

April 15, 2020

Mr. Randall Bailey
Oregon Department of Environmental Quality
Northwest Region
700 NE Multnomah St., Suite 600
Portland, OR 97232

**Re: First Quarter 2020 Characterization Monitoring Report
NW Natural Source Control Groundwater Treatment Facility
7900 NW St. Helens Road, Portland
NPDES Permit Number 103061 (permit renewal pending with DEQ)**

Dear Mr. Bailey:

Attached is the Quarterly Characterization Monitoring Report for January-March 2020. The data are reported as prescribed in the NPDES permit and the June 2013 DEQ document "Completing Discharge Monitoring Reports (DMRs)" as follows:

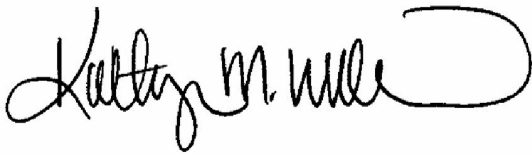
- Sample results at or below the detection level are reported as "< detection level."
- Sample results above the detection level but below quantitation level have a data code denomination "e" next to the result on the "Raw Data" Worksheet. These data were converted to the "Final" Worksheet as follows:
 - If the sample result was greater than detection limit, but less than the quantitation limit, the value of the detection limit was substituted.

All samples were taken at the designated discharge point. Internal process samples taken by Severson Environmental Services for process optimization, but not taken at the designated sample point are not reported.

Note that the 4th Quarter 2019 characterization sample results reported in January 2020 showed a dissolved zinc concentration of 110 ug/L, though total zinc was less than 2 ug/L at an MDL of 2 ug/L. For these reasons, we believed then that the dissolved zinc value was a laboratory error. The 1st quarter 2020 dissolved zinc value shown in the current report is < 2 ug/L at a mean detection limit of 2.0 ug/L. This value is similar to previous characterization reports. Therefore, we believe that the 4th quarter 2019 value was inaccurate.

If you have questions about this package, please contact Terry Driscoll at Aponowich, Driscoll & Associates, Inc, (404) 641-8107, tpdriscoll@mindspring.com.

Very truly yours,



Kathryn Williams
Vice President of Public Affairs
NW Natural

Attachment:
Fourth Quarter 2019 Effluent Characterization Tables

NW Natural Source Control Treatment Plant Effluent Flow and Temperature Data
 Permit Number 103061
 File Number 120589

26-Dec-2019	57.0
27-Dec-2019	58.0
28-Dec-2019	59.0
29-Dec-2019	57.0
30-Dec-2019	58.0
31-Dec-2019	58.0

Date	Total Flow Gals/Day	Average Daily Temp deg F	Maximum Daily Temp deg F	Maximum Temp 7-day Moving Average deg F
1-Jan-2020	316106	57.9	57.9	57.8
2-Jan-2020	313807	57.3	57.3	57.9
3-Jan-2020	324802	58.0	58.0	57.9
4-Jan-2020	310204	57.2	57.2	57.6
5-Jan-2020	326346	57.0	57.0	57.6
6-Jan-2020	263080	56.9	56.9	57.5
7-Jan-2020	270612	57.0	57.0	57.3
8-Jan-2020	252890	56.9	56.9	57.2
9-Jan-2020	300942	56.3	56.3	57.0
10-Jan-2020	292476	57.0	57.0	56.9
11-Jan-2020	271896	57.0	57.0	56.9
12-Jan-2020	291768	56.7	56.7	56.8
13-Jan-2020	279509	56.0	56.0	56.7
14-Jan-2020	276810	56.0	56.0	56.6
15-Jan-2020	299814	56.0	56.0	56.4
16-Jan-2020	295369	56.0	56.0	56.4
17-Jan-2020	293962	56.1	56.1	56.3
18-Jan-2020	301307	56.6	56.6	56.2
19-Jan-2020	322458	57.3	57.3	56.3
20-Jan-2020	315077	57.0	57.0	56.5
21-Jan-2020	288689	57.0	57.0	56.6
22-Jan-2020	282738	57.0	57.0	56.7
23-Jan-2020	277570	57.9	57.9	57.0
24-Jan-2020	262217	58.1	58.1	57.3
25-Jan-2020	264568	58.3	58.3	57.5
26-Jan-2020	275908	58.1	58.1	57.6
27-Jan-2020	282732	57.4	57.4	57.7
28-Jan-2020	291143	57.3	57.3	57.7
29-Jan-2020	283076	57.9	57.9	57.9
30-Jan-2020	265849	57.4	57.4	57.8
31-Jan-2020	266352	58.5	58.5	57.8
1-Feb-2020	269937	58.8	59.0	57.9
2-Feb-2020	286806	57.1	58.0	57.9
3-Feb-2020	277075	56.4	57.0	57.9
4-Feb-2020	279023	56.4	57.0	57.8
5-Feb-2020	273724	56.6	58.0	57.8
6-Feb-2020	258852	57.7	58.0	57.9
7-Feb-2020	282171	58.2	59.0	58.0
8-Feb-2020	259409	57.4	58.0	57.9
9-Feb-2020	274446	57.0	57.0	57.7
10-Feb-2020	273080	56.9	58.0	57.9
11-Feb-2020	281573	56.8	57.0	57.9
12-Feb-2020	289305	57.1	58.0	57.9
13-Feb-2020	290374	57.0	58.0	57.9
14-Feb-2020	296312	57.2	58.0	57.7
15-Feb-2020	289559	57.1	58.0	57.7
16-Feb-2020	298204	57.2	58.0	57.9
17-Feb-2020	322373	57.3	58.0	57.9
18-Feb-2020	261853	57.0	57.0	57.9
19-Feb-2020	293076	57.2	58.0	57.9
20-Feb-2020	300981	57.4	58.0	57.9
21-Feb-2020	305348	57.3	58.0	57.9
22-Feb-2020	302929	57.5	58.0	57.9
23-Feb-2020	304814	57.7	58.0	57.9
24-Feb-2020	308392	57.3	58.0	57.9
25-Feb-2020	306176	57.3	58.0	58.0
26-Feb-2020	304825	58.1	59.0	58.1
27-Feb-2020	304375	57.8	59.0	58.3
28-Feb-2020	306915	58.1	59.0	58.4
29-Feb-2020	298884	57.5	58.0	58.4
1-Mar-2020	320025	57.3	58.0	58.4
2-Mar-2020	321595	57.1	58.0	58.4
3-Mar-2020	323374	58.0	59.0	58.6
4-Mar-2020	315720	58.3	59.0	58.6
5-Mar-2020	304747	58.0	59.0	58.6
6-Mar-2020	312712	57.9	59.0	58.6
7-Mar-2020	315317	57.4	58.0	58.6
8-Mar-2020	297464	57.4	58.0	58.6
9-Mar-2020	294997	57.2	59.0	58.7
10-Mar-2020	334908	57.6	59.0	58.7
11-Mar-2020	321424	58.2	59.0	58.7
12-Mar-2020	326978	57.6	59.0	58.7
13-Mar-2020	326466	57.4	59.0	58.7
14-Mar-2020	321144	56.8	58.0	58.7
15-Mar-2020	332269	56.5	57.0	58.6
16-Mar-2020	327628	57.1	59.0	58.6
17-Mar-2020	317018	57.8	59.0	58.6
18-Mar-2020	313711	58.0	59.0	58.6
19-Mar-2020	312123	58.2	59.0	58.6
20-Mar-2020	309205	58.7	60.0	58.7
21-Mar-2020	312347	58.6	60.0	59.0
22-Mar-2020	323641	58.6	60.0	59.4
23-Mar-2020	316642	58.4	60.0	59.6
24-Mar-2020	316083	57.9	59.0	59.6
25-Mar-2020	315845	57.7	59.0	59.6
26-Mar-2020	315128	57.6	59.0	59.6
27-Mar-2020	307277	58.0	58.0	59.3
28-Mar-2020	312167	58.3	59.0	59.1
29-Mar-2020	307883	58.5	60.0	59.1
30-Mar-2020	318272	58.3	59.0	59.0
31-Mar-2020	314606	57.8	59.0	59.0
January Average	289,012	57.1	57.1	57.2
January Maximum	326,346	58.5	58.5	57.9
February Average	289,682	57.3	58.0	57.9
February Maximum	322,373	58.8	59.0	58.4
March Average	316,375	57.8	58.9	58.9
March Maximum	334,908	58.7	60.0	59.6
1st Quarter Average	298,547	57.4	58.0	58.0
1st Quarter Maximum	334,908	58.8	60.0	59.6

NW Natural Source Control Treatment Plant Effluent Data

Permit Number

103061

File Number

120589

Sample Type

Grab/Composite (Total Cadmium and Chromium and Dissolved Cadmium results are taken from the Fremont Laboratory report. Inorganic Arsenic result is taken from the Brooks Laboratory report. For VOCs and Cyanide, 6 discrete samples composited at the laboratory).

Date of Sample

21-Feb-20

	Code ¹	Result	MDL	RL	UNITS
Hardness		55	NR	0.46	mg CaCO ₃ /L
Metals					
Arsenic (Inorganic)		1.27 ₍₂₎	0.01	0.04	ug/L
Chromium III (Total)		NA			
Chromium III (Dissolved)		NA			
Chromium VI (Total)		<5.0	5.00	5.00	ug/L
Chromium VI (Dissolved)		<5.0	5.00	5.00	ug/L
Cadmium (Total)		<0.01	0.01	0.20 *	ug/L
Chromium (Total)		<0.41	0.41	1.00 *	ug/L
Nickel (Total)		<0.50	0.50	1.00	ug/L
Selenium (Total)		<0.50	0.50	1.00	ug/L
Silver (Total)		<0.10	0.10	0.20	ug/L
Zinc (Total)		<2.0	2.0	4.0	ug/L
Cadmium (Dissolved)	e	0.02	0.01	0.20 *	ug/L
Nickel (Dissolved)		<0.50	0.50	1.00	ug/L
Silver (Dissolved)		<0.10	0.10	0.20	ug/L
Zinc (Dissolved)		<2.0	2.0	4.0	ug/L
PAHs and Phenols					
Acenaphthene		<0.04	0.04	0.04	ug/L
Acenaphthylene		<0.04	0.04	0.04	ug/L
Anthracene		<0.04	0.04	0.04	ug/L
Benzo(b)fluoranthene		<0.04	0.04	0.04	ug/L
Benzo(k)fluoranthene		<0.04	0.04	0.04	ug/L
Benzo(g,h,i)perylene		<0.04	0.04	0.04	ug/L
Carbazole		<0.04	0.04	0.04	ug/L
Chrysene		<0.04	0.04	0.04	ug/L
Dibenzofuran		<0.04	0.04	0.04	ug/L
Fluoranthene		<0.04	0.04	0.04	ug/L
Fluorene		<0.04	0.04	0.04	ug/L
2-Methylnaphthalene		<0.04	0.04	0.04	ug/L
Naphthalene		<0.04	0.04	0.04	ug/L
Phenanthrene		<0.04	0.04	0.04	ug/L
Pyrene		<0.04	0.04	0.04	ug/L
2-Chlorophenol		<0.49	0.49	0.49	ug/L
2,4-Dichlorophenol		<0.49	0.49	0.49	ug/L
2,4-Dimethylphenol		<0.49	0.49	0.49	ug/L
4,6-Dinitro-2-methylphenol		<0.58	0.58	0.58	ug/L
2-Methylphenol		<0.49	0.49	0.49	ug/L
2-Nitrophenol		<0.49	0.49	0.49	ug/L
4-Nitrophenol		<0.49	0.49	0.49	ug/L
2,4,5-Trichlorophenol		<0.49	0.49	0.49	ug/L
2,4,6-Trichlorophenol		<0.49	0.49	0.49	ug/L
Pentachlorophenol (PCP)		<0.39	0.39	0.39	ug/L
Phenol		<0.49	0.49	0.49	ug/L
VOCs					
Acetone		<10	10	20	ug/L
Benzene		<0.13	0.13	0.25	ug/L
2-Butanone (MEK)		<5.0	5.0	10	ug/L

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1,1-Dichloroethene		<0.25	0.25	0.50	ug/L
trans-1,2-Dichloroethene		<0.25	0.25	0.50	ug/L
Ethylbenzene		<0.25	0.25	0.50	ug/L
Tetrachloroethene (PCE)		<0.25	0.25	0.50	ug/L
Toluene		<0.25	0.25	0.50	ug/L
Trichloroethene (TCE)		<0.25	0.25	0.50	ug/L
1,2,4-Trimethylbenzene		<0.50	0.50	1.0	ug/L
1,3,5-Trimethylbenzene		<0.50	0.50	1.0	ug/L
Vinyl chloride		<0.25	0.25	0.50	ug/L
Xylene (Total)		<0.75	0.75	1.5	ug/L
Cyanide Analyses					
Cyanide, Available		3.8	1.0	2.0	ug/L
Cyanide, Free		<2.5	2.5	5.0	ug/L

¹ Code shown is per June 2013 DEQ Document "Completing Discharge Monitoring Reports (DMRs) page 9 as follows:

"e" Sample result is above detection limit but below the quantitation level.

NR = None Reported by Laboratory

NA = Not analyzed due to permit requirements (Table B2: Table B2 Notes/note 5).

* RL from the Freemont report for dissolved and total metals are taken from the analysis of the Method Blank in order to

Raw Data

NW Natural Source Control Treatment Plant Effluent Data					
Permit Number		103061			
File Number		120589			
Sample Type	Grab/Composite (Total Cadmium and Chromium and Dissolved Cadmium results are taken from the Fremont Laboratory report. Inorganic Arsenic result is taken from the Brooks Laboratory report. For VOCs and Cyanide, 6 discrete samples composited at the laboratory).				
Date of Sample		21-Feb-20			
	Code ¹	Result	MDL	RL	UNITS
Hardness		55.1	NR	0.456	mg CaCO3/L
METALS					
Arsenic (inorganic)		1.265 ₍₂₎	0.010	0.042	ug/L
Chromium III (Total)		NA			
Chromium III (Dissolved)		NA			
Chromium VI (Total)		<5.00	5.00	5.00	ug/L
Chromium VI (Dissolved)		<5.00	5.00	5.00	ug/L
Cadmium (Total)		<0.0140	0.0140	0.200 *	ug/L
Chromium (Total)		<0.408	0.408	1.00 *	ug/L
Nickel (Total)		<0.500	0.500	1.00	ug/L
Selenium (Total)		<0.500	0.500	1.00	ug/L
Silver (Total)		<0.100	0.100	0.200	ug/L
Zinc (Total)		<2.00	2.00	4.00	ug/L
Cadmium (Dissolved)	e	0.0215	0.0136	0.200 *	ug/L
Nickel (Dissolved)		<0.500	0.500	1.00	ug/L
Silver (Dissolved)		<0.100	0.100	0.200	ug/L
Zinc (Dissolved)		<2.00	2.00	4.00	ug/L
PAHs and PHENOLS					
Acenaphthene		<0.0388	0.0388	0.0388	ug/L
Acenaphthylene		<0.0388	0.0388	0.0388	ug/L
Anthracene		<0.0388	0.0388	0.0388	ug/L
Benzo(b)fluoranthene		<0.0388	0.0388	0.0388	ug/L
Benzo(k)fluoranthene		<0.0388	0.0388	0.0388	ug/L
Benzo(g,h,i)perylene		<0.0388	0.0388	0.0388	ug/L
Carbazole		<0.0388	0.0388	0.0388	ug/L
Chrysene		<0.0388	0.0388	0.0388	ug/L
Dibenzofuran		<0.0388	0.0388	0.0388	ug/L
Fluoranthene		<0.0388	0.0388	0.0388	ug/L
Fluorene		<0.0388	0.0388	0.0388	ug/L
2-Methylnaphthalene		<0.0388	0.0388	0.0388	ug/L
Naphthalene		<0.0388	0.0388	0.0388	ug/L
Phenanthrene		<0.0388	0.0388	0.0388	ug/L
Pyrene		<0.0388	0.0388	0.0388	ug/L
2-Chlorophenol		<0.485	0.485	0.485	ug/L
2,4-Dichlorophenol		<0.485	0.485	0.485	ug/L
2,4-Dimethylphenol		<0.485	0.485	0.485	ug/L
4,6-Dinitro-2-methylphenol		<0.583	0.583	0.583	ug/L
2-Methylphenol		<0.485	0.485	0.485	ug/L
2-Nitrophenol		<0.485	0.485	0.485	ug/L
4-Nitrophenol		<0.485	0.485	0.485	ug/L
2,4,5-Trichlorophenol		<0.485	0.485	0.485	ug/L
2,4,6-Trichlorophenol		<0.485	0.485	0.485	ug/L
Pentachlorophenol (PCP)		<0.388	0.388	0.388	ug/L
Phenol		<0.485	0.485	0.485	ug/L
NW Natural Source Control Treatment Plant Effluent Data					
Permit Number		103061			

Raw Data

File Number		120589			
Sample Type		Grabs			
Date of Sample		21-Feb-20			
VOCs and Cyanide					
Sample (3QRD-081419-23 Composite)					
Acetone		<10.0	10.0	20.0	ug/L
Benzene		<0.125	0.125	0.250	ug/L
2-Butanone (MEK)		<5.00	5.00	10.0	ug/L
1,1-Dichloroethene		<0.250	0.250	0.500	ug/L
trans-1,2-Dichloroethene		<0.250	0.250	0.500	ug/L
Ethylbenzene		<0.250	0.250	0.500	ug/L
Tetrachloroethene (PCE)		<0.250	0.250	0.500	ug/L
Toluene		<0.250	0.250	0.500	ug/L
Trichloroethene (TCE)		<0.250	0.250	0.500	ug/L
1,2,4-Trimethylbenzene		<0.500	0.500	1.00	ug/L
1,3,5-Trimethylbenzene		<0.500	0.500	1.00	ug/L
Vinyl chloride		<0.250	0.250	0.500	ug/L
Xylenes, total		<0.750	0.750	1.50	ug/L
Cyanide Analyses					
Cyanide, Available (ug/L)		3.78	1.00	2.00	ug/L
Cyanide, Free		<2.50	2.50	5.00	ug/L
¹ Code shown is per June 2013 DEQ Document "Completing Discharge Monitoring Reports (DMRs) page 9 as follows:					
"e" Sample result is above detection limit but below the quantitation level.					
NR = None Reported by Laboratory					
NA = Not analyzed due to permit requirements (Table B2: Table B2 Notes/note 5).					
* RL from the Freemont report for dissolved and total metals are taken from the analysis of the Method Blank in order to correctly use the "e code".					