

July 15, 2020

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

**Re: Second 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 April-June 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.



---

250 SW Taylor Street  
Portland, OR 97204

503-226-4211  
nwnatural.com

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

Very truly yours,

A handwritten signature in black ink, appearing to read 'Kathryn Williams', with a large, sweeping flourish at the end.

Kathryn Williams  
Vice President of Public Affairs  
NW Natural

Attachment:  
Second Quarter 2020 Effluent Characterization Tables

NW Natural Source Control Treatment Plant Effluent Flow and Temperature Data  
 Permit Number 103064  
 File Number 120589

26-Mar-2020	59.0
27-Mar-2020	58.0
28-Mar-2020	59.0
29-Mar-2020	60.0
30-Mar-2020	59.0
31-Mar-2020	59.0

Date	Total Flow Gals/Day	Average	Maximum	Maximum Temp
		Daily Temp deg F	Daily Temp deg F	7-day Moving Average deg F
1-Apr-2020	298226	57.6	59.0	59.0
2-Apr-2020	291131	57.6	58.0	58.9
3-Apr-2020	308670	57.5	58.0	58.9
4-Apr-2020	308234	57.7	59.0	58.9
5-Apr-2020	310694	58.4	60.0	58.9
6-Apr-2020	308026	58.8	60.0	59.0
7-Apr-2020	312390	58.9	60.0	59.1
8-Apr-2020	313970	59.0	61.0	59.4
9-Apr-2020	313698	59.8	62.0	60.0
10-Apr-2020	309582	60.0	61.0	60.4
11-Apr-2020	307377	59.6	61.0	60.7
12-Apr-2020	319629	59.1	60.0	60.7
13-Apr-2020	318039	59.0	60.0	60.7
14-Apr-2020	317295	59.3	61.0	60.9
15-Apr-2020	312113	59.7	61.0	60.9
16-Apr-2020	311770	59.8	61.0	60.7
17-Apr-2020	301000	59.7	61.0	60.7
18-Apr-2020	300101	59.5	61.0	60.7
19-Apr-2020	301248	59.2	61.0	60.9
20-Apr-2020	299601	59.5	61.0	61.0
21-Apr-2020	297682	59.6	61.0	61.0
22-Apr-2020	157465	59.5	60.0	60.9
23-Apr-2020	299310	59.4	60.0	60.7
24-Apr-2020	283317	59.4	60.0	60.6
25-Apr-2020	289507	60.2	61.0	60.6
26-Apr-2020	289082	59.8	61.0	60.6
27-Apr-2020	282427	60.0	61.0	60.6
28-Apr-2020	279450	60.1	62.0	60.7
29-Apr-2020	263133	60.9	62.0	61.0
30-Apr-2020	275819	60.4	62.0	61.3
1-May-2020	278472	59.6	61.0	61.4
2-May-2020	261435	59.6	61.0	61.4
3-May-2020	260450	58.9	60.0	61.3
4-May-2020	266141	59.4	61.0	61.3
5-May-2020	265914	60.0	62.0	61.3
6-May-2020	264785	60.1	62.0	61.3
7-May-2020	268086	59.7	62.0	61.3
8-May-2020	262738	61.1	63.0	61.6
9-May-2020	262021	62.3	64.0	62.0
10-May-2020	277368	62.6	64.0	62.6
11-May-2020	271840	61.7	65.0	63.1
12-May-2020	257048	60.4	61.0	63.0
13-May-2020	263453	60.1	62.0	63.0
14-May-2020	252472	59.4	60.0	62.7
15-May-2020	261408	59.7	61.0	62.4
16-May-2020	262087	60.2	61.0	62.0
17-May-2020	260277	60.6	62.0	61.7
18-May-2020	266522	60.3	61.0	61.1
19-May-2020	250092	59.9	61.0	61.1
20-May-2020	252003	59.9	61.0	61.0
21-May-2020	248592	59.4	60.0	61.0
22-May-2020	264476	59.4	60.0	60.9
23-May-2020	251290	59.4	60.0	60.7
24-May-2020	255788	60.5	62.0	60.7
25-May-2020	257739	60.6	62.0	60.9
26-May-2020	280749	60.9	62.0	61.0
27-May-2020	241441	61.2	63.0	61.3
28-May-2020	268095	62.3	65.0	62.0
29-May-2020	261727	62.9	65.0	62.7
30-May-2020	267007	61.5	64.0	63.3
31-May-2020	279417	60.3	61.0	63.1
1-Jun-2020	268852	60.7	62.0	63.1
2-Jun-2020	261886	61.0	63.0	63.3
3-Jun-2020	262674	61.2	63.0	63.3
4-Jun-2020	261126	61.2	63.0	63.0
5-Jun-2020	257969	61.3	62.0	62.6
6-Jun-2020	258505	60.2	61.0	62.1
7-Jun-2020	282343	59.8	61.0	62.1
8-Jun-2020	282679	60.2	61.0	62.0
9-Jun-2020	281434	60.2	61.0	61.7
10-Jun-2020	251286	61.4	63.0	61.7
11-Jun-2020	272561	61.8	63.0	61.7
12-Jun-2020	264452	60.9	63.0	61.9
13-Jun-2020	264943	60.2	61.0	61.9
14-Jun-2020	260552	60.5	62.0	62.0
15-Jun-2020	267232	61.0	61.0	62.0
16-Jun-2020	271641	60.5	61.0	62.0
17-Jun-2020	263630	60.9	62.0	61.9
18-Jun-2020	256289	61.9	63.0	61.9
19-Jun-2020	259750	62.5	64.0	62.0
20-Jun-2020	270033	62.3	64.0	62.4
21-Jun-2020	267843	61.8	63.0	62.6
22-Jun-2020	268985	62.0	64.0	63.0
23-Jun-2020	260384	63.3	66.0	63.7
24-Jun-2020	268303	63.5	66.0	64.3
25-Jun-2020	277290	62.4	64.0	64.4
26-Jun-2020	262781	63.2	65.0	64.6
27-Jun-2020	275758	62.5	64.0	64.6
28-Jun-2020	272510	61.3	62.0	64.4
29-Jun-2020	272980	61.4	62.0	64.1
30-Jun-2020	264277	61.5	62.0	63.6
<b>April Average</b>	<b>296,006</b>	<b>59.3</b>	<b>60.5</b>	<b>60.3</b>
<b>April Maximum</b>	<b>319,629</b>	<b>60.9</b>	<b>62.0</b>	<b>61.3</b>
<b>May Average</b>	<b>262,450</b>	<b>60.4</b>	<b>61.9</b>	<b>61.8</b>
<b>May Maximum</b>	<b>280,749</b>	<b>62.9</b>	<b>65.0</b>	<b>63.3</b>
<b>June Average</b>	<b>267,032</b>	<b>61.4</b>	<b>62.7</b>	<b>62.8</b>
<b>June Maximum</b>	<b>282,679</b>	<b>63.5</b>	<b>66.0</b>	<b>64.6</b>
<b>2nd Quarter Average</b>	<b>275,021</b>	<b>60.4</b>	<b>61.7</b>	<b>61.6</b>
<b>2nd Quarter Maximum</b>	<b>319,629</b>	<b>63.5</b>	<b>66.0</b>	<b>64.6</b>

**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 1-Jun-20

	Code <sup>1</sup>	Result	MDL	RL	UNITS
Hardness		29	NR	1.9	mg CaCO3/L
<b>Metals</b>					
Arsenic (Inorganic)		1.2	0.01	0.03	ug/L
Chromium III (Total)		NA			
Chromium III (Dissolved)		NA			
Chromium VI (Total)		<5.0	5.0	5.0	ug/L
Chromium VI (Dissolved)		<5.0	5.0	5.0	ug/L
Cadmium (Total)		<0.01	0.01	0.20 *	ug/L
Chromium (Total)	e	0.41	0.41	1.00 *	ug/L
Nickel (Total)		<1.0	1.0	2.0	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)		<0.01	0.01	0.20 *	ug/L
Nickel (Dissolved)		<0.20	2.0	4.0	ug/L
Silver (Dissolved)		<0.10	0.10	0.20	ug/L
Zinc (Dissolved)		<2.0	2.0	4.0	ug/L
<b>PAHs and Phenols</b>					
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		0.31	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		<0.59	0.59	0.59	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
<b>VOCs</b>					
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

BR  
FR  
FR  
FR

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
<b>Cyanide Analyses</b>					
Cyanide, Available		2.7	1.0	2.0	ug/L
Cyanide, Free		<2.5	2.5	5.0	ug/L

<sup>1</sup> 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		1-Jun-20			
	Code <sup>1</sup>	Result	MDL	RL	UNITS
Hardness		28.7	NR	1.910	mg CaCO3/L
<b>METALS</b>					
Arsenic (Inorganic)		1.24	0.008	0.025	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)	e	0.578 J	0.408	1.00 *	ug/L
Nickel (Total)		<1.00	1.00	2.00	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)		<0.0136	0.0136	0.200 *	ug/L
Nickel (Dissolved)		<2.00	2.00	4.00	ug/L
Silver (Dissolved)		<0.100	0.100	0.200	ug/L
Zinc (Dissolved)		<2.00	2.00	4.00	ug/L
<b>PAHs and PHENOLS</b>					
Acenaphthene		<0.0392	0.0392	0.0392	ug/L
Acenaphthylene		<0.0392	0.0392	0.0392	ug/L
Anthracene		<0.0392	0.0392	0.0392	ug/L
Benzo(b)fluoranthene		<0.0392	0.0392	0.0392	ug/L
Benzo(k)fluoranthene		<0.0392	0.0392	0.0392	ug/L
Benzo(g,h,i)perylene		<0.0392	0.0392	0.0392	ug/L
Carbazole		<0.0392	0.0392	0.0392	ug/L
Chrysene		<0.0392	0.0392	0.0392	ug/L
Dibenzofuran		<0.0392	0.0392	0.0392	ug/L
Fluoranthene		<0.0392	0.0392	0.0392	ug/L
Fluorene		<0.0392	0.0392	0.0392	ug/L
2-Methylnaphthalene		<0.0392	0.0392	0.0392	ug/L
Naphthalene		0.309 B	0.0392	0.0392	ug/L
Phenanthrene		<0.0392	0.0392	0.0392	ug/L
Pyrene		<0.0392	0.0392	0.0392	ug/L
2-Chlorophenol		<0.490	0.490	0.490	ug/L
2,4-Dichlorophenol		<0.490	0.490	0.490	ug/L
2,4-Dimethylphenol		<0.490	0.490	0.490	ug/L
4,6-Dinitro-2-methylphenol		<0.588	0.588	0.588	ug/L
2-Methylphenol		<0.490	0.490	0.490	ug/L
2-Nitrophenol		<0.490	0.490	0.490	ug/L
4-Nitrophenol		<0.490	0.490	0.490	ug/L
2,4,5-Trichlorophenol		<0.490	0.490	0.490	ug/L
2,4,6-Trichlorophenol		<0.490	0.490	0.490	ug/L
Pentachlorophenol (PCP)		<0.392	0.392	0.392	ug/L
Phenol		<0.490	0.490	0.490	ug/L
<b>NW Natural Source Control Treatment Plant Effluent Data</b>					
Permit Number		103061			

Raw Data

File Number		120589			
Sample Type		Grabs			
Date of Sample		1-Jun-20			
<b>VOCs and Cyanide</b>					
<b>Sample (3QRD-081419-23 Composite)</b>					
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
<b>Cyanide Analyses</b>					
Cyanide, Available (ug/L)		2.70	1.00	2.00	ug/L
Cyanide, Free		<2.50	2.50	5.00	ug/L
<sup>1</sup> 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 Fremont report for dissolved and total metals are taken from the analysis of the Method Blank in order to correctly use the "e code".					