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-10I-0723198

Lab Sample ID: 580-87870-7

Date Collected: 07/23/19 12:50

Matrix: Water

Date Received: 07/23/19 15:28

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 20:32	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 20:32	5

Client Sample Results

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-10S-0723198

Date Collected: 07/23/19 12:20
Date Received: 07/23/19 15:28

Lab Sample ID: 580-87870-8

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	940		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:26	5
Lead	95		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:26	5

Client Sample Results

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-10S-0723198-D

Date Collected: 07/23/19 12:20
Date Received: 07/23/19 15:28

Lab Sample ID: 580-87870-9

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	950		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:31	5
Lead	96		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 21:31	5

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-306590/13-B
Matrix: Water
Analysis Batch: 306983

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 306736

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.0	1.0	ug/L		07/26/19 11:30	07/26/19 20:19	5
Lead	ND		4.0	1.0	ug/L		07/26/19 11:30	07/26/19 20:19	5

Lab Sample ID: LCS 580-306590/14-B
Matrix: Water
Analysis Batch: 306983

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 306736

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			1000	932		ug/L		93	80 - 120		
Lead			1000	920		ug/L		92	80 - 120		

Lab Sample ID: LCSD 580-306590/15-B
Matrix: Water
Analysis Batch: 306983

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 306736

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			1000	953		ug/L		95	80 - 120	2	20
Lead			1000	945		ug/L		95	80 - 120	3	20

Lab Sample ID: 580-87870-7 MS
Matrix: Water
Analysis Batch: 306983

Client Sample ID: GW-MW-10I-0723198
Prep Type: Dissolved
Prep Batch: 306736

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	ND		1000	942		ug/L		94	80 - 120		
Lead	ND		1000	931		ug/L		93	80 - 120		

Lab Sample ID: 580-87870-7 MSD
Matrix: Water
Analysis Batch: 306983

Client Sample ID: GW-MW-10I-0723198
Prep Type: Dissolved
Prep Batch: 306736

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1000	989		ug/L		99	80 - 120	5	20
Lead	ND		1000	963		ug/L		96	80 - 120	3	20

Lab Sample ID: 580-87870-7 DU
Matrix: Water
Analysis Batch: 306983

Client Sample ID: GW-MW-10I-0723198
Prep Type: Dissolved
Prep Batch: 306736

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Arsenic	ND			ND		ug/L				NC	20
Lead	ND			ND		ug/L				NC	20

Lab Chronicle

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-2I-0723198
Lab Sample ID: 580-87870-1
Date Collected: 07/23/19 07:20
Matrix: Water
Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:22	FCW	TAL SEA

Client Sample ID: GW-MW-2S-0723198
Lab Sample ID: 580-87870-2
Date Collected: 07/23/19 08:10
Matrix: Water
Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:43	FCW	TAL SEA

Client Sample ID: GW-MW-4I-0723198
Lab Sample ID: 580-87870-3
Date Collected: 07/23/19 09:45
Matrix: Water
Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:10	FCW	TAL SEA

Client Sample ID: GW-MW-4S-0723198
Lab Sample ID: 580-87870-4
Date Collected: 07/23/19 10:20
Matrix: Water
Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:35	FCW	TAL SEA

Client Sample ID: GW-MW-9I-0723198
Lab Sample ID: 580-87870-5
Date Collected: 07/23/19 13:40
Matrix: Water
Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:18	FCW	TAL SEA

Lab Chronicle

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Client Sample ID: GW-MW-9S-0723198

Lab Sample ID: 580-87870-6

Date Collected: 07/23/19 13:50

Matrix: Water

Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:39	FCW	TAL SEA

Client Sample ID: GW-MW-10I-0723198

Lab Sample ID: 580-87870-7

Date Collected: 07/23/19 12:50

Matrix: Water

Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 20:32	FCW	TAL SEA

Client Sample ID: GW-MW-10S-0723198

Lab Sample ID: 580-87870-8

Date Collected: 07/23/19 12:20

Matrix: Water

Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:26	FCW	TAL SEA

Client Sample ID: GW-MW-10S-0723198-D

Lab Sample ID: 580-87870-9

Date Collected: 07/23/19 12:20

Matrix: Water

Date Received: 07/23/19 15:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			306590	07/25/19 09:55	ART	TAL SEA
Dissolved	Prep	3005A			306736	07/26/19 11:30	ART	TAL SEA
Dissolved	Analysis	6020A		5	306983	07/26/19 21:31	FCW	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Pioneer Technologies Corporation
Job ID: 580-87870-1
Project/Site: Superlon

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oregon	NELAP	10	WA100007	11-05-19
Washington	State Program	10	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020A	3005A	Water	Arsenic
6020A	3005A	Water	Lead

Sample Summary

Client: Pioneer Technologies Corporation
Project/Site: Superlon

Job ID: 580-87870-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-87870-1	GW-MW-2I-0723198	Water	07/23/19 07:20	07/23/19 15:28	
580-87870-2	GW-MW-2S-0723198	Water	07/23/19 08:10	07/23/19 15:28	
580-87870-3	GW-MW-4I-0723198	Water	07/23/19 09:45	07/23/19 15:28	
580-87870-4	GW-MW-4S-0723198	Water	07/23/19 10:20	07/23/19 15:28	
580-87870-5	GW-MW-9I-0723198	Water	07/23/19 13:40	07/23/19 15:28	
580-87870-6	GW-MW-9S-0723198	Water	07/23/19 13:50	07/23/19 15:28	
580-87870-7	GW-MW-10I-0723198	Water	07/23/19 12:50	07/23/19 15:28	
580-87870-8	GW-MW-10S-0723198	Water	07/23/19 12:20	07/23/19 15:28	
580-87870-9	GW-MW-10S-0723198-D	Water	07/23/19 12:20	07/23/19 15:28	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

☐ Rush
☐ Short Hold

Chain of Custody Record

haydonc@uspioneer.com

Client	Client Contact	Date	Chain of Custody Number
Pioneer Technologies Corp.	Connor Haydon	7/24/19	35845
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page ____ of ____**
5205 Corporate Ctr. Ct. SE Ste. A	484 753 3390		
City / **State** / **Zip Code**	**Sampler**	**Lab Contact**	
Olympia / WA / 98503	Connor Haydon		
Project Name and Location (State)	**Billing Contact**		
Contract/Purchase Order/Quote No.			

Loc: 580
87870

Spe
Con

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Dissolved Lead	Dissolved Arsenic
GW-MW-2I-072319	7/23	7:20		X			X						X	X
GW-MW-2S-072319	7/23	8:10		X			X						X	X
GW-MW-4I-072319	7/23	9:45		X			X						X	X
GW-MW-4S-072319	7/23	10:20		X			X						X	X
GW-MW-9I-072319	7/23	13:40		X			X						X	X
GW-MW-9S-072319	7/23	13:50		X			X						X	X
GW-MW-10I-072319	7/23	12:50		X			X						X	X
GW-MW-10S-072319	7/23	12:20		X			X						X	X
GW-MW-10S-072319-D	7/23	12:20		X			X						X	X

580-87870 Chain of Custody

Therm. ID: IR4 Cor: 11.6 ° Unc: 11.9 °
Cooler Dsc: Med B1 FedEx: ____
Packing: NON UPS: ____
Cust. Seal: Yes ✓ No ____ Lab Cour: ____
Blue Ice, Wet, Dry, None Other: CLS

Cooler
☐ Yes ☐ No Cooler Temp: ____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By Sign/Print	7/23/19	3:26	1. Received By Sign/Print	7-23-19	1528
2. Relinquished By Sign/Print			2. Received By Sign/Print		
3. Relinquished By Sign/Print			3. Received By Sign/Print		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0210)

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Login Sample Receipt Checklist

Client: Pioneer Technologies Corporation

Job Number: 580-87870-1

Login Number: 87870
List Number: 1
Creator: Hobbs, Kenneth F

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Appendix C

Well Decommissioning Reports

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RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* ______

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Property Owner: **White Birch**
Site Address: **2116 Taylor Way**
City: **Tacoma** County: **Pierce**

Consulting Firm: **Pacific Environmental**

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** ☒ EWM or WWM

Unique Ecology Well ID Tag No. ______

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a**; Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Trainee Name (Print) **Tim Watson**
Driller/Trainee Signature: Tim Watson
Driller/Trainee License No. **3203**

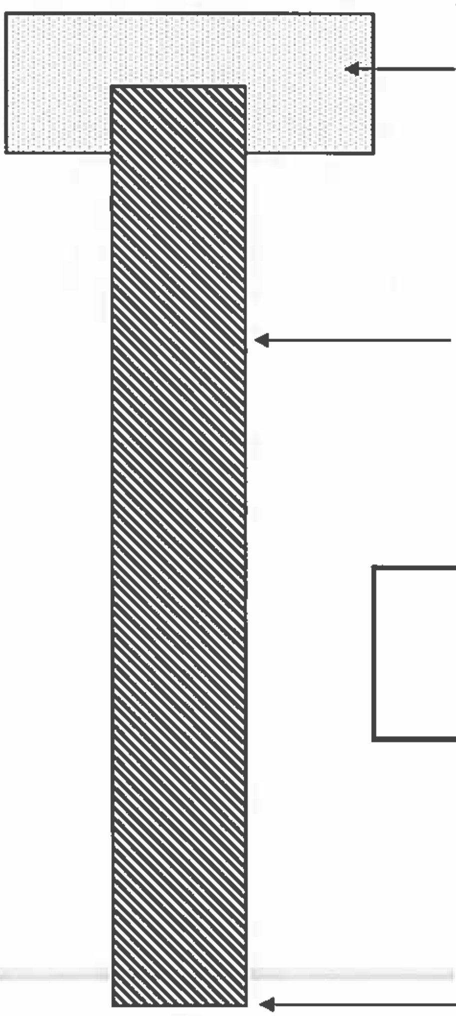
Cased or Uncased Diameter: grout 2" well Static Level: 5

Work/Decommision Start Date: 8/29/17

If trainee, licensed drillers' Signature and License No.	

Work/Decommision Completed Date: 8/29/17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL 3 FT

0 - 50' FT
grout in place 2" well

BACKFILL 48 FT

0 - ______ FT

BENTONITE grout

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHS 237

CLIENT WELL ID #: ______

DEPTH OF BORING 50 FT

Scale 1" = ______ Page ______ of ______

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID
Tag No. BHS 236

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** ☐ EWM ☐ WWM

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature: Tim Watson

Driller/Trainee License No. **3203**

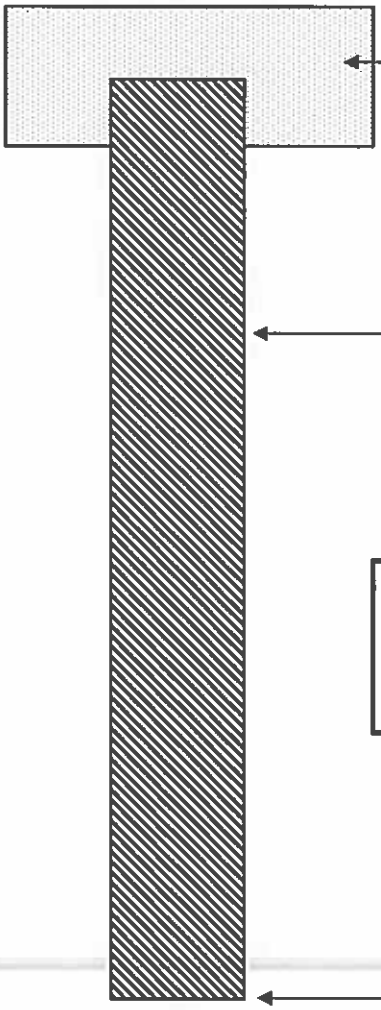
Cased or Uncased Diameter: grout 2" well pvc Static Level: 5

Work/Decommision Start Date: 8/29/17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date: 8/29/17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL — 3 FT — Formation: 0 - 3' FT — grout in place 2" well

BACKFILL — 28 FT — Formation: 0 - _____ FT — BENTONITE GROUT

DEPTH OF BORING — 31' FT

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHS 236

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID
Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or **EWM** WWM

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No.: **03213561042**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (Print) ~~Tim~~ **Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

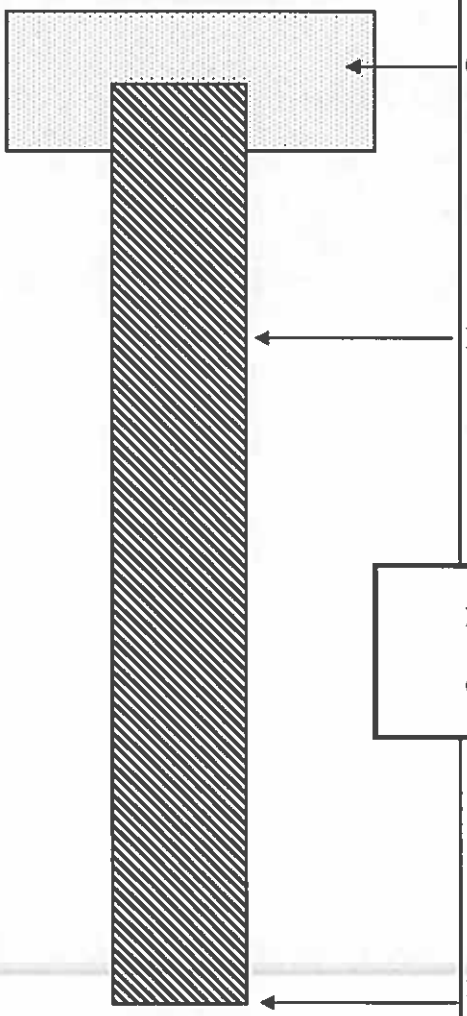
If trainee, licensed drillers' Signature and License No. _____

Cased or Uncased Diameter: grout 2" pvc well Static Level: 5

Work/Decommision Start Date: 8/29/17

Work/Decommision Completed Date: 8/29/17

Construction/Design | Well Data 103-17-1371 | Formation Description



CONCRETE SURFACE SEAL — 3 FT — 0 - 26 FT — grout in place 2" pvc well

BACKFILL — 23 FT — 0 - _____ FT — Bentonite grout

DEPTH OF BORING — 26' FT

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHB402

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

EWM

Unique Ecology Well ID
Tag No. _____

Location 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

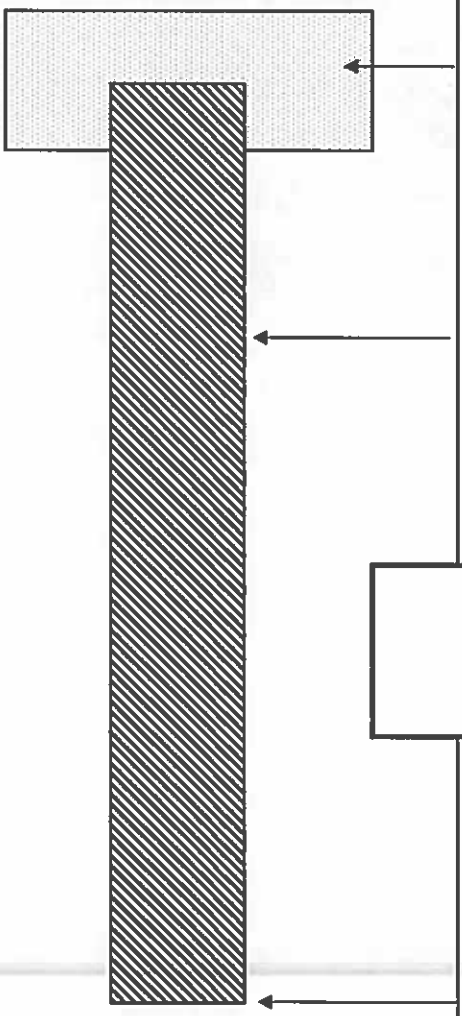
Cased or Uncased Diameter 2" prc well Static Level _____

Work/Decommision Start Date 8/29/17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8/29/17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL 3 FT — 0 - 50 FT — GROUT IN PLACE 2" prc well

BACKFILL 47 FT — 0 - FT

BENTONITE GROUT

DEPTH OF BORING 50 FT

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHS 235

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

Consulting Firm: **Pacific Environmental**

City: **Tacoma** County: **Pierce**

EWM

Unique Ecology Well ID
Tag No. _____

Location 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

Tax Parcel No. **03213561042**

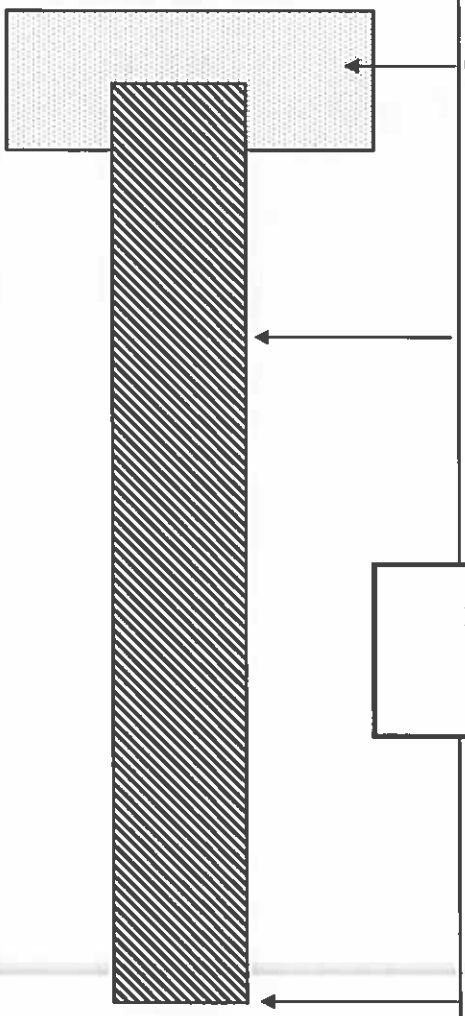
Cased or Uncased Diameter 2" pvc well Static Level 5

Work/Decommision Start Date 8/29/17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8/29/17

Construction/Design — **Well Data** 103-17-1371 — **Formation Description**



CONCRETE SURFACE SEAL — 3 FT — 0 - 53 FT — grout in place 2" pvc well

BACKFILL — 50 FT — 0 - FT — Bentenite grout

DEPTH OF BORING — 53' FT

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BZD 704

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** ☐ EWM ☐ WWM

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature: Tim Watson

Driller/Trainee License No. **3203**

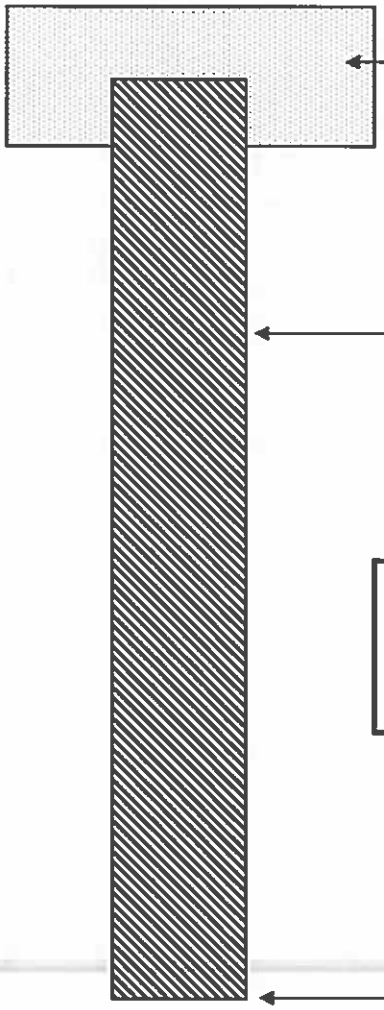
If trainee, licensed drillers' Signature and License No. _____

Cased or Uncased Diameter: 2" pvc well Static Level: 5

Work/Decommision Start Date: 8/29/17

Work/Decommision Completed Date: 8/29/17

Construction/Design | Well Data 103-17-1371 | Formation Description



CONCRETE SURFACE SEAL	3 FT	0 - 23 FT	GROUT IN PLACE
BACKFILL	20 FT	0 - FT	BENTONITE GROUT
DEPTH OF BORING	23 FT		

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BJD 859

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID
Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** ☐ EWM ☐ WWM

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

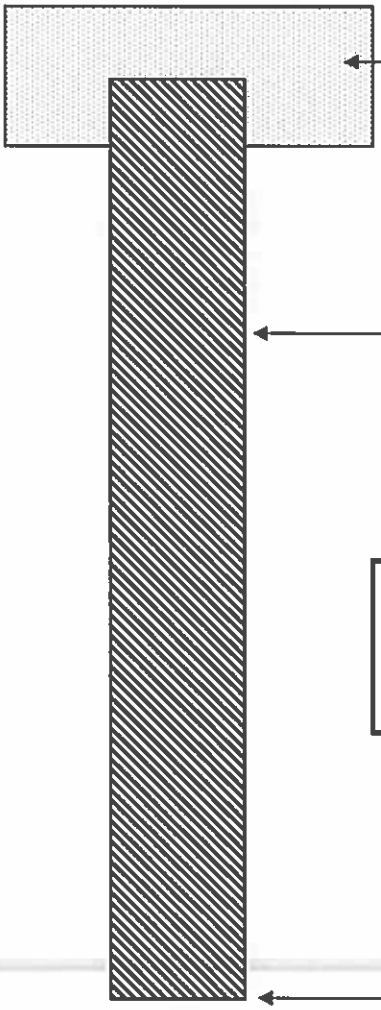
If trainee, licensed drillers' Signature and License No. _____

Cased or Uncased Diameter 2" pvc well Static Level 5

Work/Decommision Start Date 8/29/17

Work/Decommision Completed Date 8/29/17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL	3 FT	0 - 5	FT
		GROUT IN PLACE	
BACKFILL	51 FT	0 -	FT
	BENTONITE GROUT		
DEPTH OF BORING	54 FT		

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BID 682

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

Consulting Firm: **Pacific Environmental**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID
Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** ☐ EWM ☐ WWM

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No.: **03213561042**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

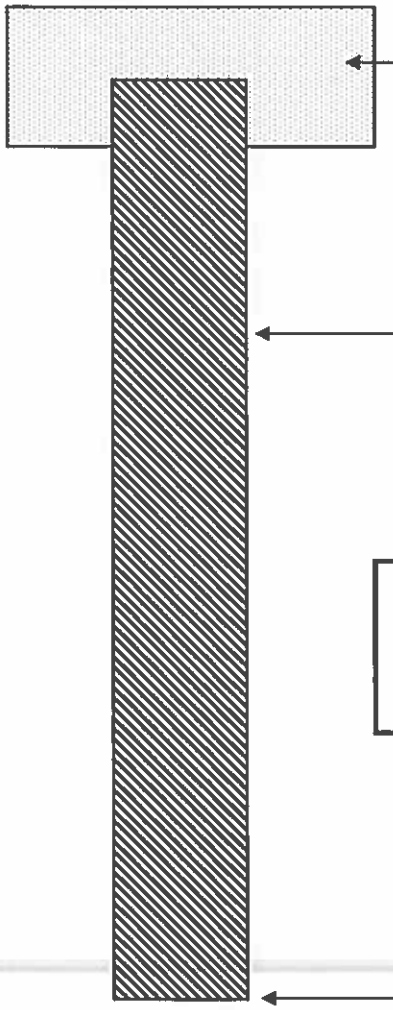
Cased or Uncased Diameter: 2" PVC well Static Level: 5

Work/Decommision Start Date: 8/29/17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date: 8/29/17

Construction/Design | Well Data 103-17-1371 | Formation Description



Construction/Design	Well Data 103-17-1371	Formation Description
CONCRETE SURFACE SEAL	3 FT	0 - 30 FT grout in place
BACKFILL	27 FT	0 - FT
	Bentonite grout	
DEPTH OF BORING	30 FT	

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BFD 683

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID
Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** ☐ EWM ☐ WWM

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

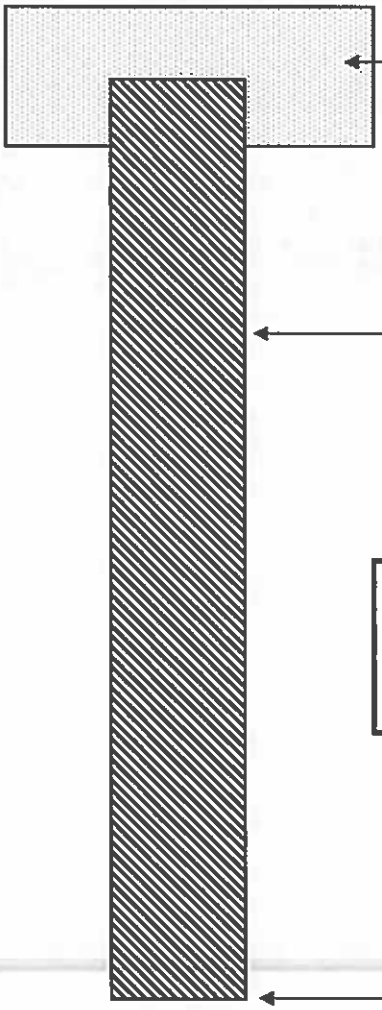
If trainee, licensed drillers' Signature and License No. _____

Cased or Uncased Diameter: 2" pvc well Static Level: 5

Work/Decommision Start Date: 8/29/17

Work/Decommision Completed Date: 8/29/17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL: 3 FT — Formation: 0 - 25 FT GROUT IN PLACE

BACKFILL: 22 FT — Formation: 0 - FT

BENTONITE GROUT

DEPTH OF BORING: 25 FT

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHB 403

CLIENT WELL ID #: _____

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

[ ] Construction

[X] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

EWM

Unique Ecology Well ID
Tag No. _____

Location 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

[X] Driller [ ] Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

Tax Parcel No. **03213561042**

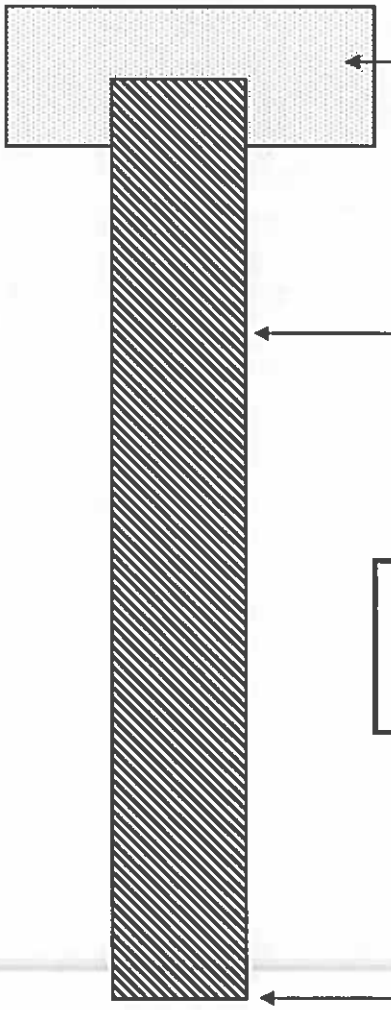
Cased or Uncased Diameter 2" pvc well Static Level 5

Work/Decommision Start Date 8/29/17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8/29/17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL 3 FT — 0 - 50 FT grout in place

BACKFILL 47 FT — 0 - FT

Bentonite grout

DEPTH OF BORING 50 FT

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHS 393

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID
Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** **EWM** or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

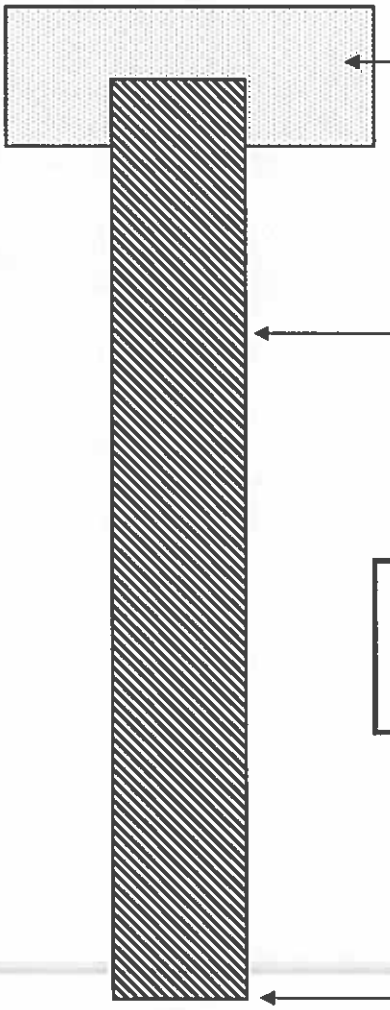
Cased or Uncased Diameter PVC 2" well Static Level 5

Work/Decommision Start Date 8/30/17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8/30/17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL 3 FT — 0 - 52 FT grout in place

BACKFILL 49 FT — 0 - FT

Bentonite grout

DEPTH OF BORING 52 FT

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHS 394

CLIENT WELL ID #: _____

Scale 1" = _____ Page _____ of _____

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID _____

Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or EWM WWM

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature _____

Driller/Trainee License No. **3203**

Tax Parcel No. **03213561042**

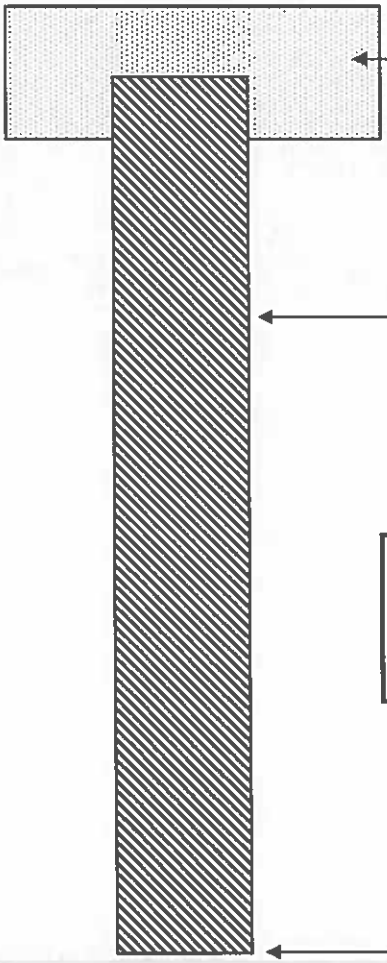
Cased or Uncased Diameter 2" Static Level 0

Work/Decommision Start Date 8-30-17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8-30-17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL _____ FT — 0 - _____ FT

BACKFILL 30' FT — 0 - _____ FT

Bent. Grout

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHB-498

CLIENT WELL ID #: _____

DEPTH OF BORING 30' FT

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

EWM

Unique Ecology Well ID
Tag No. _____

Location 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature Tim Watson

Driller/Trainee License No. **3203**

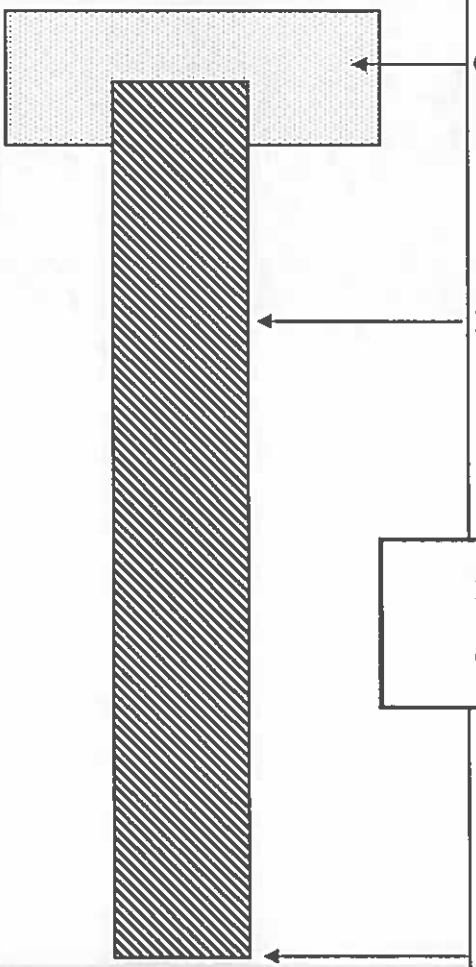
Cased or Uncased Diameter 2" Static Level 0

Work/Decommision Start Date 8-30-17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8-30-17

Construction/Design | Well Data 103-17-1371 | Formation Description



CONCRETE SURFACE SEAL _____ FT — Formation: 0 - _____ FT

BACKFILL 28' FT — Formation: 0 - _____ FT

Bent. Grout

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHB-497

CLIENT WELL ID #: _____

DEPTH OF BORING 28' FT

Scale 1" = _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

Unique Ecology Well ID
Tag No. _____

Location: 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** ☐ EWM ☐ or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required): Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No.: **03213561042**

☒ Driller ☐ Trainee Name (Print): **Tim Watson**

Driller/Trainee Signature: Tim Watson

Driller/Trainee License No.: **3203**

Cased or Uncased Diameter: 2"

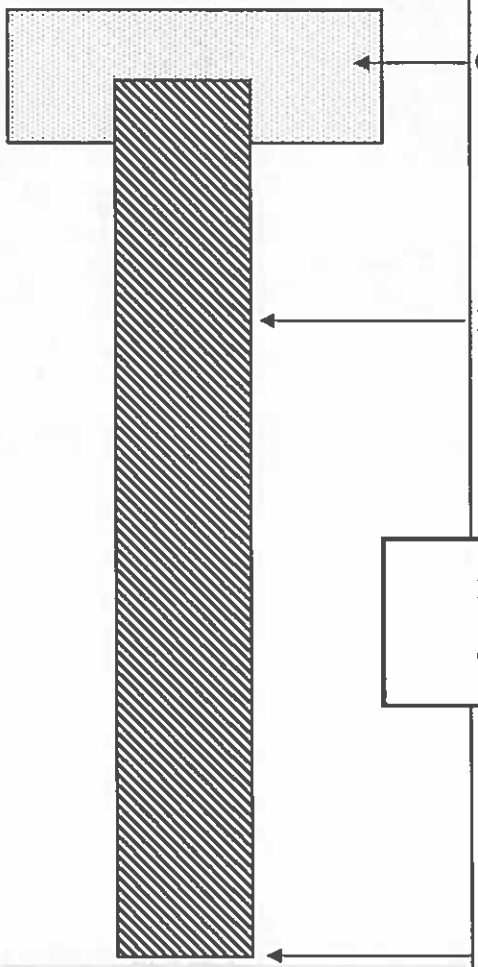
Static Level: 0

Work/Decommision Start Date: 8-30-17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date: 8-30-17

Construction/Design — **Well Data** 103-17-1371 — **Formation Description**



CONCRETE SURFACE SEAL — _____ FT — 0 - _____ FT

BACKFILL — 56' FT — 0 - _____ FT

Bent. Grout

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHS-240

CLIENT WELL ID #: _____

DEPTH OF BORING — 56' FT

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

EWM

Unique Ecology Well ID
Tag No. _____

Location 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature Tim Watson

Driller/Trainee License No. **3203**

Cased or Uncased Diameter 2"

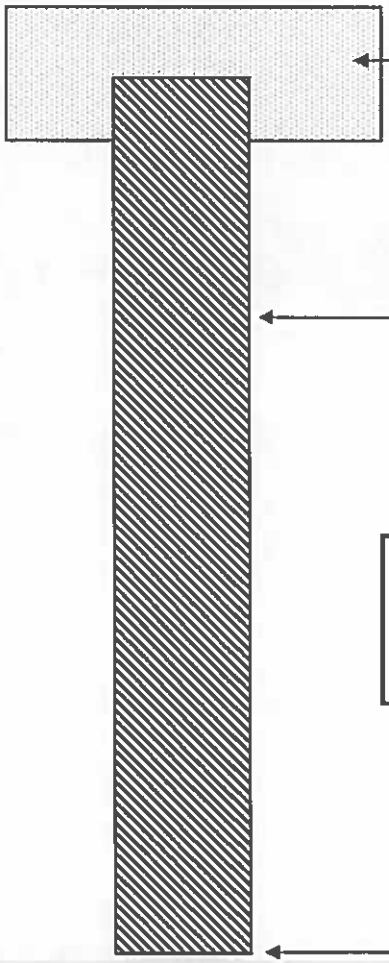
Static Level 0

Work/Decommision Start Date 8-30-17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8-30-17

Construction/Design — **Well Data** 103-17-1371 — **Formation Description**



CONCRETE SURFACE SEAL _____ FT — 0 - _____ FT

BACKFILL 56' FT — 0 - _____ FT

Bent. Grout

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHS-239

CLIENT WELL ID #: _____

DEPTH OF BORING 56' FT

Scale 1" = _____ Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. AE44817

Construction/Decommission

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

☒ Resource Protection

☐ Geotechnical Soil Boring

Consulting Firm: **Pacific Environmental**

Property Owner: **White Birch**

Site Address: **2116 Taylor Way**

City: **Tacoma** County: **Pierce**

EWM

Unique Ecology Well ID
Tag No. _____

Location 1/4 **NW** 1/4 **NE** Sec **35** TWN **21N** R **3E** or WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r still Required) Lat Deg **n/a** Lat Min/Sec **n/a** Long Deg **n/a** Long Min/Sec **n/a**

Tax Parcel No. **03213561042**

☒ Driller ☐ Trainee Name (Print) **Tim Watson**

Driller/Trainee Signature: Tim Watson

Driller/Trainee License No. **3203**

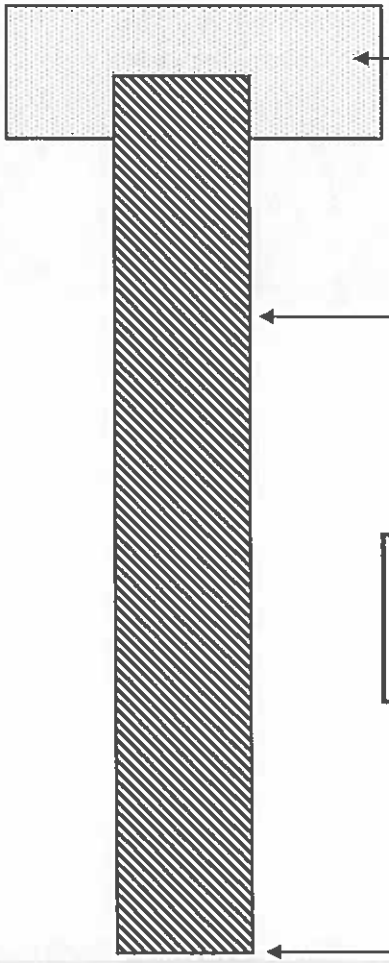
Cased or Uncased Diameter 2" Static Level 0

Work/Decommision Start Date 8-30-17

If trainee, licensed drillers' Signature and License No. _____

Work/Decommision Completed Date 8-30-17

Construction/Design — Well Data 103-17-1371 — Formation Description



CONCRETE SURFACE SEAL _____ FT — 0 - _____ FT

BACKFILL 28 FT — 0 - _____ FT

Bent. Grout

REQUIRED INFORMATION
(Must get one or both if available)

DEPT OF ECOLOGY WELL TAG # : BHB-499

CLIENT WELL ID #: _____

DEPTH OF BORING 28 FT

Scale 1" = _____ Page _____ of _____