WQBEL BIOLOGIST RECOMMENDATIONS
FACT/DECISION SHEET

Wolverine World Wide Inc Former Tannery GWCU - Rockford - MI0060323 – New Use

PREPARED BY: GLEN SCHMITT

August 15, 2022

Background

Wolverine World Wide, Inc. submitted a new use National Pollutant Discharge Elimination System (NPDES) Permit application on June 22, 2022. The facility is located at 181 North Main Street, Rockford, Michigan 49341.

The facility is proposing to continuously discharge a maximum of 0.1008 million gallons per day (MGD) of groundwater cleanup and discharge through Monitoring Point 001A through Outfall 001. Outfall 001 will discharge to the Rogue River at Latitude 43.12544767225008, Longitude -85.56080328412898.

According to the NPDES permit application, once the treatment system is installed and operating, groundwater will be pumped from 22 extraction wells and piped to a treatment building. An aeration tank, a settling tank, then an equalization tank are utilized. Sediment filtration and then a two-stage granular activated carbon (GAC) system will also be used for treatment of the contaminated groundwater.

The Rogue River has a lowest 95 percent exceedance low flow, harmonic mean low flow, and 90dQ10 low flow of 73, 170, and 91 cubic feet per second (cfs), respectively (Low Flow File Number 10588 (Kent County).

The Rogue River is designated as coldwater and is not protected as a public water supply source. The Rogue River drains into the Grand River.

A total hardness value of 270 milligrams per liter (mg/) was used for this review and was collected from the Rogue River upstream of the Sparta WWTP outfall (STORET 410538) in 2018 by Permits Section staff. There are no recent total hardness values in the Rogue River near the proposed outfall.

Sources

Sources of information used for this review to develop the water quality-based effluent limits (WQBELs) include the facility's NPDES permit application, and United States Geological Survey topographical maps. Based upon our review of this information, we have the following recommendations:

Designated Use Attainment Status

1) An Existing Use Review was competed in a separate document as part of this NPDES permit application review.

2) A search of available information for endangered, threatened, or sensitive species found the Rogue River is a habitat or breeding ground for the following endangered, threatened, or sensitive species in Township 09N, Range 11 W and Township 08N, Range 11 W:

Common Name	Scientific Name	Status	Date Last Observed
Ellipse	*Venustaconcha ellipsiformis*	Special Concern	2016
Flutedshell	*Lasmigona costata*	Special Concern	2016
Rainbow	*Villosa iris*	Special Concern	2016
Round pigtoe	*Pleurobema sintoxia*	Special Concern	2016
Slippershell	*Alasmidonata viridis*	Threatened	2016

Recommendations for Outfall 001

3) The NPDES permit application indicates no water treatment additives are proposed to be used. A review of MiWaters confirms there is no information related to water treatment additives used, submitted, or approved.

4) We recommend the draft NPDES permit include a daily monitoring requirement for final effluent flow.

5) We recommend the draft NPDES permit include daily minimum and daily maximum final effluent limitations for pH of 6.5 and 9.0 Standard Units (S.U.), respectively. Compliance with these limits shall be collected as daily grab samples.

6) The NPDES permit application estimates the discharge concentration of total phosphorus to be 0.16 milligrams per liter (mg/l). Maximum concentration of total phosphorus in the monitoring wells was 1.2 mg/l. The Rogue River is a designated coldwater trout stream. There are currently no known nutrient concerns in the Rogue River. The proposed outfall is to a reach of the Rogue River that is impounded by the Rockford Dam that is approximately 2,000 feet downstream. To protect the Rogue River from nutrients as a result of the proposed discharge, we recommend the draft NPDES permit include a monthly average limit for total phosphorus of 1.0 mg/l (0.84 pounds per day [lbs./day]). Compliance with this limitation shall be weekly with samples collected as 24-hour composite samples analyzed using an approved USEPA method capable of achieving a quantification level of 10 micrograms per liter (ug/l).
    a. The load limitation of 0.84 lbs./day is based on the proposed design flow of 0.1008 MGD, the total phosphorus concentration limit of 1.0 mg/l, and 8.34 pounds (weight of 1 gallon of water). 0.1008 MGD x 1.0 mg/l x 8.34 pounds = 0.84 lbs./day.
    b. There is considerable mix in the Rogue River along with no known nutrient issues.

7) The NPDES permit application indicates water treatment additives containing sodium hypochlorite or chlorine compounds are not proposed to be used. Regardless, we recommend the draft NPDES permit include a daily maximum WQBEL for total residual chlorine (TRC) of 38 ug/l and daily compliance monitoring only during use and discharge of TRC. This recommendation is to ensure that if water treatment additives are eventually used and submitted and do contain sodium hypochlorite or other chlorine compounds, the NPDES permit will already include the appropriate final effluent limitations and monitoring requirements.

8) There are no estimated or actual concentrations for Total Cadmium provided in the NPDES permit application. For this review, we used the maximum concentration of Total Cadmium measured from monitoring well data. The maximum concentration of Total Cadmium of 150 ug/l measured on 6/7/2019 from TA-TMW-109 indicates there is a reasonable potential for Total Cadmium to be discharged at concentrations exceeding Michigan Water Quality Standards (WQS). We recommend the draft NPDES permit include a daily maximum Water Quality-Based Effluent Limitation (WQBEL) of 52 ug/l (0.044 lbs./day). Compliance with this limitation shall be monthly with samples collected as 24-hour composite samples and analyzed using an approved USEPA method capable of achieving a quantification level of <0.2 ug/l.

9) There are no estimated or actual concentrations for Total Chromium provided in the NPDES permit application. For this review, we used the maximum concentration of Total Chromium measured from monitoring well data. The maximum concentration of Total Chromium of 920 ug/l measured on 6/7/2019 from TA-TMW-102 indicates there is a reasonable potential for Total Chromium to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a daily maximum WQBEL of 3,900 ug/l (3.2 lbs./day). Compliance with this limitation shall be monthly with samples collected as 24-hour composite samples and analyzed using an approved USEPA method capable of achieving a quantification level of <10 ug/l.

10) There are no estimated or actual concentrations for Total Copper provided in the NPDES permit application. For this review, we used the maximum concentration of Total Copper measured from monitoring well data. The maximum concentration of Total Copper of 34 ug/l measured on 7/14/2021 from TA-MW-309A indicates there is a reasonable potential for Total Copper to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a daily maximum WQBEL of 100 ug/l (0.086 lbs./day). Compliance with this limitation shall be monthly with samples collected as 24-hour composite samples and analyzed using an approved USEPA method capable of achieving a quantification level of <1.0 ug/l.

11) There are no estimated or actual concentrations for Total Manganese provided in the NPDES permit application. For this review, we used the maximum concentration of Total Manganese measured from monitoring well data. The maximum concentration of Total Manganese of 4,500 ug/l measured on 7/14/2021 from TA-MW-309A indicates there is a reasonable potential for Total Manganese to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a daily maximum WQBEL of 20,300 ug/l (17 lbs./day). Compliance with this limitation shall be monthly with samples collected as 24-hour composite samples and analyzed using an approved USEPA method capable of achieving a quantification level of <5.0 ug/l.

12) All the monitoring well data reported for Total Mercury was analyzed using an analytical method and quantification level that is not allowed for NPDES permit application requirements. However, there were a few monitoring wells that reported quantifiable levels of Total Mercury. The highest concentration of Total Mercury measured was 100 nanograms per liter (ng/l) from monitoring well TA-TMW-108 on 6/7/2019. Due to concerns with Total Mercury, we recommend the draft NPDES permit include a monthly average WQBEL of 1.3 ng/l (1.1×10^{-6} lbs./day). Compliance with this limitation shall be monthly with samples collected as grab samples using USEPA Method 1669 and analyzed using USEPA Method 1631 with a quantification level of 0.5 ng/l.
    a. Because the proposed discharge is considered a New Use, the facility does not qualify for the Statewide Variance for Total Mercury or any Variance for Total Mercury.

13) There are no estimated or actual concentrations for Total Zinc provided in the NPDES permit application. For this review, we used the maximum concentration of Total Zinc measured from monitoring well data. The maximum concentration of Total Zinc of 580 ug/l measured on 7/12/2021 from TA-TMW-109 indicates there is a reasonable potential for Total Zinc to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a daily maximum WQBEL of 1,100 ug/l (0.96 lbs./day). Compliance with this limitation shall be monthly with samples collected as 24-hour composite samples and analyzed using an approved USEPA method capable of achieving a quantification level of <10 ug/l.

14) There are no estimated or actual concentrations for Hexavalent Chromium provided in the NPDES permit application. For this review, we used the maximum concentration of Hexavalent Chromium measured from monitoring well data. The maximum concentration of Hexavalent Chromium of 18 ug/l measured on 6/15/2019 from TA-GW-05 indicates there is a reasonable potential for Hexavalent Chromium to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a daily maximum WQBEL of 32 ug/l (0.027 lbs./day). Compliance with this limitation shall be monthly with samples collected as 24-hour composite samples and analyzed using an approved USEPA method capable of achieving a quantification level of <5.0 ug/l.

15) There are no estimated or actual concentrations for Chloride provided in the NPDES permit application. For this review, we used the maximum concentration of Chloride measured from monitoring well data. The maximum concentration of Chloride of 8,400,000 ug/l measured on 7/13/2021 from TA-MW-310C indicates there is a reasonable potential for Chloride to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a daily maximum WQBEL of 640,000 ug/l (540 lbs./day). Compliance with this limitation shall be weekly with samples collected as grab samples and analyzed using an approved USEPA method capable of achieving a quantification level of 1,000 ug/l.

16) There are no estimated or actual concentrations for Sulfate provided in the NPDES permit application. For this review, we used the maximum concentration of Sulfate measured from monitoring well data. The maximum concentration of Sulfate of 1,200,000 ug/l measured on 6/22/2021 from TA-MW-303E indicates there is a reasonable potential for Sulfate to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a daily maximum WQBEL of 1,200,000 ug/l (1,000 lbs./day). Compliance with this limitation shall be weekly with samples collected as grab samples and analyzed using an approved USEPA method capable of achieving a quantification level of 2,000 ug/l.

17) We recommend the draft NPDES permit include a monitoring frequency reduction allowance that allows the permittee to request a monitoring frequency reduction for Total Cadmium, Total Chromium, Total Copper, Total Manganese, Total Mercury, Total Zinc, Hexavalent Chromium, Chloride, and Sulfate to reduce the monitoring frequency to no less than annually after three years of monitoring has been completed.

18) There are no estimated or actual concentrations for several metals provided in the NPDES permit application not mentioned above. We reviewed monitoring well data for several metals and conducted a reasonable potential analysis on the maximum concentration reported from various monitoring wells. These results indicate there is not a reasonable potential to be discharged at concentrations exceeding Michigan WQS. However, the table below provides the theoretical WQBELs for information purposes.

Parameter	CAS #	Chronic WQBEL (ug/l)	Chronic WQBEL Load (lbs./day)	Acute WQBEL (ug/l)	Acute WQBEL Load (lbs./day)
Total Antimony	7440360	---	---	2,300	1.9
Total Arsenic	7440382	---	---	680	0.57
Total Barium	7440393	---	---	7,200	6.0
Total Beryllium	7440417	---	---	640	0.54
Total Boron	7440428	---	---	69,000	58
Total Cobalt	7440484	---	---	740	0.62
Total Lead	7439921	---	---	2,400	2.0
Total Molybdenum	7439965	---	---	58,000	49
Total Nickel	7440020	---	---	2,400	2.0
Total Selenium	7782492	---	---	120	0.1
Total Silver	7440224	---	---	5.5	0.005
Total Thallium	7440280	---	---	94	0.08
Total Vanadium	7440622	---	---	160	0.13

ug/l = micrograms per liter
lbs./day = pounds per day

19) The permittee estimates the summer temperature to range from 57 degrees Fahrenheit (°F) to 71.6 °F and the winter temperature to range from 35.6 °F to 60.8 °F. The facility is not proposing to discharge contact or noncontact cooling water, however, the proposed discharge does go to the Rogue River, which is a designated coldwater trout stream. Due to concerns with temperature and to protect the coldwater designation of the Rogue River, we recommend the draft NPDES permit include a daily monitoring requirement for Temperature for the full term of the permit.

20) Due to the unknown toxicological nature of the proposed discharge, the pollutants that have yet to be characterized via treated final effluent, and concerns with chloride, sulfate, mercury, and PFOS, we recommend the draft NPDES permit include an acute Whole Effluent Toxicity (WET) limit of 1.0 acute toxic units (TUa). Compliance with this limit shall be quarterly with samples collected as 24-hour composite samples and testing using Fathead minnow and either *Ceriodaphnia dubia*, *Daphnia magna*, or *Daphnia pulex*. Acute WET testing shall be in accordance with Acute WET testing methods. Finally, we recommend the draft NPDES permit include a monitoring frequency reduction to reduce the WET testing after two years of acute WET results have been generated based on the effective date of the permit, to reduce the WET testing frequency to no less than annually and to the most sensitive species.
    a. The allowable level of chronic WET is 118 TUc. Chronic WET is not of concern due to the large mixing zone.
    b. Quarterly monitoring is recommended as the facility has yet to discharged treated final effluent and to provide a robust data set for acute WET.

21) The are no estimated or actual concentrations of Perfluorooctane sulfonate (PFOS) provided in the NPDES permit application representative of the treated final effluent. For this review, we used the maximum concentration of PFOS measured from monitoring well data. The maximum concentration of PFOS of 540,000 ng/l measured on 7/8/2020 from TA-GW-GW-01 indicates there is a reasonable potential for PFOS to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a monthly average WQBEL for PFOS of 12 ng/l (1.0×10^{-5} lbs./day). Compliance with this limitation shall be monthly with samples collected as grab samples. Analysis for PFOS shall be with method ASTM D7979 or an isotope dilution method (sometimes referred to as Method 537 modified) at a quantification level of 2.0 ng/l. Language shall also be included to allow for a monitoring frequency reduction request to no less than annually to be submitted after 10 equally spaced samples over a minimum of three months have been collected.
    a. The theoretical WQBELs for PFOS are 12 ng/l (0.00035 lbs./day) as a Monthly Average WQBEL. Since PFOS is a BCC, the most restrictive WQBEL is applicable.

22) The are no estimated or actual concentrations of Perfluorooctanoic acid (PFOA) provided in the NPDES permit application representative of the treated final effluent. For this review, we used the maximum concentration of PFOA measured from monitoring well data. The maximum concentration of PFOA of 220,000 ng/l measured on 6/18/2019 from TA-MW-301C indicates there is a reasonable potential for PFOA to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a monthly average and daily maximum WQBELs of 46 ug/l (0.04 lbs./day) and 15,000 ug/l (13 lbs./day), respectively. Compliance with this limitation shall be monthly collected as grab samples. Analysis for PFOA shall be with method ASTM D7979 or an isotope dilution method (sometimes referred to as Method 537 modified) at a quantification level of 2.0 ng/l. Language shall also be included to allow for a monitoring frequency reduction request to no less than annually to be submitted after 10 equally spaced samples over a minimum of three months have been collected.

23) There are no estimated or actual concentrations of Perfluorobutanesulfonate (PFBS) provided in the NPDES permit application representative of the treated final effluent. For this review, we used the maximum concentration of PFBS measured from monitoring well data. The maximum concentration of PFBS of 18,000 ug/l measured on 7/20/2021 from TA-TMW-01 indicates there is a reasonable potential for PFBS to be discharged at concentrations exceeding Michigan WQS. We recommend the draft NPDES permit include a monthly average and daily maximum WQBELs of 180,000 ug/l (100 lbs./day) and 240,000 ug/l (200 lbs./day), respectively. Compliance with this limitation shall be monthly collected as grab samples. Analysis for PFBS shall be with method ASTM D7979 or an isotope dilution method (sometimes referred to as Method 537 modified) at a quantification level of 2.0 ng/l. Language shall also be included to allow for a monitoring frequency reduction request to no less than annually to be submitted after 10 equally spaced samples over a minimum of three months have been collected.

Other Recommendations

24) The recommendations contained herein are based on the Part 4 Water Quality Standards and Part 8 Water Quality-Based Effluent Limit Development for Toxic Substances. Treatment methods or economic concerns have not been addressed. We understand that other considerations may be used in deciding permit limits and requirements.

Schmitt, Glen (EGLE)

From: Holden, Steven (EGLE)
Sent: Friday, August 12, 2022 4:11 PM
To: DePetro, Phillip (EGLE)
Cc: Schmitt, Glen (EGLE)
Subject: Low Flow: Wolverine World Wide Inc Former Tannery, MI0060323
Attachments: Wolverine World Wide Inc Former TanneryMI00603231of2.docx; Wolverine World Wide Inc Former TanneryMI00603232of2.docx

Hi, Phillip.

Here are the low flows for Wolverine Worldwide Inc Former Tannery, MI0060323.

Thanks.

Steve

From: DePetro, Phillip (EGLE) <DePetroP1@michigan.gov>
Sent: Monday, August 1, 2022 3:47 PM
To: Holden, Steven (EGLE) <HOLDENS@michigan.gov>
Cc: Schmitt, Glen (EGLE) <SCHMITTG1@michigan.gov>
Subject: FW: Low Flow: Wolverine World Wide Inc Former Tannery, MI0060323

Good afternoon Steve,

I put low flows into the system for the Wolverine World Wide Inc Former Tannery at Glen's request. The first flow is about 700' upstream of Rum Creek, though the positioning isn't exact in the map. We just want to be upstream of Rum Creek and near where the facility outfall is going to be. The second low flow is at Bridge Street, which would include the flow of Rum Creek.

Thanks!

-Phillip

From: Schmitt, Glen (EGLE) <SCHMITTG1@michigan.gov>
Sent: Monday, August 1, 2022 2:49 PM
To: DePetro, Phillip (EGLE) <DePetroP1@michigan.gov>
Subject: Low Flow: Wolverine World Wide Inc Former Tannery, MI0060323

Hi Phillip!
Can you request Steve to create a new low flow for the Rogue River at the following location:

Facility Name: Wolverine World Wide Inc Former Tannery, MI0060323
Stream Name: Rogue River
Latitude: 43.125448
Longitude: -85.560803

Road Crossing: No road crossing at this location. The lat/longs are the location of the outfall, which has not been constructed.
County: Kent County
Township/Range/Section: T09N, R11W, Section 36

Please let me know if you need more information. Thanks!

Glen P. Schmitt
Aquatic Biology Specialist
Water Quality and Aquatic Nuisance Control Permits Unit
Permits Section, Water Resources Division
Department of Environment, Great Lakes, and Energy
Cell: 517-290-6424
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Follow Us | **Michigan.gov/EGLE**

Designated Name: Wolverine World Wide In **Permit #:** MI0060323

Index: Index **PCA:** PCA **Project:** Project **Phase:** 00

Basin Year: Basin Year **Major:** N

Hydro Unit: 04050006 **Hydrology Due Date:** 08/15/2022

SECTION C --- LOCATION FOR LOW FLOW DEVELOPMENT (to be completed by SWQAS)

Location __1__ of __2__ __X__ **90Q10 Flow** __X__ **Harmonic Mean Flow**

1. **Water Course:** Rogue River **Location:** 700' Upstream of Rum
2. _SW_ **1/4 of the** _NE_ **1/4 of Section** _36_, **T** _09N_, **R**_11W_, **of** Kent **County**
3. **USGS Topographical Map Name:** Cedar Springs **Quadrangle**
4. **Should other facilities be reviewed at this time:** ____ Yes __X__ No
5. **Please list:** List
6. **Remarks:** _Remarks

SECTION D -- LOW FLOW DATA (to be completed by Hydrology)

1. **Water course is:** _____ Perennial _____ Intermittent _____ Ephemeral
2. **Drainage Area:** 234.38 square miles
3. **Monthly Exceedance Flows in CFS:**

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
50%	190	200	300	300	230	170
95%	110	110	160	170	130	96

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
50%	130	120	120	140	190	190
95%	76	73	75	92	110	120

4. **90Q10 Flow in CFS:** 91
5. **Harmonic Mean Flow in CFS:** 170
6. **Gage records used in flow calculations:** 04118500, ROGUE RIVER NEAR ROCKFORD, MI,
7. **Point source flows included in calculations:** **NONE**

Remarks: _____

SWH for MF 8/12/2022 41-10588

Hydrology Unit Supervisor	Date Complete	HSDSU Record Number

Designated Name: Wolverine World Wide In **Permit #:** MI0060323

Index: Index **PCA:** PCA **Project:** Project **Phase:** 00

Basin Year: Basin Year **Major:** N

Hydro Unit: 04050006 **Hydrology Due Date:** 08/15/2022

SECTION C --- LOCATION FOR LOW FLOW DEVELOPMENT (to be completed by SWQAS)

Location __2__ of __2__ __X__ **90Q10 Flow** __X_ **Harmonic Mean Flow**

1. **Water Course:** Rogue River **Location:** at Bridge Street
2. _SE_ **1/4 of the** _SW_ **1/4 of Section** _36_, **T** _09N_, **R**_11W_, **of** Kent **County**
3. **USGS Topographical Map Name:** Rockford **Quadrangle**
4. **Should other facilities be reviewed at this time:** ___ Yes __X__ No
5. **Please list:** List
6. **Remarks:** _Remarks

SECTION D -- LOW FLOW DATA (to be completed by Hydrology)

1. **Water course is:** _____ Perennial _____ Intermittent _____ Ephemeral
2. **Drainage Area:** 247.45 square miles
3. **Monthly Exceedance Flows in CFS:**

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
50%	200	210	310	320	250	180
95%	120	120	160	180	140	100

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
50%	130	120	120	150	200	210
95%	80	77	79	97	110	130

4. **90Q10 Flow in CFS:** 96
5. **Harmonic Mean Flow in CFS:** 180
6. **Gage records used in flow calculations:** 04118500, ROGUE RIVER NEAR ROCKFORD, MI,
7. **Point source flows included in calculations:** **NONE**

Remarks: _____

_____

Hydrology Unit Supervisor	Date Complete	HSDSU Record Number
SWH for MF	8/12/2022 4:00:44 PM	41-10589

NPDES PERMIT REVIEW SUMMARY

Facility:	Wolverine World Wide Inc Former Tannery GWCU - Rockford
Permit Number:	MI0060323
Reviewer:	Glen Schmitt, Permits Section, WRD, EGLE
Date:	8/15/2022

Outf.	Authorized Flow mgd	cfs	Disch. Type *	Receiving Water	Lake?	FLOWS (cfs) 95% Exc.	H. Mean	90Q10	pH	Hardness
001	0.1008	0.16		Rogue River	☐	73.0	170.0	91.0	7	270

* P = Process; N = Noncontact Cooling; C = Contact Cooling; S = Sanitary; ST = Storm Water; GW = Groundwater Purge

SOURCES REVIEWED

TYPE OF REVIEW: NPDES Permit New Use

LOW FLOW FILE NO.: 10588 (Kent County)

HARDNESS SOURCE: Collected from the Rogue River upstream of the Sparta WWTP Outfall in 2018 (STORET 410538).

PEL SHEET VERSION: 7-22-2022

Review the Following Information Sources

- x **Permit Application**
- **Facility/VGW File**
- x **MiWaters Documents & Files**
- **Current Permit**
- x **WTA's**
- **Staff Report #'s**
- **WET Tests**
- **Other**

REASONABLE POTENTIAL: CHEMICAL SPECIFIC (p. 1 of 2)

*concentration values in ug/L except as noted

Facility:	Wolverine World Wide Inc Former Tannery GWCU - Roc	Hardness:	270 mg/L CaCO3
Outfall:	001	pH:	7
Date:	8/15/2022	Drinking Water:	n

Parameter	CAS #	Water Quality Values										Diss. Met. Translator	Background Conc.
		FCV	vd	HNV	vd	HCV	vd	WV	vd	FAV	vd		
Antimony	7440360	240	2200106	130	1199807	NA	0	NA	0	2300	2200106	1	0
Arsenic #	7440382	150	1199707	280	1201009	10	1201009	NA	0	680	1199707	1	1
Barium	7440393	1265.677335	2201912	470000	1202001	NA	0	NA	0	7177.186266	2201912	1	0
Beryllium	7440417	35.50532683	2201401	1200	1201411	NA	0	NA	0	639.0500244	2201401	1	0
Boron	7440428	7200	1202109	330000	1202109	NA	0	NA	0	69000	1202109	1	0
Cadmium	7440439	4.658427796	1199707	130	1199706	NA	0	NA	0	24.99860102	1199707	2.1	0
Chromium	7440473	167.1822767	1199707	9400	1199706	NA	0	NA	0	2570.463983	1199707	1.5	1.6
Cobalt	7440484	100	2199804	ID*	199807	NA	0	NA	0	740	2199804	1	0
Copper	7440508	20.92677772	1199707	38000	1200512	NA	0	NA	0	68.52223943	1199707	1.5	4
Lead	7439921	53.85352535	1201801	190	1200709	NA	0	NA	0	525.9824607	1201801	4.5	2.5
Manganese	7439965	4703.93113	1201208	59000	1200612	NA	0	NA	0	20297.51713	1201208	1	0
Mercury @	7439976	0.77	1199707	0.0018	1199707	NA	0	0.0013	1199707	2.8	1199707	1	**
Molybdenum	7439987	3200	2200604	10000	1200605	NA	0	NA	0	58000	2200604	1	0
Nickel	7440020	120.5012912	1199707	210000	1199706	NA	0	NA	0	2169.843133	1199707	1.1	3
Selenium	7782492	5	1199707	2700	1199704	NA	0	NA	0	120	1199808	1	0
Silver	7440224	0.06	1199710	11000	1199705	NA	0	NA	0	1.1	1199710	5	0
Thallium	7440280	7.2	2201407	3.7	1201609	NA	0	NA	0	94	2201407	1	0
Vanadium	7440622	27	2201104	540	1200907	NA	0	NA	0	160	2201104	1	0
Zinc	7440666	274.0865689	1199707	16000	1200510	NA	0	NA	0	543.7254856	1199707	2.1	13
#N/A	1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

= Carcinogen

** = Background exceeds standards.

REASONABLE POTENTIAL: CHEMICAL SPECIFIC (p. 2 of 2)

**concentration values in ug/L except as noted; loads in lb/d*

Facility:	Wolverine World Wide Inc For	Disch. Rate:	0.16 cfs	95% Ex. Flow:	73 cfs		Conc. / Load (lbs/day)
Outfall:	001			H. Mean Flow:	170 cfs	***Hg Loading Calculated based on LCA (ng/L) of :***	1 / **1.09287E-06**
Date:	8/15/2022			90Q10 Flow:	91 cfs	***TP Loading based on concentration (mg/L) of :***	/ **0**

Parameter	Monthly Average PEL								Daily Max PEL		PEQ		DECISION	
	FCV	load	HNV	load	HCV	load	WV	load	conc	load	Avg	Max	Avg	Max
Antimony	28310.2381	23.79962	35538.2341	29.87599836	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2300	1.933546	14.88	14.88	No Reasonable Potential. No Recommendation.	
Arsenic #	17576.93948	14.77644	76271.5179	64.11932946	2461.339286	2.06917902	#VALUE!	#VALUE!	680	0.571657	359.6	359.6	No Reasonable Potential. No Recommendation.	
Barium	149298.4446	125.511	128484385	108013.2248	#VALUE!	#VALUE!	#VALUE!	#VALUE!	7177.186	6.03366	2542	2542	No Reasonable Potential. No Recommendation.	
Beryllium	4188.184401	3.520889	328045.238	275.7784464	#VALUE!	#VALUE!	#VALUE!	#VALUE!	639.05	0.537231	0	0	Not Detected. No Recommendation.	
Boron	849307.1429	713.9887	90212440.5	75839.07276	#VALUE!	#VALUE!	#VALUE!	#VALUE!	69000	58.00637	12400	12400	No Reasonable Potential. No Recommendation.	
Cadmium	1153.960501	0.970102	35538.2341	29.87599836	#VALUE!	#VALUE!	#VALUE!	#VALUE!	52.49706	0.044133	930	930	Reasonable Potential. Recommend a Daily Max. WQBEL of 52 ug/l (0.044 lbs./day), monthly monitoring.	
Chromium	29393.92795	24.71065	2569251.9	2159.898137	#VALUE!	#VALUE!	#VALUE!	#VALUE!	3855.696	3.241376	5704	5704	Reasonable Potential. Recommend a Daily Max. WQBEL of 3,900 ug/l (3.2 lbs./day), monthly monitoring.	
Cobalt	11795.93254	9.91651	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	740	0.622097	33.48	33.48	No Reasonable Potential. No Recommendation.	
Copper	3234.925572	2.719511	10387009.7	8732.068237	#VALUE!	#VALUE!	#VALUE!	#VALUE!	102.7834	0.086407	210.8	210.8	Reasonable Potential. Recommend a Daily Max. WQBEL of 100 ug/l (0.086 lbs./day), monthly monitoring.	
Lead	28293.96653	23.78595	51259.5685	43.09248393	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2366.921	1.989804	427.8	427.8	No Reasonable Potential. No Recommendation.	
Manganese	554872.5428	466.4658	16128890.9	13559.10695	#VALUE!	#VALUE!	#VALUE!	#VALUE!	20297.52	17.06355	27900	27900	Reasonable Potential. Recommend a Daily Max. WQBEL of 20,300 ug/l (17 lbs./day), monthly monitoring.	
Mercury @	0.77	0.000647	0.0018	1.51321E-06	NA	#VALUE!	0.0013	1.0929E-06	2.8	0.002354	620	620	Reasonable Potential. Recommend a Mon. Avg. WQBEL of 1.3 ng/l (1.1 x 10-6 lbs./day, monthly monitoring.	
Molybdenum	377469.8413	317.3283	2733710.32	2298.15372	#VALUE!	#VALUE!	#VALUE!	#VALUE!	58000	48.75898	93	93	No Reasonable Potential. No Recommendation.	
Nickel	15284.79815	12.8495	57407099.6	48260.5412	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2386.827	2.006539	372	372	No Reasonable Potential. No Recommendation.	
Selenium	589.796627	0.495826	738101.786	620.5015044	#VALUE!	#VALUE!	#VALUE!	#VALUE!	120	0.100881	0	0	Not Detected. No Recommendation.	
Silver	35.38779762	0.02975	3007081.35	2527.969092	#VALUE!	#VALUE!	#VALUE!	#VALUE!	5.5	0.004624	0	0	Not Detected. No Recommendation.	
Thallium	849.3071429	0.713989	1011.47282	0.850316876	#VALUE!	#VALUE!	#VALUE!	#VALUE!	94	0.079023	0	0	Not Detected. No Recommendation.	
Vanadium	3184.901786	2.677458	147620.357	124.1003009	#VALUE!	#VALUE!	#VALUE!	#VALUE!	160	0.134508	58.28	58.28	No Reasonable Potential. No Recommendation.	
Zinc	66374.76899	55.79941	4370395.68	3674.069281	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1141.824	0.959899	3596	3596	Reasonable Potential. Recommend a Daily Max. WQBEL of 1,100 ug/l (0.96 lbs./day), monthly monitoring.	
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		

** SILVER - Appropriate Dissolved Metal Translator must be entered in PEL 1*

PEQ -- Effluent Data Summary
(all values in ug/L)

DATA ENTRY

Parameter:	Antimony	Source	Arsenic #	Source	Barium	Source	Beryllium	Source	Boron	Source	Cadmium	Source	Chromium	Source
No. Nondetect	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**
Data	2.4	7/16/2021	58	7/14/2021	410	7/19/2021			2000	6/3/2019	150	6/7/2019	920	6/7/2019
		Monitoring Well TA-MW-304A		Monitoring Well TA-MW-309B		Monitoring Well TA-GW-01		Not Detected <0.4 ug/l Several MW's were not detected during several dates.		Monitoring Well TA-MW-303E		Monitoring Well TA-TMW-109		Monitoring Well TA-0TMW-102

PEQ -- Effluent Data Summary
(all values in ug/L)

Parameter:	Cobalt	Source	Copper	Source	Lead	Source	Manganese	Source	Mercury @	Source	Molybdenum	Source	Nickel	Source
No. Nondetect	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**
Data	5.4	7/12/2021	34	7/14/2021	69	7/12/2021	4500	7/14/2021	100	6/7/219	15	7/16/2021	60	7/15/2021
		Monitoring Well TA-TMW-109		Monitoring Well TA-MW-309A		Monitoring Well TA-TMW-109		Monitoring Well TA-MW-309A		Monitoring Well TA-TMW-108		Monitoring Well TA-MW-304A		Monitoring Well TA-RW-3

PEQ -- Effluent Data Summary
(all values in ug/L)

Parameter:	Selenium	Source	Silver	Source	Thallium	Source	Vanadium	Source	Zinc	Source	#N/A	Source
No. Nondetect	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	
Data							9.4	7/12/2021	580	7/12/2021		
		Not Detected <5.0 ug/l Several MW's were not detected during several dates.		Not Detected <1.0 ug/l Several MW's were not detected during several dates.		Not Detected <0.5 ug/l Several MW's were not detected during several dates.		Monitoring Well TA-TMW-109		Monitoring Well TA-TMW-109		

PROJECTED EFFLUENT QUALITY ANALYSIS (<10 Detectable):

* all values in ug/l

	Antimony	Arsenic #	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury @	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	#N/A
Sample Max.	2.4	58	410	0	2000	150	920	5.4	34	69	4500	100	15	60	0	0	0	9.4	580	0
Total Samples	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0
Multiplier	6.2	6.2	6.2	0	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	0	0	0	6.2	6.2	0
PEQ:	**14.88**	**359.6**	**2542**	**0**	**12400**	**930**	**5704**	**33.48**	**210.8**	**427.8**	**27900**	**620**	**93**	**372**	**0**	**0**	**0**	**58.28**	**3596**	**0**

REASONABLE POTENTIAL ANALYSIS: WET

Facility: Wolverine World Wide Inc Former Tannery GWCU - Rockford
Outfall: 001

			PEL		PEQ*	
Qe	Qr	RWC	TU_C	TU_A	TU_C	TU_A
0.156037152	18.25	0.85	117.95933	1	0.00	0.00

* PEQ (enter data for most sensitive species only):

Chronic

Total n =		Quant n =		CV =	
TUc effluent =		MF =		PEQ TUc =	0.00

Acute

Total n =		Quant n =		CV =	
TU_A effluent =		MF =		PEQ TU_A =	0.00

Decision (WET limits/conditions):

WQBEL				Monitoring	
Monthly Avg	Daily Max	Species	TI/RE	Short term	Long term

Basis of decision:

NPDES PERMIT REVIEW SUMMARY

Facility:	Wolverine World Wide Inc Former Tannery GWCU - Rockford
Permit Number:	MI0060323
Reviewer:	Glen Schmitt, Permits Section, WRD, EGLE
Date:	8/15/2022

Outf.	Authorized Flow mgd	cfs	Disch. Type *	Receiving Water	Lake?	FLOWS (cfs) 95% Exc.	H. Mean	90Q10	pH	Hardness
001	0.1008	0.16		Rogue River	☐	73.0	170.0	91.0	7	270

* P = Process; N = Noncontact Cooling; C = Contact Cooling; S = Sanitary; ST = Storm Water; GW = Groundwater Purge

SOURCES REVIEWED

TYPE OF REVIEW: NPDES Permit New Use

LOW FLOW FILE NO.: 10588 (Kent County)

HARDNESS SOURCE: Collected from the Rogue River upstream of the Sparta WWTP Outfall in 2018 (STORET 410538).

PEL SHEET VERSION: 7-22-2022

Review the Following Information Sources

- x **Permit Application**
- **Facility/VGW File**
- x **MiWaters Documents & Files**
- **Current Permit**
- x **WTA's**
- **Staff Report #'s**
- **WET Tests**
- **Other**

REASONABLE POTENTIAL: CHEMICAL SPECIFIC (p. 1 of 2)

*concentration values in ug/L except as noted

Facility:	Wolverine World Wide Inc Former Tannery GWCU - Ro(	Hardness:	270 mg/L CaCO3
Outfall:	001	pH:	7
Date:	8/15/2022	Drinking Water:	n

Parameter	CAS #	Water Quality Values										Diss. Met.	Background
		FCV	vd	HNV	vd	HCV	vd	WV	vd	FAV	vd	Translator	Conc.
Chromium, hexavalent	18540299	11	1199707	9400	1199706	NA	0	NA	0	32	1199707	1	0
Cyanide, free	57125	5.2	1199707	48000	1199707	NA	0	NA	0	44	1199707	1	0
Vinyl chloride #	75014	930	2202109	4400	1202109	13	1202109	NA	0	17000	2202109	1	0
Bis(2-ethylhexyl)phthalate #	117817	ID*	199809	160	1199711	18	1201402	NA	0	285	2199809	1	0
Phenanthrene	85018	1.7	2201411	ID*	199706	NA	0	NA	0	11	2201411	1	0
Acetic acid (includes Acetate)	64197	7697.108363	2200506	1300000	2199807	NA	0	NA	0	138538.009	2200506	1	0
Formic acid	64186	14000	**3199905**	3100000	1199905	NA	0	NA	0	240000	**3199905**	1	0
#N/A	FALSE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Chloride	16887006	150000	1201905	ID*	201905	NA	0	NA	0	640000	1201905	1	0
Sulfate	14808798	370000	1201906	ID*	201906	NA	0	NA	0	1200000	1201906	1	0
Perfluorooctane sulfonate @	1763231	140	2201408	0.012	1201403	NA	0	NA	0	1600	2201408	1	0
Perfluorooctanoic acid	335671	880	2201007	0.17	1202012	NA	0	NA	0	15000	2201007	1	0
Perfluorobutanesulfonate	375735	24000	1201112	670	1202112	NA	0	NA	0	240000	1201112	1	0
#N/A	1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

= Carcinogen

REASONABLE POTENTIAL: CHEMICAL SPECIFIC (p. 2 of 2)

**concentration values in ug/L except as noted; loads in lb/d*

Facility:	Wolverine World Wide Inc Former	Disch. Rate:	0.16 cfs	95% Ex. Flow:	73 cfs		
Outfall:	001			H. Mean Flow:	170 cfs		
Date:	8/15/2022			90Q10 Flow:	91 cfs		

	Conc.	Load (lbs/day)
Hg Loading Calculated based on LCA (ng/L) of :		**0**
TP Loading based on concentration (mg/L) of :		**0**

Parameter	**Monthly Average PEL**								**Daily Max PEL**		**PEQ**		**DECISION**	
	FCV	load	HNV	load	HCV	load	WV	load	conc	load	Avg	Max	Avg	Max
Chromium, hexavalent	1297.552579	1.090816122	2569687.7	2160.264497	#VALUE!	#VALUE!	#VALUE!	#VALUE!	32	0.026902	111.6	111.6	Reasonable Potential. Recommend a Daily Max. WQBEL of 32 ug/l (0.027 lbs./day), monthly monitoring.	
Cyanide, free	613.3884921	0.51565853	13121809.5	11031.13786	#VALUE!	#VALUE!	#VALUE!	#VALUE!	44	0.03699	16.12	16.12	No Reasonable Potential. No Recommendation.	
Vinyl chloride #	109702.1726	92.22354486	1202832.54	1011.187637	3553.823413	2.987599836	#VALUE!	#VALUE!	17000	14.29142	36.58	36.58	No Reasonable Potential. No Recommendation.	
Bis(2-ethylhexyl)phthalate #	#VALUE!	#VALUE!	43739.3651	36.77045952	4920.678571	4.136676696	#VALUE!	#VALUE!	285	0.239592	0	0	Not Detected. No Recommendation.	
Phenanthrene	200.5308532	0.168580673	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	11	0.009247	2.232	2.232	No Reasonable Potential. No Recommendation.	
Acetic acid (includes Acetate)	907945.71	763.2845359	355382341	298759.9836	#VALUE!	#VALUE!	#VALUE!	#VALUE!	138538	116.465	0	0	Not Detected. No Recommendation.	
Formic acid	1651430.556	1388.311428	847450198	712427.6532	#VALUE!	#VALUE!	#VALUE!	#VALUE!	240000	201.7613	0	0	Not Detected. No Recommendation.	
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		
Chloride	17693898.81	14874.7653	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	640000	538.0301	52080000	52080000	Reasonable Potential. Recommend a Daily Max. WQBEL of 640,000 ug/l (540 lbs./day), monthly monitoring.	
Sulfate	43644950.4	36691.08774	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1200000	1008.806	7440000	7440000	Reasonable Potential. Recommend a Daily Max. WQBEL of 1,200,000 ug/l (1,000 lbs./day), monthly monitoring.	
Perfluorooctane sulfonate @	140	0.11769408	0.012	1.00881E-05	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1600	1.345075	3348000000	3348000000	Reasonable Potential. Recommend a Mon. Avg. WQBEL of 0.012 ug/l (1.0 x 10-5 lbs./day), monthly monitoring.	
Perfluorooctanoic acid	103804.2063	87.26528976	46.4730754	0.039068613	#VALUE!	#VALUE!	#VALUE!	#VALUE!	15000	12.61008	1364000000	1364000000	Reasonable Potential. Recommend a Mon. Avg. WQBEL of 46 ug/l (0.04 lbs./day) & Daily Max. WQBEL of 15,000 ug/l (13 lbs./day), monthly monitoring.	
Perfluorobutanesulfonate	2831023.81	2379.962448	183158.591	153.9762992	#VALUE!	#VALUE!	#VALUE!	#VALUE!	240000	201.7613	111600000	111600000	Reasonable Potential. Recommend a Mon. Avg. WQBEL of 180,000 ug/l (150 lbs./day) & Daily Max. WQBEL of 240,000 ug/l (200 lbs./day), monthly monitoring.	
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0		

** SILVER - Appropriate Dissolved Metal Translator must be entered in PEL 1*

PEQ -- Effluent Data Summary
(all values in ug/L)

DATA ENTRY

Parameter:	Chromium, hexavalent	Source	Cyanide, free	Source	Vinyl chloride #	Source	Bis(2-ethylhexyl)phthalate #	Source	Phenanthrene	Source
No. Nondetect	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**
Data	18	6/15/2019	2.6	1/16/2020	5.9	7/16/2021		Not Detected <4 to <8 ug/l	0.36	7/16/2021
		Monitoring Well TA-GW-05		Monitoring Well TA-GW-GW-06		Monitoring Well TA-MW-4		Monitoring Well TA-MW-4		Monitoring Well TA-MW-4

PEQ -- Effluent Data Summary
(all values in ug/L)

Parameter:	Acetic acid (includes Acetate)	Source	Formic acid	Source	#N/A	Source	Chloride	Source	Sulfate	Source
No. Nondetect	**0**	**MiWaters**	**0**	**MiWaters**	**0**		**0**	**MiWaters**	**0**	**MiWaters**
Data		Not Detected QL ranged from <5000 ug/l to <25,000 ug/l		Not Detected QL ranged from <5000 ug/l to <25,000 ug/l			8400000	7/13/2021	1200000	6/22/2021
								Monitoring Well TA-MW-310C		Monitoring Well Multiple wells including TA-MW-303E
		Monitoring Well Several		Monitoring Well Several						
								Filename Table 1A-1E.pdf		

PEQ -- Effluent Data Summary
(all values in ug/L)

Parameter:	Perfluorooctane sulfonate @	Source	Perfluorooctanoic acid	Source	Perfluorobutanesulfonate	Source	#N/A	Source	#N/A	Source
No. Nondetect	**0**	**MiWaters**	**0**	**MiWaters**	**0**	**MiWaters**	**0**		**0**	
Data	540000000	7/8/2020	220000000	6/18/2019	18000000	7/20/2021				
		Monitoring Well TA-GW-GW-01		Monitoring Well TA-MW-301C		Monitoring Well TA-TMW-01				
		Filename VA09002_Report.pdf		Filename UF19007_Report.pdf		Filename WG21079_Report.pdf				

PROJECTED EFFLUENT QUALITY ANALYSIS (<10 Detectable):

* all values in ug/l

	Chromium, hexavalent	Cyanide, free	Vinyl chloride #	Bis(2-ethylhexyl)phthalate #	Phenanthrene	Acetic acid (includes Acetate)	Formic acid	#N/A	Chloride	Sulfate	Perfluorooctane sulfonate @	Perfluorooctanoic acid	Perfluorobutanesulfonate	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Sample Max.	18	2.6	5.9	0	0.36	0	0	0	8400000	1200000	540000000	220000000	18000000	0	0	0	0	0	0	0
Total Samples	1	1	1	0	1	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0
Multiplier	6.2	6.2	6.2	0	6.2	0	0	0	6.2	6.2	6.2	6.2	6.2	0	0	0	0	0	0	0
PEQ:	**111.6**	**16.12**	**36.58**	**0**	**2.232**	**0**	**0**	**0**	**52080000**	**7440000**	**3348000000**	**1364000000**	**111600000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**