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Symbol: EPC-DO: 20-096
LAUR: 20-21143
Date: OCT 2 8 2020

Ms. Evelyn Rosborough
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U.S. Environmental Protection Agency
NPDES/Wetland Review Section (6WD-PN)
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102
214-665-7515

Subject: Triad Comments on the Draft Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment on November 30, 2019

Dear Ms. Rosborough:

The purpose of this letter is to provide comments from Triad National Security, LLC (Triad) and the U.S. Department of Energy (DOE) on the Draft Los Alamos National Laboratory (LANL) National Pollutant Discharge Elimination System (NPDES) Industrial and Sanitary Outfalls Permit No. NM0028355 published for public comment on November 30, 2019. Enclosure 1 provides the comments. Enclosures 2 and 7 provide the supplemental analytical data and notices of change discussed in the comments.

If you need additional information or have questions regarding the Permit Re-Application Comments please contact Karen Armijo, DOE at (505-665-7314) or Mike Saladen, Triad, at (505-665-6085).

Sincerely,

MICHAEL SALADEN (Affiliate)
Digitally signed by MICHAEL SALADEN (Affiliate)
Date: 2020.10.28 18:46:38 -06'00'

Taunia S. Van Valkenburg
Group Leader

TVV/MTS/JKG:jdm

Enclosure(s): Enclosure 1 Triad National Security (Triad) Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment November 30, 2019
Enclosure 2 Supplemental Analytical Data for Outfalls 051 – Low MDL Mercury and Thallium
Enclosure 3 Supplemental Analytical Data for Outfall 03A181 – Chromium VI
Enclosure 4 Supplemental Analytical Data for Outfall 03A160
Enclosure 5 Supplemental Analytical Data for Outfall 051 from Discharges June 2019, March 2020 and August 2020
Enclosure 6 Notices of Planned Change to Outfall 001 Submitted November 27, 2019 (EPC-DO-19-430) and July 16, 2020 (EPC-DO-20-221)
Enclosure 7 Notice of Planned Change to Outfall 03A048 Submitted July 14, 2020 (EPC-DO-20-222)

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ENCLOSURE 1

Triad Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM 0028355 Published for Public Comment on November 30, 2019

EPC-DO: 20-096

LA-UR-20-21143

Date: OCT 28 2020

Referenced Documents

Reference ID No.	Date	Title	LA-UR	Notes
ESHQSS-19-018	3/26/2019	Los Alamos National Laboratory, National Pollutant Discharge Elimination System (NPDES) Permit No N0028355, 2019 NPDES Permit Re-Application	LA-UR-19-22215	Previous Submittal
EPC-DO-19-299	8/19/2019	NPDES Permit No. NNM0028355, 2019 NPDES Permit Re-Application, Supplemental Information Package 1	LA-UR-19-28240	Previous Submittal
EPC-DO-19-301	8/19/2019	NPDES Permit No. NNM0028355, 2019 NPDES Permit Re-Application, Supplemental Information Package 2 (RLW Effluent Data from June 2019)	LA-UR-19-28283	Previous Submittal
EPC-DO-19-302	8/20/2019	NPDES Permit No. NNM0028355, 2019 NPDES Permit Re-Application, Supplemental Information Package 3 (Notice of Change Documents for 05A055, SERF, and 03A160)	LA-UR-19-28341	Previous Submittal
EPC-DO-19-394	10/24/2019	NPDES Permit No. NNM0028355, Monthly Discharge Monitoring Reports (DMRs) for September 2019, Quarterly DMRs for July 2019 - September 2019, Yearly DMRs for October 2018 - Sept 2019, and Term DMRs for October 2014 - September 2019	LA-UR-19-30842	Previous Submittal
EPC-DO-20-062	2/25/2020	NPDES Permit No. NNM0028355, Semi-Annual Progress Report (July 1, 2019 through December 31, 2019)	LA-UR-20-21615	Previous Submittal
Enclosure 2		Supplemental Analytical Data for Outfall 051 - Low MDL Mercury and Thallium		Enclosed
Enclosure 3		Supplemental Analytical Data for Outfall 03A181 - Chromium VI		Enclosed
Enclosure 4		Supplemental Analytical Data for Outfall 03A160		Enclosed
Enclosure 5		Supplemental Analytical Data for Outfall 051 from Discharges June 2019, March 2020, and August 2020		Enclosed
Enclosure 6		Notice of Planned Change to Outfall 001 Submitted Nov 27, 2019 (EPC-DO-19-430/LA-UR-19-31762)		Enclosed
Enclosure 6		Notice of Planned Change to Outfall 001 Submitted July 16, 2020 (EPC-DO-20-221/LA-UR-20-23984)		Enclosed
Enclosure 7		Notice of Planned Change to Outfall 03A048 Submitted July 14, 2020 (EPC-DO-20-222/LA-UR-20-24983)		Enclosed

Triad National Security, LLC (Triad) Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment on November 30, 2019			
No.	**Outfall No**	**Document Location**	**Comment**
1	General Comment	Part I.A Pages 1, 2, 4, 5, 16, 17 and Fact Sheet Page 15	Congener Method 1668 for PCBs is not an approved EPA Method listed in 40 CFR 136. Triad and DOE support the use of the PCB congener method for reporting purposes only but not for compliance purposes. The EPA issued a proposal (FR Vol. 75, No. 222, November 18, 2010) to incorporate the method into 40 CFR Part 136 and accepted comments addressing the validity of the method. The EPA received comments from 35 respondents; only five supported inclusion into Part 136. On May 18, 2012, EPA withdrew the proposed incorporation of the method (FR Vol. 77 No. 97, May 18, 2012). The Los Alamos National Laboratory (LANL) is the only facility in New Mexico where use of the Congener Method 1668 is required to determine compliance with an NPDES permit limit. The proposal to use Method 1668 for monitoring and reporting only is consistent with other New Mexico NPDES permits. Triad and DOE request the removal of the Congener Method 1668 for determining effluent permit compliance from the draft permit. Triad and DOE request that Congener Method 1668 analysis be changed to EPA approved method Aroclor Method 8082 analysis for PCB effluent limit monitoring and reporting at NPDES Outfall 001.
2	General Comment	Part I.A, Page 1, 16, and 22	The following bullets summarize the evolution of the 6T3 requirement in the LANL NPDES permit: - In 2005, the Water Quality Control Commission (WQCC) adopted the Upper Sandia Canyon Assessment Unit (AU) as a classified water of the State with the designated use of cold-water aquatic life and the segment-specific temperature criteria of 24°C. The decision to adopt the segment-specific temperature criteria was based on the 2002 U.S. Fish and Wildlife Service (USFWS 2002) study that included continuous temperature recording within the Upper Sandia Canyon AU during the summer of 1997. The study concluded that a cold-water aquatic life designated use, defined by a site-specific maximum temperature of 24°C was appropriate. NMED SWQB prepared a UAA (NMED 2007) detailing the attainable aquatic life uses for the new Segment and submitted it to EPA for approval. EPA approved Segment 20.6.4.126 NMAC in September of 2007. - In 2010, as part of a revision of the New Mexico Water Quality Standards, the WQCC discontinued site-specific temperature listings when they did not differ from the cold water temperature criteria contained in 20.6.4.900.H NMAC. The Upper Sandia Canyon AU site-specific maximum temperature standard of 24°C was eliminated and replaced with the general cold water temperature criteria contained in 20.6.4.900.H NMAC. This criterion specifies a maximum temperature of 24°C, but includes the criterion that a temperature of 20°C not be exceeded for six or more consecutive hours in a 24-hour period on more than three consecutive days (6T3). - The 6T3 criteria was added to the NPDES Permit for Outfall 001 that became effective on October 1, 2014 and became applicable on September 30, 2019 as part of a compliance schedule.

Triad National Security, LLC (Triad) Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment on November 30, 2019			
No.	**Outfall No**	**Document Location**	**Comment**
			Elevated air temperatures continue to heat the receiving water in Upper Sandia Canyon causing it to be naturally warmer than the 6T3 standard during the months of June through August. Triad and DOE in cooperation with the NMED have collected data to document this issue. Triad and DOE have initiated the regulatory rule making process to demonstrate that the application of the 6T3 cold-water temperature criteria from NMAC 20.6.4.900.H is not attainable in Upper Sandia Canyon. Analytical data have been provided to EPA and NMED in the Semi-Annual Report (Ref. EPC-DO-20-062). Additionally, on February 10, 2020 Triad and DOE submitted a Work Plan for developing a Use Attainability Analysis (UAA) for 6T3 in Sandia Canyon to the NMED (Ref. EPC-DO-20-040). NMED has indicated it will take approximately 30-60 days to review and approve the Work Plan. Upon NMED approval, Triad and DOE will develop the UAA for public comment. While this rule making effort is pending, Triad and DOE request that EPA provide Triad and DOE additional time (i.e. compliance schedule) to meet the 6T3 requirement.
3	General Comment	Part I.A and Section VI CWA 303(d) Impaired Water	The draft permit inconsistently assigns monitoring requirements and/or permit limits to outfalls that discharge to impaired waters. Specifically, it is inconsistent for those pollutants that were not detected and/or for which the RP Analysis was negative. The outfalls, discharge locations, and impairments are provided below: • Outfall 001: Sandia Canyon [NMAC 20.4.6.126] impaired for Temperature, Total Recoverable Aluminum, Dissolved Copper, PCB, and Adjusted Gross Alpha. • Outfall 03A027: Sandia Canyon [NMAC 20.4.6.126] impaired for Temperature, Total Recoverable Aluminum, Dissolved Copper, PCB, and Adjusted Gross Alpha. • Outfall 03A199: Sandia Canyon [NMAC 20.4.6.126] impaired for Temperature, Total Recoverable Aluminum, Dissolved Copper, PCB, and Adjusted Gross Alpha. • Outfall 03A022: Mortandad Canyon [NMAC 20.6.4.128] impaired for Dissolved Copper, PCBs, Adjusted Gross Alpha, and Total Mercury. • Outfall 051: Mortandad Canyon [NMAC 20.6.4.128] impaired for Dissolved Copper, PCBs, Adjusted Gross Alpha, and Total Mercury. • Outfall 03A181: Mortandad Canyon [NMAC 20.6.4.128] impaired for Dissolved Copper, PCBs, Adjusted Gross Alpha, and Total Mercury. • Outfall 13S: Canada del Buey [NMAC 20.6.4.128] impaired for PCBs and Adjusted Gross Alpha. • Outfall 05A055: Canon de Valle [NAMC 20.6.4.128] impaired for Adjusted Gross Alpha. • Outfall 03A048: Los Alamos Canyon [NMAC 20.6.4.128] impaired for PCBs, Total Recoverable Cyanide, Total Recoverable Selenium, Adjusted Gross Alpha, and Total Mercury. • Outfall 03A113: Sandia Canyon [NMAC 20.6.4.128] impaired for PCBs, Total Recoverable Aluminum, Adjusted Gross Alpha, and Total Mercury.

Triad National Security, LLC (Triad) Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment on November 30, 2019			
No.	**Outfall No**	**Document Location**	**Comment**
			• Outfall 160: Ten Site Canyon [NMAC 20.6.4.128] impaired for PCBs and Adjusted Gross Alpha. Please amend the inconsistencies in Part I.A as follows: - Delete permit limits at those outfalls where the pollutant was not detected and the RP Analysis was negative. - Reduce to permit monitoring "report only" at those outfalls where the pollutant was detected and the RP Analysis was negative. Recommend a frequency of 1/year. Please revise Section VI to reflect all applicable impaired waters and the methodology/approached used to assign permit requirements based upon discharges to them.
4	General Comment	Part III.D.4	Triad requests a waiver from the requirement to use NetDMR to submit Discharge Monitoring Report (DMR) results due to the complications associated with reporting for multiple outfalls; the inability of NetDMR to record WET test results and retests; and the inability to of NetDMR to report 6T3 exceedances for temperature at Outfall 001. If the EPA grants the waiver, Triad proposes to continue to submit paper DMRs on EPA No. 3320-1. If the EPA decides not to grant the waiver, than Triad requests the requirement to implement NetDMR be amended to allow for implementation under a compliance schedule. This will allow Triad to work with NetDMR to create the custom parameters, storet codes, and limits that will be required to implement the NetDMR system at LANL. A compliance schedule would also provide Triad time to develop modifications to the Electronic Information Management System at LANL so that it can auto populate the DMR reports without errors or inconsistencies.
5	General Comment	Fact Sheet pg. 8, Part B, 5th paragraph	There was combination of ELG and BPJ used on this permit and the paragraph as written conflicts with the information stated for each outfall. Please revise the paragraph as follows: "Following are the summary of the Technology Based Effluent limitations included in the administratively continued permit and EPA proposes to retain them in the permit:"
6	General Comment	Fact Sheet Page 12, Item C.4, 1st paragraph	Please revise the last sentence as follows: "The initial screening results show that the following discharges have RP to exceed the WQS for the designated uses in 20.6.4.126 and 20.6.4.128:"
7	General Comment	Part II.B	Please revise the list of pollutants for which 24-hour oral reporting is required to reflect only those that have a permit limit. Those that have monitoring "report only" requirements should be deleted and include the following: - Adjusted Gross Alpha

Triad National Security, LLC (Triad) Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment on November 30, 2019			
No.	**Outfall No**	**Document Location**	**Comment**
			- Chromium VI (see comments on Outfall 03A160)
8	General Comment	Part II, Section F	Please add the following test methods for radiological analysis. These methods are not currently listed in 40 CFR 136.3: • EPA 900/SW846 9310 – Gross Alpha and Gross Beta • EPA 900_CALC – Adjusted Gross Alpha • EPA 903.1 – Radium 226 • EPA 904 – Radium 228 • EPA 905 – Strontium 90 • EPA 906 - Tritium • HASL 300 – Isotopic Radiological Data (e.g., Am-241, Pu238, Pu239, Pu240,U234, U238)
9	General Comment	Part I.A and Part II, Section H	Please revise the WET test sampling requirements for Outfall 051 and 05A055 for the following reasons: - Outfall 051 and 05A055 are discharged from a mixed tank in batches. The samples cannot be collected as a 3-hour composite sample. They are collected as a grab sample from the recirculation line as the tank is discharged to the outfall. The tank is mixed and the grab sample is representative of the contents. - A sample to provide fresh effluent for the 24-hour renewal step of the WET test cannot be collected on a separate day because effluent is discharged to the outfall as a batch operation instead of a continuous flow. [See Comment Nos. 58, 66, 91]
10	Outfall 001	Part I.A, Page 1	Please revise the outfall description to be consistent with the 2019 Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018), Supplemental Information Package 1 (Ref. EPC-DO-19-299), and Notices of Change (Ref. Enclosure 6): "During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted) the permittee is authorized to discharge cooling tower blowdown, boiler blowdown, demineralizer backwash, RO reject and once through cooling water from the Power Plant; treated sanitary effluent from the Sanitary Wastewater System (SWWS) Facility; recycled sanitary effluent from the Sanitary Effluent Reclamation Facility (SERF), and treated cooling tower blowdown from the Strategic Computing Complex (SCC) to Sandia Canyon in Segment Number 20.6.4.126 of the Rio Grande Basin. The discharge from this outfall creates a perennial portion of Sandia Canyon that is effluent dominated."
11	Outfall 001	Part I.A, Page 1	Please delete the requirement to monitor for Total Recoverable Aluminum at Outfall 001. Total Recoverable Aluminum was not detected in the effluent (Ref. ESHQSS-19-018) and the RP Analysis was negative. [See Comment No. 3]

Triad National Security, LLC (Triad) Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment on November 30, 2019			
No.	**Outfall No**	**Document Location**	**Comment**
12	Outfall 001	Part I.A, Page 1	A PCB sample was collected from Outfall 001 in May 2019 and analyzed using the Congener Method as required by the permit. The result from that sample was 0 ug/L for Total PCBs as reported in the September 2019 Discharge Monitoring Report (Ref. EPC-DO-19-394). Please change the permit requirement for PCBs at Outfall 001 to monitoring and "report only". If the PCB limit is continued in the permit, then revise the analytical method to include the Arohlor Method 8082 for monitoring and reporting consistent with 40 CFR 136. [See Comment No. 1]
13	Outfall 001	Part I.A, Page 2 and Fact Sheet, Page 18	Pease correct the fact sheet to match the draft permit Part I.A. The Fact Sheet states that 7-day chronic test required for *Pimephales promelas* will be performed at a frequency of 1/year. The draft permit Part I.A says the frequency is 1/5-years.
14	Outfall 001	Fact Sheet, Page 4	Please revise the outfall description to be consistent with the 2019 Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018), Supplemental Information Package 1 (Ref. EPC-DO-19-299), and Notices of Change (Ref. Enclosure 6). [See Comment No. 11]
15	Outfall 001	Fact Sheet, Page 4, 3rd Sentence	Please revise to be consistent with the 2019 Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018), Supplemental Information Package 1 (Ref. EPC-DO-19-299), and Notices of Change (Ref. Enclosure 6) as follows: "Disinfected water from the SWWS facility is pumped to the Reuse Tank and is dechlorinated ....."
16	Outfall 001	Fact Sheet, Page 4	Please revise the long-term average flow rate/volume used in the text and RP analysis to be consistent with the Notice of Change submitted to the EPA on November 27, 2019 (Ref. Enclosure 6). The revised long term average flow rate/volume is: - Long Term Average: 310,595 GPD (365 days/year) [Ref. Enclosure 6]
17	Outfall 001	Fact Sheet, Page 5	Please revise the bullets to be consistent with the Notice of Change submitted to the EPA on November 27, 2019 (Ref. Enclosure 6) as follows: - The SCC is currently adding 5 more cooling towers to its cooling system. These towers will utilize the existing water treatment system and makeup water supply and will increase the long-term average discharge volume to Outfall 001. - A Power Plant renovation will resume co-generation power/steam operations and this will increase the long-term average volume of water discharge to Outfall 001. The renovation will include the discharge of reverse osmosis concentrate, deminerlizer regeneration, steam condensate blowdown, boiler blowdown, and cooling tower blowdown to Outfall 001 either directly or indirectly after it has been treated at the SWWS facility.

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No.	**Outfall No**	**Document Location**	**Comment**
18	Outfall 001	Fact Sheet, Page 11	Revise volume/flow rate in the text and RP analysis to be consistent with Notice of Change submitted to the EPA on November 27, 2019 (Ref. Enclosure 6). - Long Term Average: 310,595 GPD (365 days/year) [Ref. Enclosure 6]
19	Outfall 001	Section VI CWA 303(d) Impaired Water	Outfall 001 discharges to Sandia Canyon [NMAC 20.4.6.126], which is impaired for Temperature, Total Recoverable Aluminum, Dissolved Copper, PCB, and Adjusted Gross Alpha. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 001 due to impaired waters. [See Comment No. 3]
20	Outfall 001	RP Analysis Page 3	The Permit Re-Application Form 2C (Ref. ESHQSS-19-018) provided a Total Chromium value of <3 ug/L. This value was below the MDL of 3 ug/L and the EPA MQL of 10 ug/L. Please correct the RP Analysis to indicate that Dissolved Chromium (including Cr III and Cr VI) were not detected in the effluent.
21	Outfall 001	RP Analysis Page 2/3	The RP Analysis did not provide a calculation for dissolved copper and it is unclear what the source of the number used for dissolved copper is. The long-term average for dissolved copper from the DMR summary provided with the 2019 Permit Re-Application is 3.7 ug/L (Ref. ESHQSS-19-018). The calculated value using the spreadsheet and the Total Copper concentration of 5.45 ug/L that was provided on the Permit Re-Application Form 2C (Ref. ESHQSS-19-018) is 2.429667405 ug/L. Both of these values are different that the concentration used in the RP Analysis (2.945 ug/L). Please clarify and/or correct.
22	Outfall 13S	Part I.A, Page 4	Please revise the description to be consistent with the 2019 Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299) as follows: "During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge treated sanitary wastewater effluent from the Sanitary Wastewater System (SWWS) Facility to Canada del Buey in Segment Number 20.6.4.128 of the Rio Grande Basin. The discharge may also be routed to Outfall 001 in Sandia Canyon in Segment Number 20.6.4.126 of the Rio Grande Basin to support reuse/recycle. Such discharges shall be limited and monitored by the permittee as specified below: (Monitoring and reporting are not required at 13S if the effluent is reused/recycle or discharged to Outfall 001)."
23	Outfall 13S	Part I.A, Page 5, Footnote 3	Please clarify footnote 3 to be consistent with the 2019 Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299) as follows:

Triad National Security, LLC (Triad) Comments on the Draft LANL Industrial and Sanitary Wastewater NPDES Permit No. NM0028355 Published for Public Comment on November 30, 2019			
No.	**Outfall No**	**Document Location**	**Comment**
			"If the wastewater is discharged directly to Outfall 001, as effluent from the SERF facility to Outfall 001, or as reused/recycled blowdown from the SCC Cooling towers to Outfall 001 or 03A027, it shall comply with effluent limitations and monitoring requirements for PCBs as established for Outfall 13S."
24	Outfall 13S	Part I.A, Page 5, Footnote 4	Please clarify footnote 4 as follows: "The limit is based on the human health-organism only" based water quality standard."
25	Outfall 13S and 001	Fact Sheet, Section V.C	Please clarify that this facility's discharges qualify as Minor (sanitary waste discharge with flow over 0.1 MGD but less than 1.0 MGD) and replace Part IV Instructions to Permittees Major – Sewage Sludge Requirements with Part IV Instructions to Permittees Minor – Sewage Sludge Requirements.
26	Outfall 13S and 001	Part IV	Part IV currently provides instructions for a Major – Sewage Sludge Requirements. The SWWS facility associated with Outfall 13S and 001 is a Minor. Please correct Part IV to provide the Minor – Sewage Sludge Requirements.
27	Outfall 13S	Section VI CWA 303(d) Impaired Water	Outfall 13S discharges to Canada del Buey [NMAC 20.4.6.128], which is impaired for PCBs and Adjusted Gross Alpha. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 13S due to impaired waters. [See Comment No. 3]
28	03A027	Part I.A, Page 16	Please revise the description to be consistent with the Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299) as follows: "During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge cooling tower blowdown to Sandia Canyon, in Segment number 20.6.4.126 of the Rio Grande Basin."
29	03A027	Part I.A, Page 17, Footnote 2	Effluent from Outfall 13S is not rerouted directly to Outfall 03A027. Suggest revising the footnote to say the following: "Effluent limitations and monitoring requirements only apply when SWWS effluent treated at the SERF; used as makeup water in the SCC Cooling Towers; and discharged as blowdown to Outfall 03A027."
30	03A027	Part I.A, Page 17, Footnote 5	Please delete this footnote. Outfall 03A027 does not have a continuous 6T3 recorder for temperature. A grab sample for temperature will be collected.

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No.	**Outfall No**	**Document Location**	**Comment**
31	03A027	Fact Sheet, Page 5	Please revise the following sentence: "If discharges occur, the potential average flow rate is 0.051 MGD and the daily maximum flow is 0.105 MGD. Outfall 03A027 did not discharge from September 2016 through May 2019, so older monitoring data was submitted." The sentence should say, "Outfall 03A027 effluent is currently routed to Outfall 001 and has not discharged since September 2016. If discharges occur, the potential average flow rate is 0.051 MGD and the daily maximum flow is 0.105 MGD. An operational sample was collected from the cooling tower blowdown to provide data for the permit application and this data was used in the RP analysis."
32	03A027	Fact Sheet, Page 5, 3rd paragraph, 3rd sentence	Please revise the description for Outfall 03A027 as follows: "Blowdown from the SCC Cooling Towers may be routed to Outfall 03A027, Outfall 001, SERF or the SWWS as needed to allow for water recycling, construction, and or maintenance activities."
33	03A027	Section VI CWA 303(d) Impaired Water	Outfall 03A027 discharges to Sandia Canyon [NMAC 20.4.6.126], which is impaired for Temperature, Total Recoverable Aluminum, Dissolved Copper, PCB, and Adjusted Gross Alpha. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 03A027 due to impaired waters. [See Comment No. 3]
34	03A027	RP Analysis Page 1	The average temperature used in the RP Analysis (23 °C) does not match the Permit Re-Application Form 2C. Please revise to 22.8°C.
35	03A027	RP Analysis Page 2	The RP Analysis did not provide a calculation for dissolved copper. The Permit Re-Application Form 2C indicated a detected concentration of total copper in the effluent of 16.3 ug/L. Based on the RP calculation the dissolved concentration should be 7.2667 ug/L. Please correct.
36	03A027	RP Analysis Page 3	The RP Analysis currently uses a dissolved copper concentration of 13.57 ug/L. The dissolved copper concentration should be 7.2667 ug/L based upon the total copper concentration of 16.3 ug/L provided on the Permit Application Form 2C. Please correct or clarify why different data was used.
37	03A027	RP Analysis Page 4	The Permit Re-Application Form 2C for Outfall 03A027 (ESHQSS-19-018) indicates that bromoform, chlorodibromomethane, chloroform, and dichlorobromomethane were not detected above the MDL and the EPA MQL. Please delete the effluent data that was used in the RP Analysis for these potential pollutants.
38	03A199	Part I.A, Page 22	Please delete "and other wastewater" from the description to be consistent with the 2019 Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299). This outfall discharges only treated cooling tower blowdown to the outfall.

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No.	**Outfall No**	**Document Location**	**Comment**
39	03A199	Part I.A, Page 22	Please clarify why the draft permit includes a requirement to monitor Temperature (1/Quarter) at Outfall 03A199. This outfall converges with Sandia Canyon downstream of Outfall 001 and 03A027. [Related to Comment No.2]
40	03A199	Part I.A Page 22	Please delete the requirement to monitor for Total Recoverable Aluminum at Outfall 03A199. Total Recoverable Aluminum was not detected in the effluent (Ref. ESHQSS-19-018) and the RP Analysis was negative. [See Comment No. 3]
41	03A199	Part I.A Page 22	Please delete the permit limit for copper. The RP Analysis does not indicate RP for copper at Outfall 03A199. [See Comment No. 3]
42	03A199	Part I.A, Page 22	Please delete the permit limit for zinc. The RP Analysis does not indicate RP for zinc at Outfall 03A199. [See Comment No. 3]
43	03A199	Part I.A, Page 23, Footnote 4	Please delete this footnote. Outfall 03A199 does not have a continuous 6T3 recorder for temperature. The temperature will be collected as a grab sample.
45	03A199	Fact Sheet, Page 11	Please revise the following sentence so that it references 20.6.4.126 instead of 20.6.4.128: "However, because the discharge at Outfall 03A199 is to a storm water drain prior to reaching Sandia Canyon, an additional RP was conducted against WQS for 20.6.4.126 waterbody."
46	03A199	Fact Sheet Page 14, 1st paragraph	Please revise the last 2 sentences of this paragraph as follows: "EPA proposes to establish copper and zinc limits at Outfall 03A199. In addition, the EPA proposes to establish monitoring requirements and limits for copper, zinc, and PCBs at Outfall 03A027 if effluent is discharged to the outfall. Currently, Outfall 03A027 does not discharge because its effluent is routed to Outfall 001."
47	03A199	Fact Sheet, Page 14, 4th paragraph	Please delete the 4th paragraph. The 2019 Permit Re-Application Form 2C [Ref. ESHQSS-19-018] for Outfall 03A199 indicates that selenium and cyanide were not detected above the MDL and the EPA MQL. The RP Analysis was also negative for selenium and cyanide.
48	03A199	Section VI CWA 303(d) Impaired Water	Outfall 03A199 discharges to Sandia Canyon [NMAC 20.4.6.126], which is impaired for Temperature, Total Recoverable Aluminum, Dissolved Copper, PCB, and Adjusted Gross Alpha. Please revise the permit requirements in Section I.A and Section VI to reflect methodology/approach used to assign permit requirements to Outfall 03A199 due to impaired waters. [See Comment No. 3]

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No.	**Outfall No**	**Document Location**	**Comment**
49	03A199	RP Analysis, Page 1	Please revise the stream segment to 20.6.4.126. [Ref. ESHQSS-19-018]
50	03A199	RP Analysis, Page 1	Please correct the RP Analysis. The notes next to TSS, Hardness and long-term flow indicate the data is for Outfall 001. The data is actually for Outfall 03A199.
51	03A199	RP Analysis, Page 2	The RP Analysis did not calculate a concentration for dissolved copper. The 2019 Permit Re-Application Form 2C (Ref. ESHQSS-19-018] indicated a detected concentration of total copper in the effluent of 3.15 ug/L. Based on the RP calculation the dissolved concentration should be 1.45999395 ug/L. Please correct.
52	03A199	RP Analysis, Page 3	The RP Analysis currently uses a dissolved copper concentration of 1.845 ug/L. The dissolved copper concentration should be 1.459 ug/L based upon the total copper concentration of 3.15 ug/L provided on the Permit Application Form 2C. Please correct.
53	03A199	RP Analysis, Page 5	The RP analysis includes an effluent concentration for phenol of 3.36 ug/L. The 2019 Permit Application Form 2C indicates that phenol was less than the MDL and the EPA MQL. Please correct the RP Analysis.
54	03A199	RP Analysis, General	The table provided on Page 12 of the fact sheet includes data for RP analysis at the outfall point of discharge and when it converges with the existing stream generated by Outfall 001/03A027. The RP calculation at the convergence was not provided for review. Please clarify.
55	Outfall 051	Part I.A, Page 6	Please revise the outfall description to be consistent with the 2019 Permit Re-Application (Ref. ESHQSS-19-018) and Supplemental Package 2 (Ref. EPC-DO-19-301) as follows: "During the period beginning the effective date of the permit and last through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharged treated effluent from the Radioactive Liquid Waste Treatment Facility (RLWTF) to Mortandad Canyon in Segment number 20.6.4.128 of the Rio Grande Basin."
56	Outfall 051	Part I.A, Page 6	The Copper limit (5 ug/L) provided for Outfall 051 is the calculated limit using a hardness of 50 mg/L for Chronic Aquatic Life. Outfall 051 discharges to Mortandad Canyon (NMAC 20.6.4.128). NMAC 20.6.4.128 has a designated use of limited aquatic life, therefore, the chronic aquatic life criteria does not apply (NMAC 20.6.4.900.H.7). Please revise the permit limit to the calculated Acute Aquatic Life limit of 7 ug/L (applicable under NMAC 20.6.4.900.7), which is the calculated limit at 50 mg/L hardness.
57	Outfall 051	Part I.A, Page 7	Please revise the WET test sampling requirements for Outfall 051 for the following reasons: - Outfall 051 is discharged from a mixed tank in batches. The samples cannot be collected as a 3-hour composite sample. It can be collected as a grab sample from the recirculation line as the tank is discharged to the outfall. The tank is mixed and the grab sample is representative of the contents.

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No.	**Outfall No**	**Document Location**	**Comment**
			- A sample to provide fresh effluent for the 24-hour renewal step of the WET test cannot be collected on a separate day because effluent is discharged to the outfall as a batch operation instead of a continuous flow. [See Comment No. 9]
58	Outfall 051	Fact Sheet, Page 7	Please delete the following sentence: "The facility has a mechanical evaporation system and Outfall 051 has not discharged since 2014 (Note: Discharges to the outfall were performed on June 18, 2019, March 10, 2020, and August 18, 2020)." The sentence is no longer applicable.
59	Outfall 051	Fact Sheet, Page 9	The technology based effluent limits discussed on page 5 of the fact sheet include Total Chromium and Total lead, however, the limits were not added to the Part I.A requirements. The RP analysis for chromium and lead indicate that there is no reasonable potential for these metals in the effluent. Please provide a footnote to this section indicating that the negative RP is the justification for NOT assigning an effluent limit to the permit.
60	Outfall 051	Fact Sheet, Page 12	The draft permit Part I.A, fact sheet, and RP analysis utilize three different hardness values for Outfall 051. - Part I.A – 50 mg/L hardness limit - Fact Sheet Table on Page 12 - is 17.3 mg/L - RP Analysis - 77.4 mg/L (from June 19, 2019 Effluent Discharge). Please clarify how hardness was used to determine the permit monitoring and/or limits provided in Part I.
61	Outfall 051	Fact Sheet, Page 12	LANL has performed additional analysis that includes data for Thallium at an MDL below the EPA MQL. An operational sample collected from RLWTF effluent on December 17, 2019 indicated that Thallium was not detected at a lower MDL of 0.051 ug/L. This MDL is lower than the EPA MQL of 0.5 ug/L. Please do not add a monitoring requirement for Thallium for Outfall 051. [See Enclosure 2]
62	Outfall 051	Fact Sheet, Page 12	LANL performed additional analysis that includes data for Mercury at an MDL below the EPA MQL. The operational sample collected from the effluent on December 17, 2019 shows a value of 0.0021 ug/L Mercury with a revised MDL of 0.0003 ug/L. Please clarify. [See Enclosure 2]
63	Outfall 051	Fact Sheet, Page 14, last paragraph	Please delete the first sentence "The effluent is evaporated through a mechanical evaporator and has not discharge since November 2010." Outfall 051 received a discharges on June 18, 2019; March 10, 2020; and August 18, 2020.

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No.	**Outfall No**	**Document Location**	**Comment**
64	Outfall 051	Fact Sheet, Page 15	It appears that the limits provided in Part I.A were not adjusted to reflect the revised analytical results from June 2019. The permit requires a minimum hardness of 50 mg/L. The calculated Acute Aquatic Life limit at that hardness is 7.0 mg/L (NMAC 20.6.4.900.J.1. The RP Analysis used the hardness (77.4 mg/L) from Supplemental Data Package 2 (Ref. EPC-DO-19-301). The calculated Acute Aquatic Life limit at the RP Analysis hardness is 10.6 mg/L. Please clarify what data was used to determine the copper limit provided Part I.A.
65	Outfall 051	Fact Sheet, Page 18	Please revise the following requirement: "Since the flow from this outfall is intermittent, a 3-hour composite rather than a 24-hour composite sample is established because the discharge is intermittent. The term "3-hour composite sample" means a sample consisting of a minimum of one (1) aliquot of effluent collected at a one-hour interval over a period of up to 3-hour discharge." The revision is appropriate due to the following reasons: - Outfall 051 is discharged from a mixed tank in batches. The samples cannot be collected as a 3-hour composite sample. It can be collected as a grab sample from the recirculation line as the tank is discharged to the outfall. The tank is mixed and the grab sample is representative of the contents. A sample to provide fresh effluent for the 24-hour renewal step of the WET test cannot be collected on a separate day because effluent is discharged to the outfall as a batch operation instead of a continuous flow. [See Comment No. 9]
66	Outfall 051	RP Analysis, Page 3	Please revise the RP analysis to include the dissolved Manganese result provided in Supplemental Package 2 submitted on August 19, 2019 (Ref. EPA-DO-19-301).
67	Outfall 051	RP Analysis, Page 4	Please update the RP Analysis with the Low MDL Mercury and Thallium results provided above and in the attached analytical reports. [See Comment No. 60 and 61]
68	Outfall 051	RP Analysis, Page 4	The effluent concentration data provided for Total and Dissolved Molybdenum was not updated to the data provided in Supplemental Package 2 submitted on August 19, 2019 (Ref. EPA-DO-19-301). Supplemental package 2 provides the analytical data collected from the discharge to Outfall 051 that was performed on June 18, 2019. Please revise.

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No.	**Outfall No**	**Document Location**	**Comment**
69	051	Section VI CWA 303(d) Impaired Water	Outfall 051 discharges to Mortandad Canyon [NMAC 20.6.4.128] impaired for Dissolved Copper, PCBs, Adjusted Gross Alpha, and Total Mercury. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 051 due to impaired waters. [See Comment No. 3]
70	03A181	Part I.A, Page 12	Please revise the description to be consistent with the Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299) as follows: "During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge treated cooling tower blowdown to Mortandad Canyon, in Segment number 20.6.4.128."
71	03A181	Fact Sheet Page 6, 3rd Paragraph	Please delete the last two sentences. The project to route the cooling tower blowdown to the Reuse tank has been cancelled.
72	03A181	Section VI CWA 303(d) Impaired Water	Outfall 03A181 discharges to Mortandad Canyon [NMAC 20.6.4.128] impaired for Dissolved Copper, PCBs, Adjusted Gross Alpha, and Total Mercury. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 03A181 due to impaired waters. [See Comment No. 3]
73	03A181	Part I.A, Page 12	LANL has performed additional analysis that includes data for a dissolved Chromium VI. An effluent sample was collected from the Outfall on March 4, 2020. The result indicated that Chromium VI was not detected below the MDL of 3 ug/L. Please delete the requirement to monitor for Chromium VI at Outfall 03A181. [See Enclosure 3]
74	03A048	Part I.A, Page 18	Please delete "and other wastewater" from the description to be consistent with the Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299). This outfall only discharges treated cooling tower blowdown to the outfall.
75	03A048	Part I.A Page 14 and Fact Sheet Page 14 and Page 20	There is an inconsistency regarding when the requirement to monitor for "impaired water" contaminates is applied to each outfall. The impairments were not added to Part I.A for Outfall 03A048 but were added to Outfall 03A113 regardless of whether the RP Analysis was negative. Please clarify. [See Comment No. 3]

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No.	**Outfall No**	**Document Location**	**Comment**
76	03A048	Section VI CWA 303(d) Impaired Water	Outfall 03A048 discharges to Los Alamos Canyon [NMAC 20.6.4.128] impaired for PCBs, Total Recoverable Cyanide, Total Recoverable Selenium, Adjusted Gross Alpha, and Total Mercury. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 03A048 due to impaired waters. [See Comment No. 3]
77	03A113	Part I.A, Page 14	Please delete "and other wastewater" from the description to be consistent with the Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299). This outfall only discharges treated cooling tower blowdown that can be isolated for sampling at the outfall prior to comingling with storm water.
78	03A113	Part I.A, Page 14	The description does not include the discharge of storm water. This is inconsistent with Page 5 of the Fact sheet. Please revise the description to include stormwater.
79	03A113	Fact Sheet, Page 14 and Page 20	There is a conflict between Part I.A, Page 14, and Page 20 regarding the inclusion of Total Recoverable Aluminum, Total Mercury, and Adjusted Gross Alpha. The fact sheet indicates that Total Recoverable Aluminum and Adjusted Gross Alpha are proposed to be removed from the permit for this outfall. This appears to be inconsistent with Section VI on Page 20, which indicates that Total Recoverable Aluminum, mercury, and Adjusted Gross Alpha are included due to impaired waters. If there is no reasonable potential and the waste stream is not variable (i.e., single routine source) does the requirement to sample and report due to impaired waters need to be included? Please clarify or remove the requirement to sample and report. [See Comment No. 3]
80	03A113	Section VI CWA 303(d) Impaired Water	Outfall 03A113 discharges to Sandia Canyon [NMAC 20.6.4.128] impaired for PCBs, Total Recoverable Aluminum, Adjusted Gross Alpha, and Total Mercury. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 03A113 due to impaired waters. [See Comment No. 3]
81	03A113	RP Analysis	The RP Analysis indicates that there is RP for Copper at this outfall. Is there a reason it was not included in the Part I.A for Outfall 03A113? [See Comment No. 3]

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No.	**Outfall No**	**Document Location**	**Comment**
82	03A022	Part I.A, Page 10	Please revise the outfall description to be more consistent the Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299) as follows: "During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge storm water from roof drains, once through cooling water, and once-through cooling water from emergency use only to Mortandad Canyon, in segment number 20.6.4.128 of the Rio Grande Basin. (Cooling tower blowdown is not authorized for discharge at this outfall.)"
83	03A022	Fact Sheet, Page 9	Please delete the ELGs for a Type Outfall 04A from the draft permit. The Outfall 04A022 has been renamed 03A022 and there are no longer any 04A outfalls at LANL.
84	03A022	Fact Sheet, Page 14, 6th paragraph	This paragraph states, "....WQ based effluent limitations and monitoring requirements (total recoverable aluminum, dissolved copper, and gross alpha, except for TRC as described above) in the current permit are proposed to be removed from these outfalls." Part I.A retains the requirement to monitor for copper. Please clarify.
85	03A022	Section VI CWA 303(d) Impaired Water	Outfall 03A022 discharges to Mortandad Canyon [NMAC 20.6.4.128] impaired for Dissolved Copper, PCBs, Adjusted Gross Alpha, and Total Mercury. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 03A022 due to impaired waters. [See Comment No. 3]
86	03A160	Part I.A, Page 20	Please delete "and other wastewater" from the description to be consistent with the Permit Re-Application Fact Sheet (Ref. ESHQSS-19-018) and Supplemental Information Package 1 (Ref. EPC-DO-19-299). This outfall only discharges treated cooling tower blowdown to the outfall (Ref. ESHQSS-19-018).
87	03A160	Part I. A, Page 20 and RP Analysis	The data provided for the NPDES Permit application was old data from blowdown operations to the outfall prior to routing it to SWWS and prior to the installation and startup of the new wastewater treatment system outlined in a Notice of Change provided in Supplemental Information Package No. 3 (Ref. EPC-DO-19-302). New data from the cooling tower blowdown was provided for the Waste Stream Profile (WSP) to the SWWS Facility. The following bullets provide new data for three potential pollutants: • These results showed a ND for Se using the SW846 Method at an MDL of 2.0 ug/L. This is below the EPA MQL of 5 ug/L. Please consider removing the requirements for Selenium from the permit. • These results showed an ND for Cyanide using the EPA Method at an MDL of 1.67 ug/L. This is below the EPA MQL of 10 ug/L. Please consider removing the requirements for Cyanide from the permit. • These results showed a lower Total Chromium concentration 6.15 ug/L using the SW 846 Method. The EPA MQL for Total Chromium is 10 ug/L. Please consider removing the requirements for Chromium VI from the permit.

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No.	**Outfall No**	**Document Location**	**Comment**
			Please revise the RP analysis and permit limits/requirements based upon the data provided in the bullets above. [See Enclosure 4]
88	03A160	Fact Sheet Page 6	Please delete the last sentence. The notice of change for the water treatment system was submitted to the EPA on June 12, 2019 and was provided in Supplemental Package No. 3 (Ref. EPC-DO-19-302).
89	03A160	Section VI CWA 303(d) Impaired Water	Outfall 160 discharges to Ten Site Canyon [NMAC 20.6.4.128] impaired for PCBs and Adjusted Gross Alpha. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 03A160 due to impaired waters. [See Comment No. 3]
90	05A055	Part I.A, Page 9	Please revise the WET test sampling requirements for 05A055 for the following reasons: - Outfall 05A055 is discharged from a mixed tank in batches. The sample cannot be collected as a 3-hour composite sample. It can be collected as a grab sample from the recirculation line as the tank is discharged to the outfall. The tank is mixed and the grab sample is representative of the contents. [See Comment No. 9]
91	05A055	Fact Sheet Page 7, 1st Paragraph	Please revise the first line to the following: "…tanks, and facilities at TA-9, TA-11, and TA-16. The average…." A waste stream profile for water from TA-11 was approved after the permit application was submitted to the EPA.
92	05A055	Fact Sheet Page 7, 1st Paragraph	Please clarify the last sentence to indicate that the operational sampling data was used in the RP analysis as follows: "Operational samples were submitted for analytical testing and those results were used in the RP Analysis."
93	05A055	Fact Sheet, Page 15, 2nd paragraph	Please revise this paragraph to the following: "There has been no discharge from the High Explosive Wastewater Treatment Facility (HEWTF) at Outfall 05A055 since November 2007. Normal operations since November 2007 have discharged effluent to an electric evaporator. The applicant intends to continue to operate the HEWTF using the evaporator except under abnormal conditions (i.e., maintenance or malfunction of the evaporator) or to ensure operability of the discharge equipment. There is RP for……." The HEWTF did not resume discharges to Outfall 05A055 in the fall of 2019.

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No.	**Outfall No**	**Document Location**	**Comment**
94	05A055	Section VI CWA 303(d) Impaired Water	Outfall 05A055 discharges to Canon de Valle [NAMC 20.6.4.128] impaired for Adjusted Gross Alpha. Please revise the permit requirements in Section I.A and Section VI to reflect the methodology/approach used to assign permit requirements to Outfall 05A055 due to impaired waters. [See Comment No. 3]
95	Outfall 051	RP Analysis, General	Additional analysis has been performed for Outfall 051 using samples that were collected from three RLWTF effluent discharges (June 2019, March 2020, and August 2020) that occurred after the 2019 Permit Reapplication was submitted. Enclosure 5 provides the analytical data. Please revise the RP analysis to include this analytical data.
96	Outfall 001	Fact Sheet & RP Analysis	There have been two Notice of Planned Change submitted for Outfall 001 since the Draft permit was issued in November 2019. Please see Enclosure 6 for the details and revise the fact sheet and RP analysis.
97	Outfall 03A048	Fact Sheet	There has been one Notice of Planned Change submitted for Outfall 03A048 since the Draft permit was issued in November 2019. Please see Enclosure 7 for the details and revise the fact sheet.

ENCLOSURE 2

Supplemental Analytical Data for Outfall 051 – Low MDL Mercury and Thallium

EPC-DO: 20-096

LA-UR-20-21143

OCT 28 2020

Date:_____

Supplemental Analytical Data for Outfall 051

Location	Sample ID	Sample Date	Method	Parameter	Filtered	Result	Units	Qualifier	COC	MDL	EPA MQL	Comment No.
NPDES Outfall 051	NP051-20-191716	12/17/2019	EPA 200.8	Thallium	N	0.0510	ug/L	U	2020-0013	0.0510	0.5000	Comment No. 61
NPDES Outfall 051	NP051-20-191717	12/17/2019	EPA M1631	Mercury	N	0.0021	ug/L		2020-0014	0.0003	0.0050	Comment No. 62

U = Not Detected above the MDL.

ENCLOSURE 3

Supplemental Analytical Data for
Outfall 03A181 – Chromium VI

EPC-DO: 20-096

LA-UR-20-21143

Date: OCT 28 2020

Supplemental Analytical Data for Outfall 03A181

Location	Sample ID	Sample Date	Method	Parameter	Filtered	Result	Units	Qualifier	COC	MDL	EPA MQL	Comment No.
NPDES Outfall 03A181	NP181-20-196507	03/04/2020	EPA 7196	Chromium VI	Y	3.0	ug/L	U	2020-0546	3.0	10.0	Comment No. 73

U = Not Detected above the MDL.

ENCLOSURE 4

Supplemental Analytical Data for
Outfall 03A160

EPC-DO: 20-096

LA-UR-20-21143

OCT 28 2020

Date:_____

Supplemental Anaytical Data for Outfall 03A160

** Analytical Data from an Operational sample collected from the cooling tower blowdown. Cooling Tower is currently being routed to SWWS instead of Outfall 03A160.

Location	Sample ID	Sample Date	Method	Parameter	Filtered	Result	Units	Qualifier	COC #	MDL	EPA MQL	Comment No.
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:160.2	Total Suspended Solids	N	11.0	mg/L	J	2019-3239	5.7		
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1664A	Oil and Grease	N	1.69	mg/L	U	2019-3239	1.69		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:300.0	Fluoride	N	0.752	mg/L		2019-3239	0.033		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:335.4	Cyanide (Total)	N	1.67	ug/L	U	2019-3239	1.67	10	Comment No. 87
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:350.1	Ammonia as Nitrogen	N	0.166	mg/L		2019-3239	0.017		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:351.2	Total Kjeldahl Nitrogen	N	0.400	mg/L		2019-3239	0.033		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:353.2	Nitrate-Nitrite as Nitrogen	N	0.752	mg/L		2019-3239	0.017		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:365.4	Total Phosphate as Phosphorus	N	0.118	mg/L		2019-3239	0.02		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:410.4	Chemical Oxygen Demand	N	8.95	mg/L	U	2019-3239	8.95		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:900	Gross alpha	N	-0.0712	pCi/L	U	2019-3239			
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:900	Gross beta	N	3.86	pCi/L		2019-3239			
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SM:A2340B	Hardness	N	102	mg/L		2019-3239			
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Aluminum	N	68.0	ug/L	U	2019-3239	68	2.5	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Barium	N	65.3	ug/L		2019-3239	1	100	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Beryllium	N	1.00	ug/L	U	2019-3239	1	0.5	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Boron	N	69.1	ug/L		2019-3239	15	100	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Cobalt	N	1.00	ug/L	U	2019-3239	1	50	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Copper	N	11.9	ug/L	J	2019-3239	3	0.5	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Iron	N	33.3	ug/L	J	2019-3239	30		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Magnesium	N	9.14	mg/L		2019-3239	110		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Manganese	N	2.00	ug/L	U	2019-3239	2		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	EPA:245.2	Mercury	N	0.067	ug/L	U	2019-3239	0.067	0.005	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Tin	N	2.50	ug/L	U	2019-3239	2.5		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Vanadium	N	22.3	ug/L		2019-3239	1		
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6010C	Zinc	N	11.2	ug/L	J	2019-3239	3.3	20	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Antimony	N	1.00	ug/L	U	2019-3239	1	60	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Arsenic	N	4.3	ug/L	J	2019-3239	2	6.5	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Cadmium	N	0.300	ug/L	U	2019-3239	0.3	1	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Chromium	N	6.15	ug/L	J	2019-3239	3	10	Comment No. 87
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Lead	N	2.41	ug/L		2019-3239	0.5	0.5	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Molybdenum	N	2.72	ug/L		2019-3239	0.2	10	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Nickel	N	1.6	ug/L	J	2019-3239	0.6	0.5	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Selenium	N	2.00	ug/L	U	2019-3239	2	5	Comment No. 87
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Silver	N	0.300	ug/L	U	2019-3239	0.3	0.5	
Outfall 03A160 - Op Sample	WST35-19-186446	09/09/2019	SW-846:6020	Thallium	N	0.600	ug/L	U	2019-3239	0.6	0.5	
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-1	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-10	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-103	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-104	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-105	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-106	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-107	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-108/PCB-124	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-11	N	0.0000394	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-110/PCB-115	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-111	N	0.0000375	ug/L	U	2019-3240			

Supplemental Anaytical Data for Outfall 03A160

** Analytical Data from an Operational sample collected from the cooling tower blowdown. Cooling Tower is currently being routed to SWWS instead of Outfall 03A160.

Location	Sample ID	Sample Date	Method	Parameter	Filtered	Result	Units	Qualifier	COC #	MDL	EPA MQL	Comment No.
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-112	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-114	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-118	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-12/PCB-13	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-120	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-121	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-122	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-123	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-126	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-127	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-128/PCB-166	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-129/PCB-138/PCB-163	N	0.000113	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-130	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-131	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-132	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-133	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-134	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-135/PCB-151	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-136	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-137	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-139/PCB-140	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-14	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-141	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-142	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-143	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-144	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-145	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-146	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-147/PCB-149	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-148	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-15	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-150	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-152	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-153/PCB-168	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-154	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-155	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-156/PCB-157	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-158	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-159	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-16	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-160	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-161	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-162	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-164	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-165	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-167	N	0.0000375	ug/L	U	2019-3240			

Supplemental Anaytical Data for Outfall 03A160

** Analytical Data from an Operational sample collected from the cooling tower blowdown. Cooling Tower is currently being routed to SWWS instead of Outfall 03A160.

Location	Sample ID	Sample Date	Method	Parameter	Filtered	Result	Units	Qualifier	COC #	MDL	EPA MQL	Comment No.
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-169	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-17	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-170	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-171/PCB-173	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-172	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-174	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-175	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-176	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-177	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-178	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-179	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-18/PCB-30	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-180/PCB-193	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-181	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-182	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-183/PCB-185	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-184	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-186	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-187	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-188	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-189	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-19	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-190	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-191	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-192	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-194	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-195	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-196	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-197/PCB-200	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-198/PCB-199	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-2	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-20/PCB-28	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-201	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-202	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-203	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-204	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-205	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-206	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-207	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-208	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-209	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-21/PCB-33	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-22	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-23	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-24	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-25	N	0.0000375	ug/L	U	2019-3240			

Supplemental Anaytical Data for Outfall 03A160

** Analytical Data from an Operational sample collected from the cooling tower blowdown. Cooling Tower is currently being routed to SWWS instead of Outfall 03A160.

Location	Sample ID	Sample Date	Method	Parameter	Filtered	Result	Units	Qualifier	COC #	MDL	EPA MQL	Comment No.
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-26/PCB-29	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-27	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-3	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-31	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-32	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-34	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-35	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-36	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-37	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-38	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-39	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-4	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-40/PCB-71	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-41	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-42	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-43	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-44/PCB-47/PCB-65	N	0.000113	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-45/PCB-51	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-46	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-48	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-49/PCB-69	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-5	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-50/PCB-53	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-52	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-54	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-55	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-56	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-57	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-58	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-59/PCB-62/PCB-75	N	0.000113	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-6	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-60	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-61/PCB-70/PCB-74/PCB-76	N	0.00015	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-63	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-64	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-66	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-67	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-68	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-7	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-72	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-73	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-77	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-78	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-79	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-8	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-80	N	0.0000375	ug/L	U	2019-3240			

Supplemental Anaytical Data for Outfall 03A160

** Analytical Data from an Operational sample collected from the cooling tower blowdown. Cooling Tower is currently being routed to SWWS instead of Outfall 03A160.

Location	Sample ID	Sample Date	Method	Parameter	Filtered	Result	Units	Qualifier	COC #	MDL	EPA MQL	Comment No.
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-81	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-82	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-83	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-84	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-85/PCB-116/PCB-117	N	0.000113	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-86/87/97/109/119/125	N	0.000225	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-88/PCB-91	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-89	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-9	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-90/PCB-101/PCB-113	N	0.000113	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-92	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-93/PCB-100	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-94	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-95	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-96	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-98/PCB-102	N	0.000075	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	PCB-99	N	0.0000375	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total decaCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total diCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total heptaCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total hexaCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total monoCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total nonaCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total octaCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total PCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total pentaCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total tetraCB	N	0	ug/L	U	2019-3240			
Outfall 03A160 - Op Sample	WST-RCRA	09/09/2019	EPA:1668C	Total triCB	N	0	ug/L	U	2019-3240			

ENCLOSURE 5

Supplemental Analytical Data for Outfall 051 from Discharges June 2019, March 2020, and August 2020

EPC-DO: 20-096

LA-UR-20-21143

Date: OCT 28 2020

Form 2C Crosswalk to the Effluent Data from the Outfall 051 Discharges [June 2019, March 2020, August 2020)

OUTFALL No.	TA - Bldg.	Form Sec No.	Parameter
051	TA50-1	V.A.1 f	Flow (Totalized Est.) [a]
051	TA50-1	V.A.1 g	Temperature (Summer)
051	TA50-1	V.A.1 h	Temperature (Winter)
			Hardness

EFFLUENT				
Max Daily	Max 30 Day average	Long Term Daily Average	No. Analysis	UNITS
0.021345	0.021345	0.015936	3	MGD
24.0			est.	C
20.0			est.	C
83.8	83.8	75.2	4	mg/L

a. Based upon the volume discharged to Outfall 051 in June 2019, March 2020, and August 2020.

Daily Max = maximum daily value over the time period.

Max 30 Day Average = Maximum of the monthly averages over the time period.

Long Term Average = average over all daily values over the time period.

OUTFALL No.	TA - Bldg.	Form Sec No.	Parameter
051	TA50-1	V.A.1 i	pH

Maximum Daily Value		Maximum 30 Day Value		UNITS	
Min	Max	Min	Max	No. Analysis	Units
7.2	8.1			3	S.U.

OUTFALL No.	TA - Bldg.	Form Sec No.	Parameter	CAS ID No.	Analysis	Max Daily		Max 30 Day Value		Long Term Average		UNITS			EPA MQL	Comments [a,b]
						Conc	Mass	Conc	Mass	Conc	Mass	No. Analysis	Conc.	Mass		
051	TA50-1	A.1.a	BOD	NA	Gen Chem	<1.0						1	mg/L	lbs		Comment No. 95
051	TA50-1	A.1.b	COD	NA	Gen Chem	15.5	2.76E+00					3	mg/L	lbs		Comment No. 95
051	TA50-1	A.1.c	TOC	NA	Gen Chem	<0.66						1	mg/L	lbs		Comment No. 95
051	TA50-1	A.1.d	TSS	NA	Gen Chem	1.60	2.85E-01					3	mg/L	lbs		Comment No. 95
051	TA50-1	A.1.e	Ammonia (as N)	NA	Gen Chem	1.17	2.08E-01					1	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.a	Bromide	24959-67-9	Gen Chem	<0.067						1	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.b	Total Residual Chlorine	NA	Field	0	0.00E+00					3	mg/L	lbs	33	Comment No. 95
051	TA50-1	B.1.c	Color	NA	Gen Chem	<5.0						1	PCU	NA		Comment No. 95
051	TA50-1	B.1.d	E.Coli	NA	Gen Chem	<1						1	cfu/100 mL	NA		Comment No. 95
051	TA50-1	B.1.e	Fluoride	16984-48-8	Gen Chem	0.134	2.39E-02	0.1340	2.39E-02	0.1233	1.64E-02	4	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.f	Nitrate-Nitrite	NA	Gen Chem	7.63	1.36E+00	7.4950	1.34E+00	4.0425	5.38E-01	4	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.g	Total Organic Nitrogen (TKN)		Gen Chem	1.69	3.01E-01	1.5900	2.83E-01	1.2043	1.60E-01	4	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.h	Oil and Grease		Gen Chem	<1.41						1	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.i	Phosphorus, Total	7723-14-0	Gen Chem	<0.02						1	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.j.1	Total Alpha	NA	Radiological	2.22						1	pCi/L	NA		Comment No. 95
051	TA50-1	B.1.j.2	Total Beta	NA	Radiological	14.5						1	pCi/L	NA		Comment No. 95
051	TA50-1	B.1.j.3	Total Radium	NA	Radiological	0.708						4	pCi/L	NA		Comment No. 95
051	TA50-1	B.1.j.4	Radium 226	NA	Radiological	0.384						6	pCi/L	NA		Comment No. 95
051	TA50-1	B.1.k	Sulfate	14808-79-8	Gen Chem	7.04	1.25E+00	7.0200	1.25E+00	5.1273	6.82E-01	4	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.l	Sulfide		Gen Chem	<0.033						1	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.m	Sulfite	14265-45-3	Field	0	0.00E+00					1	mg/L			Comment No. 95
051	TA50-1	B.1.n	Surfactants		Gen Chem	0.0395	7.04E-03					1	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.o	Aluminum	7429-90-5	Metals	<19.3						3	ug/L	lbs	2.5	Comment No. 95
051	TA50-1	B.1.p	Barium	7440-39-3	Metals	1.87	3.33E-04	1.8700	3.33E-01	1.7133	2.28E-01	3	ug/L	lbs	100	Comment No. 95
051	TA50-1	B.1.q	Boron	7440-42-8	Metals	93.80	1.67E-02	93.8000	1.67E+01	90.8000	1.21E+01	3	ug/L	lbs	100	Comment No. 95
051	TA50-1	B.1.r	Cobalt	7440-48-4	Metals	1.00	1.78E-04	1	1.78E-01	0.9397	1.25E-01	3	ug/L	lbs	50	Comment No. 95
051	TA50-1	B.1.s	Iron	7439-89-6	Metals	46.40	8.27E-03	46.4	8.27E+00	45.3667	6.03E+00	3	ug/L	lbs		Comment No. 95
051	TA50-1	B.1.t	Magnesium	7439-95-4	Metals	13.3	2.37E+00	13.3000	2.37E+00	13.0500	1.74E+00	2	mg/L	lbs		Comment No. 95
051	TA50-1	B.1.u	Molybdenum	7439-98-7	Metals	<0.2						3	ug/L	lbs	10	Comment No. 95
051	TA50-1	B.1.v	Manganese	7439-96-5	Metals	21.40	3.81E-03	21.4	3.81E+00	20.8667	2.78E+00	3	ug/L	lbs		Comment No. 95
051	TA50-1	B.1.w	Tin	7440-31-5	Metals	<1.0						2	ug/L	lbs		Comment No. 95
051	TA50-1	B.1.x	Titanium	7440-32-6	Metals	<2.0						2	ug/L	lbs		Comment No. 95
051	TA50-1	C.1M	Antimony	7440-36-0	Metals	<1.0						3	ug/L	lbs	60	Comment No. 95
051	TA50-1	C.2M	Arsenic	7440-38-2	Metals	<2.0						3	ug/L	lbs	0.5	Comment No. 95
051	TA50-1	C.3M	Beryllium	7440-41-7	Metals	<0.2						3	ug/L	lbs	0.5	Comment No. 95
051	TA50-1	C.4M	Cadmium	7440-43-9	Metals	<0.3						4	ug/L	lbs	1	Comment No. 95
051	TA50-1	C.5M	Chromium	7440-47-3	Metals	<3.0						5	ug/L	lbs	10	Comment No. 95
051	TA50-1	C.6M	Copper	7440-50-8	Metals	11	1.96E-03	10.6000	1.89E+00	5.5167	7.34E-01	5	ug/L	lbs	0.5	Comment No. 95

Form 2C Crosswalk to the Effluent Data from the Outfall 051 Discharges [June 2019, March 2020, August 2020)

051	TA50-1	C.7M	Lead	7439-92-1	Metals	0.524	9.33E-05					5	ug/L	lbs	0.5	Comment No. 95
051	TA50-1	C.8M	Mercury	7439-97-6	Metals	<0.067						6	ug/L	lbs	0.005	Comment Nos. 61, 62, and 95
051	TA50-1	C.9M	Nickel	7440-02-0	Metals	6.59	1.17E-03	6.41	1.14E+00	6.1925	8.24E-01	4	ug/L	lbs	0.5	Comment No. 95
051	TA50-1	C.10M	Selenium	7782-49-2	Metals	<2.0						4	ug/L	lbs	5	Comment No. 95
051	TA50-1	C.11M	Silver	7440-22-4	Metals	<0.3						3	ug/L	lbs	0.5	Comment No. 95
051	TA50-1	C.12M	Thallium	7440-28-0	Metals	<0.6						3	ug/L	lbs	0.5	Comment Nos. 61, 62, and 95
051	TA50-1	C.13M	Zinc	7440-66-6	Metals	7.79	1.39E-03	7.2667	1.29E+00	7.2667	9.66E-01	5	ug/L	lbs	20	Comment No. 95
051	TA50-1	C.14M	Cyanide	57-12-5	Gen Chem	<0.00167						4	ug/L	lbs	10	Comment No. 95
051	TA50-1	C.15M	Total Phenols	NA	Gen Chem	<1.67						1	ug/L	lbs		Comment No. 95
051	TA50-1		Dioxin	1764-01-6	TCDD	<10.3						1	pg/L	lbs	10	Comment No. 95
051	TA50-1	1V	Acrolein	107-02-8	VOC	<1.67						3	ug/L	lbs	50.00	Comment No. 95
051	TA50-1	2V	Acrylonitrile	107-13-1	VOC	<1.67						3	ug/L	lbs	20.00	Comment No. 95
051	TA50-1	3V	Benzene	71-43-2	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	4V	Bis(chloromethyl) ether	542-88-1	VOC								ug/L	lbs		Remanded See 40 CFR Part 122, Appendix D
051	TA50-1	5V	Bromoform	75-25-2	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	6V	Carbon Tetrachloride	53-23-5	VOC	<0.333						3	ug/L	lbs	2.00	Comment No. 95
051	TA50-1	7V	Chlorobenzene	108-90-7	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	8V	Chlorodibromoethane (dibromochloromethane)	124-48-1	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	9V	Chloroethane	75-00-3	VOC	<0.333						3	ug/L	lbs		Comment No. 95
051	TA50-1	10V	2-Chloro-ethylvinyl Ether	110-75-8	VOC	<1.67						3	ug/L	lbs		Comment No. 95
051	TA50-1	11V	Chloroform	67-66-3	VOC	12.00	2.14E-03	12.0000	2.14E+00	5.0667	6.74E-01	3	ug/L	lbs		Comment No. 95
051	TA50-1	12V	Dichlorobromomethane (bromodichloromethane)	75-27-4	VOC	0.92	1.64E-04					3	ug/L	lbs		Comment No. 95
051	TA50-1	13V	Dichloro-difluoromethane	75-71-8									ug/L	lbs		Remanded See 40 CFR Part 122, Appendix D.
051	TA50-1	14V	1,1-Dichloroethane	75-34-3	VOC	<0.333						3	ug/L	lbs		Comment No. 95
051	TA50-1	15V	1,2-Dichloroethane	107-06-2	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	16V	1,1-Dichloroethylene	75-35-4	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	17V	1,2-Dichloropropane	78-87-5	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	18V	1,3-Dichloroprpropylene	542-75-6	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	19V	Ethylbenzene	100-41-4	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	20V	Methyl Bromide (bromomethane)	74-86-9	VOC	<0.337						3	ug/L	lbs	50.00	Comment No. 95
051	TA50-1	21V	Methyl Chloride (chloromethane)	74-87-3	VOC	<0.333						3	ug/L	lbs		Comment No. 95
051	TA50-1	22V	Methylene Chloride	75-09-02	VOC	5.07	9.03E-04					3	ug/L	lbs	20.00	Comment No. 95
051	TA50-1	23V	1,1,2,2-Tetrachloroethane	79-34-5	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	24V	Tetrachloroethylene	127-18-4	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	25V	Toluene	108-88-3	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	26V	1,2-Trans-Dichloroethylene	156-60-5	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	27V	1,1,1,-Trichloroethane	71-55-6	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	28V	1,1,2-Trichloroethane	79-00-5	VOC	<0.333						3	ug/L	lbs		Comment No. 95
051	TA50-1	29V	Trichloroethylene	79-01-6	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	30V	trichlorofluoromethane	75-69-4									ug/L	lbs		Remanded See 40 CFR Part 122, Appendix D.
051	TA50-1	31V	Vinyl Chloride	75-01-4	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	1A	2-Chlorophenol	95-57-8	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	2A	2,4-Dichlorophenol	120-67-9	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	3A	2,4-Dimehtylphenol	105-67-9	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	4A	4,6-Dinitro-O-Cresol (2-methyl-4,6-dinitrophenol)	534-52-1	SVOC	<3.0						3	ug/L	lbs	50.00	Comment No. 95
051	TA50-1	5A	2,4-Dinitrophenol	51-28-5	SVOC	<5.0						3	ug/L	lbs	50.00	Comment No. 95
051	TA50-1	6A	2-Nitrophenol	88-75-5	SVOC	<3.0						3	ug/L	lbs		Comment No. 95
051	TA50-1	7A	4-Nitrophenol	100-02-7	SVOC	<3.0						3	ug/L	lbs		Comment No. 95
051	TA50-1	8A	P-Chloro-M-Cresol (Chloro-3-methylphenol[4-])	59-50-7	SVOC	<3.0						3	ug/L	lbs		Comment No. 95
051	TA50-1	9A	Pentachlorophenol	87-86-5	SVOC	<3.0						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	10A	Phenol	108-95-2	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	11A	2,4,6-Trichlorophenol	88-05-2	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	1B	Acenaphthene	83-32-9	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	2B	Acenaphtylene	208-96-8	SVOC	<0.3						3	ug/L	lbs		Comment No. 95
051	TA50-1	3B	Anthracene	120-12-7	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	4B	Benzidine	92-87-5	SVOC	<3.9						3	ug/L	lbs	50.00	Comment No. 95
051	TA50-1	5B	Benzo(a)Anthracene	56-55-3	SVOC	<0.3						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	6B	Benzo(a)Pyrene	50-32-8	SVOC	<0.3						3	ug/L	lbs	5.00	Comment No. 95

Form 2C Crosswalk to the Effluent Data from the Outfall 051 Discharges [June 2019, March 2020, August 2020)

051	TA50-1	7B	3,4-BenzoFluoranthene	205-99-2	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	8B	Benzo(ghi)Perylene	191-24-2	SVOC	<0.3						3	ug/L	lbs		Comment No. 95
051	TA50-1	9B	Benzo(k)Fluoranthene	207-08-9	SVOC	<0.3						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	10B	Bis((2-Chloro-ethoxy)methane	111-91-1	SVOC	<3.0						3	ug/L	lbs		Comment No. 95
051	TA50-1	11B	Bis(2-Chloroethyl)ether	111-44-4	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	12B	Bis(2-Chloroisopropyl)ether (Oxybis(1-chloropropane)[2,2'-])	108-60-1	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	13B	Bis(2-ethyl-hexyl)Phthalate	117-81-7	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	14B	4-BromophenylPhenylEther	101-55-3	SVOC	<3.0						3	ug/L	lbs		Comment No. 95
051	TA50-1	15B	ButylBenzylPhthalate	85-68-7	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	16B	2-Chloronaphthalene	91-58-7	SVOC	<0.410						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	17B	4-Chlorophenyl Phenyl Ether	7005-72-3	SVOC	<3.0						3	ug/L	lbs		Comment No. 95
051	TA50-1	18B	Chrysene	218-01-9	SVOC	<0.3						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	19B	Dibenzo(a,h)Anthracene	53-70-3	SVOC	<0.3						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	20B	1,2-Dichlorobenzene	95-50-1	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	21B	1,3-Dichlorobenzene	541-73-1	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	22B	1,4-Dichlorobenzene	106-46-7	VOC	<0.333						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	23B	3,3-Dichlorobenzidine	91-94-1	SVOC	<3.0						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	24B	Diethylphthalate	84-66-2	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	25B	Dimethylphthalate	131-11-3	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	26B	Di-N-ButylPhthalate	84-74-2	SVOC	0.520	9.26E-05					3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	27B	2,4-DinitroToluene	121-14-2	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	28B	2,6-Dinitrotoluene	606-20-2	SVOC	<3.0						3	ug/L	lbs		Comment No. 95
051	TA50-1	29B	Di-N-Octyl Phthalate	117-84-0	SVOC	<0.3						3	ug/L	lbs		Comment No. 95
051	TA50-1	30B	1,2-Diphenylhydrazine	122-66-7	SVOC	<3.0						1	ug/L	lbs	20.00	Comment No. 95
051	TA50-1	31B	Fluoranthene	206-44-0	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	32B	Fluorene	86-73-7	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	33B	Hexachlorobenzene	118-74-1	SVOC	<3.0						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	34B	Hexachlorobutadiene	87-68-3	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	35B	Hexachlorocyclopentadiene	77-47-4	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	36B	Hexachloroethane	67-72-1	SVOC	<3.0						3	ug/L	lbs	20.00	Comment No. 95
051	TA50-1	37B	Indeno(1,2,3-cd)Pyrene	193-39-5	SVOC	<0.3						3	ug/L	lbs	5.00	Comment No. 95
051	TA50-1	38B	Isophorone	78-59-1	SVOC	<3.5						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	39B	Naphthalene	91-20-3	SVOC	<0.3						3	ug/L	lbs		Comment No. 95
051	TA50-1	40B	Nitrobenzene	98-95-3	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	41B	N-Nitrosodimethylamine	62-75-9	SVOC	0.02	3.30E-06					4	ug/L	lbs	50.00	Comment No. 95
051	TA50-1	42B	N-Nitrosodi-N-Propylamine	621-64-7	SVOC	<0.00018						4	ug/L	lbs	20.00	Comment No. 95
051	TA50-1	43B	N-Nitrosodiphenylamine (reported as diphenylamine)	86-30-6	SVOC	<3.0						3	ug/L	lbs	20.00	Comment No. 95
051	TA50-1	44B	Phenanthrene	85-01-8	SVOC	<0.3						3	ug/L	lbs		Comment No. 95
051	TA50-1	45B	Pyrene	129-00-0	SVOC	<0.3						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	46B	1,2,4-Trichlorobenzene	120-82-1	SVOC	<3.0						3	ug/L	lbs	10.00	Comment No. 95
051	TA50-1	1P	Aldrin	309-00-2	Pesticides	<0.00747						1	ug/L	lbs	0.01	Comment No. 95
051	TA50-1	2P	α-BHC	319-84-6	Pesticides	<0.00747						1	ug/L	lbs	0.05	Comment No. 95
051	TA50-1	3P	β-BHC	319-85-7	Pesticides	<0.00747						1	ug/L	lbs	0.05	Comment No. 95
051	TA50-1	4P	γ-BHC	58-89-9	Pesticides	<0.00747						1	ug/L	lbs	0.05	Comment No. 95
051	TA50-1	5P	δ-BHC	319-86-8	Pesticides	<0.00747						1	ug/L	lbs		Comment No. 95
051	TA50-1	6P	Chlordane	57-74-9	Pesticides	<0.0876						1	ug/L	lbs	0.20	Comment No. 95
051	TA50-1	7P	4,4-DDT	50-29-3	Pesticides	<0.0112						1	ug/L	lbs	0.02	Comment No. 95
051	TA50-1	8P	4,4-DDE	72-55-9	Pesticides	<0.0112						1	ug/L	lbs	0.02	Comment No. 95
051	TA50-1	9P	4,4-DDD	72-54-8	Pesticides	<0.0112						1	ug/L	lbs	0.02	Comment No. 95
051	TA50-1	10P	Dieldrin	60-57-1	Pesticides	<0.0112						1	ug/L	lbs	0.02	Comment No. 95
051	TA50-1	11P	α-Endosulfan	115-29-7	Pesticides	<0.00747						1	ug/L	lbs	0.01	Comment No. 95
051	TA50-1	12P	β-Endosulfan	115-29-7	Pesticides	<0.0112						1	ug/L	lbs	0.02	Comment No. 95
051	TA50-1	13P	Endosulfan Sulfate	1031-07-8	Pesticides	<0.0112						1	ug/L	lbs	0.02	Comment No. 95
051	TA50-1	14P	Endrin	72-20-8	Pesticides	<0.0112						1	ug/L	lbs	0.02	Comment No. 95
051	TA50-1	15P	Endrin Aldehyde	7421-93-4	Pesticides	<0.00747						1	ug/L	lbs	0.10	Comment No. 95
051	TA50-1	16P	Heptachlor	76-44-8	Pesticides	<0.00747						1	ug/L	lbs	0.01	Comment No. 95
051	TA50-1	17P	Heptachlor Epoxide	1024-57-3	Pesticides	<0.00747						1	ug/L	lbs	0.01	Comment No. 95
051	TA50-1	18P	PCB-1242	53469-21-9	PCBs	<0.0336						3	ug/L	lbs	0.20	Comment No. 95
051	TA50-1	19P	PCB-1254	11097-69-1	PCBs	<0.0336						3	ug/L	lbs	0.20	Comment No. 95

Form 2C Crosswalk to the Effluent Data from the Outfall 051 Discharges [June 2019, March 2020, August 2020)

051	TA50-1	20P	PCB-1221	11104-28-2	PCBs	<0.0336					3	ug/L	lbs	0.20	Comment No. 95
051	TA50-1	21P	PCB-1232	11141-16-5	PCBs	<0.0336					3	ug/L	lbs	0.20	Comment No. 95
051	TA50-1	22P	PCB-1248	12672-29-6	PCBs	<0.0336					3	ug/L	lbs	0.20	Comment No. 95
051	TA50-1	23P	PCB-1260	11096-82-5	PCBs	<0.0336					3	ug/L	lbs	0.20	Comment No. 95
051	TA50-1	24P	PCB-1016	12674-11-2	PCBs	<0.0336					3	ug/L	lbs	0.20	Comment No. 95
051	TA50-1	25P	Toxaphene	8001-35-2	Pesticides	<0.169					1	ug/L	lbs	0.30	Comment No. 95

a. The Form 2C provided with the 2019 permit application included data from an operational sample. This data is from discharges to the Outfall June 2019, March 2020, and August 2020.
b. Each effluent tank discharged to Outfall 051 is adjusted to increase the hardness to a value greater than 50 mg/L. This step is not performed for an effluent tank discharged to the evaporator.

CONVERSION FACTORS USED TO CALCULATE MASS

2 20E-06 lbs = 1 mg
0 264172 gal = 1 Liter
1 ug = 1e-3mg
1pg = 1e-9 mg

DEFINITIONS

U = not detected above the method detection limit
J = Value estimated by the laboratory
H = Preparation or preservation holding time was exceeded

Field Parameters

Date	Volume Discharged to Outfalll 051 (GPD)	pH	TRC	Sulfite
18-Jun-19	21,345	7.2	0	0
10-Mar-20	16,253	8.1	0	na
18-Aug-20	10,209	8.1	0	na

OUTFALL 051 - Radiological Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181609	06/18/2019	Adjusted Gross Alpha	-0.659	pCi/L		UF	Y	Radiological	NM0028355	EPA:900_CALC		-0.659		1
NP051-19-181609	06/18/2019	Americium-241	1.07	pCi/L		UF	Y	Radiological	NM0028355	HASL-300:AM-241		1.07		1
NP051-19-181609	06/18/2019	Plutonium-238	0.24	pCi/L		UF	Y	Radiological	NM0028355	HASL-300:ISOPU		0.24		1
NP051-19-181609	06/18/2019	Plutonium-239/240	0.507	pCi/L		UF	Y	Radiological	NM0028355	HASL-300:ISOPU		0.507		1
NP051-19-182717	06/18/2019	Strontium-90	0.26	pCi/L	U	UF	N	Radiological	NM0028355	EPA:905.0		0.26		1
NP051-19-182717	06/18/2019	Tritium	4460	pCi/L		UF	Y	Radiological	NM0028355	EPA:906.0		4460		1
NP051-19-181609	06/18/2019	Uranium-234	0.551	pCi/L		UF	Y	Radiological	NM0028355	HASL-300:ISOU		0.551		1
NP051-19-181609	06/18/2019	Uranium-235/236	-0.0000728	pCi/L	U	UF	N	Radiological	NM0028355	HASL-300:ISOU		-0.0000728		1
NP051-19-181609	06/18/2019	Uranium-238	0.507	pCi/L		UF	Y	Radiological	NM0028355	HASL-300:ISOU		0.507		1
NP051-19-181609	06/18/2019	Gross alpha	2.22	pCi/L		UF	Y	Radiological	Form 2C	EPA:900		2.22		1
NP051-19-181609	06/18/2019	Gross beta	14.5	pCi/L		UF	Y	Radiological	Form 2C	EPA:900		14.5		1
NP051-19-181578	06/18/2019	Radium-226	0.165	pCi/L	U	UF	N	Radiological	NM0028355	EPA:903.1				
NP051-19-181609	06/18/2019	Radium-226	0	pCi/L	U	UF	N	Radiological	NM0028355	EPA:903.1				
NP051-20-193488	03/10/2020	Radium-226	0.0697	pCi/L	U	UF	N	Radiological	NM0028355	EPA:903.1				
NP051-20-195177	03/10/2020	Radium-226	0.360	pCi/L		UF	Y	Radiological	NM0028355	EPA:903.1				
NP051-20-193493	08/18/2020	Radium-226	0.215	pCi/L	U	UF	N	Radiological	NM0028355	EPA:903.1				
NP051-20-205978	08/18/2020	Radium-226	0.384	pCi/L		UF	Y	Radiological	NM0028355	EPA:903.1	0.372	0.384	0.384	6
NP051-19-181578	06/18/2019	Radium-226 and Radium-228	0.484	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-19-181609	06/18/2019	Radium-226 and Radium-228	-0.58	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-20-193488	03/10/2020	Radium-226 and Radium-228	0.2437	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-20-195177	03/10/2020	Radium-226 and Radium-228	0.708	pCi/L	J	UF	N	Radiological	NM0028355	EPA:904		0.708		4
NP051-19-181578	06/18/2019	Radium-228	0.319	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-19-181609	06/18/2019	Radium-228	-0.58	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-20-193488	03/10/2020	Radium-228	0.174	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-20-195177	03/10/2020	Radium-228	0.348	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-20-193493	08/18/2020	Radium-228	0.216	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904				
NP051-20-205978	08/18/2020	Radium-228	0.0797	pCi/L	U	UF	N	Radiological	NM0028355	EPA:904		<0.348		6

OUTFALL 051 - General Chemistry Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181609	06/18/2019	Ammonia as Nitrogen	1.17	mg/L		UF	Y	Gen Chem	Form 2C	EPA:350.1		1.17		1
NP051-19-181616	06/18/2019	Biochemical Oxygen Demand	1.00	mg/L	Ud	UF	N	Gen Chem	Form 2C	SM:5210B		<1.0		1
NP051-19-181609	06/18/2019	Bromide	0.067	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:300.0		<0.067		1
NP051-19-181609	06/18/2019	Chemical Oxygen Demand	15.5	mg/L	J	UF	Y	Gen Chem	Form 2C	EPA:410.4				
NP051-20-192659	03/10/2020	Chemical Oxygen Demand	8.95	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:410.4				
NP051-20-192664	08/18/2020	Chemical Oxygen Demand	14.8	mg/L	J	UF	N	Gen Chem	Form 2C	EPA:410.4		15.5		3
NP051-19-181609	06/18/2019	Color	5.00	PCU	UH	UF	N	Gen Chem	Form 2C	SM:2120B		<5.0		1
NP051-19-181578	06/18/2019	Cyanide (Total)	0.00167	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:335.4				
NP051-19-181609	06/18/2019	Cyanide (Total)	0.00167	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:335.4				
NP051-20-193488	03/10/2020	Cyanide (Total)	0.00167	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:335.4				
NP051-20-193493	08/18/2020	Cyanide (Total)	0.00167	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:335.4		<0.00167		4
NP051-19-181621	06/18/2019	Escherichia coli	1	cfu/100ml	U	UF	N	Gen Chem	Form 2C	EPA:1603		<1		1
NP051-19-181578	06/18/2019	Fluoride	0.116	mg/L		UF	Y	Gen Chem	Form 2C	EPA:300.0				
NP051-19-181609	06/18/2019	Fluoride	0.120	mg/L		UF	Y	Gen Chem	Form 2C	EPA:300.0				
NP051-20-193512	03/10/2020	Fluoride	0.0330	mg/L	U	F	N	Gen Chem	Form 2C	EPA:300.0				
NP051-20-193517	08/18/2020	Fluoride	0.134	mg/L		F	Y	Gen Chem	Form 2C	EPA:300.0	0.123	0.134	0.134	4
NP051-19-181578	06/18/2019	Nitrate-Nitrite as Nitrogen	7.63	mg/L		UF	Y	Gen Chem	Form 2C	EPA:353.2				
NP051-19-181609	06/18/2019	Nitrate-Nitrite as Nitrogen	7.36	mg/L		UF	Y	Gen Chem	Form 2C	EPA:353.2				
NP051-20-193512	03/10/2020	Nitrate-Nitrite as Nitrogen	0.320	mg/L		F	Y	Gen Chem	Form 2C	EPA:353.2				
NP051-20-193517	08/18/2020	Nitrate-Nitrite as Nitrogen	0.860	mg/L		F	Y	Gen Chem	Form 2C	EPA:353.2	4.04	7.63	7.50	4
NP051-19-182855	06/18/2019	Nonylphenol	5	ug/L	U	UF	N	Gen Chem	NMWQS	ASTM:D7065-06		<5.0		1
NP051-19-181609	06/18/2019	Oil and Grease	1.41	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:1664A		<1.41		1
NP051-19-181578	06/18/2019	Perchlorate	0.050	ug/L	U	UF	N	Gen Chem	NM0028355	SW-846:6850				
NP051-19-181609	06/18/2019	Perchlorate	0.050	ug/L	U	UF	N	Gen Chem	NM0028355	SW-846:6850				
NP051-20-193488	03/10/2020	Perchlorate	0.0500	ug/L	U	UF	N	Gen Chem	NM0028355	SW-846:6850				
NP051-20-195177	03/10/2020	Perchlorate	0.0500	ug/L	U	UF	N	Gen Chem	NM0028355	SW-846:6850				
NP051-20-193493	08/18/2020	Perchlorate	0.0500	ug/L	U	UF	N	Gen Chem	NM0028355	SW-846:6850				
NP051-20-205978	08/18/2020	Perchlorate	0.0500	ug/L	U	UF	N	Gen Chem	NM0028355	SW-846:6850		<0.050		6
NP051-19-181578	06/18/2019	Sulfate	7.04	mg/L		UF	Y	Gen Chem	Form 2C	EPA:300.0				
NP051-19-181609	06/18/2019	Sulfate	7.00	mg/L		UF	Y	Gen Chem	Form 2C	EPA:300.0				
NP051-20-193512	03/10/2020	Sulfate	0.269	mg/L	J	F	Y	Gen Chem	Form 2C	EPA:300.0				
NP051-20-193517	08/18/2020	Sulfate	6.20	mg/L		F	Y	Gen Chem	Form 2C	EPA:300.0	5.13	7.04	7.02	4
NP051-19-181609	06/18/2019	Sulfide, Total	0.033	mg/L	U	UF	N	Gen Chem	Form 2C	SM:4500S		<0.033		1
NP051-19-181609	06/18/2019	Surfactants	0.0395	mg/L	HJ	UF	Y	Gen Chem	Form 2C	SM:5540C	0.0395	0.0395	0.0395	1
NP051-19-181578	06/18/2019	Total Dissolved Solids	143	mg/L		UF	Y	Gen Chem	NMWQS	EPA:160.1				
NP051-20-193512	03/10/2020	Total Dissolved Solids	154	mg/L		F	Y	Gen Chem	NMWQS	EPA:160.1				
NP051-20-193517	08/18/2020	Total Dissolved Solids	159	mg/L		F	Y	Gen Chem	NMWQS	EPA:160.1	152	159	159	3
NP051-19-181578	06/18/2019	Total Kjeldahl Nitrogen	1.69	mg/L		UF	Y	Gen Chem	Form 2C	EPA:351.2				
NP051-19-181609	06/18/2019	Total Kjeldahl Nitrogen	1.49	mg/L		UF	Y	Gen Chem	Form 2C	EPA:351.2				
NP051-20-193488	03/10/2020	Total Kjeldahl Nitrogen	1.38	mg/L		UF	Y	Gen Chem	Form 2C	EPA:351.2				
NP051-20-193493	08/18/2020	Total Kjeldahl Nitrogen	0.257	mg/L		UF	Y	Gen Chem	Form 2C	EPA:351.2	1.20	1.69	1.59	4
NP051-19-181609	06/18/2019	Total Organic Carbon	0.660	mg/L	U	UF	N	Gen Chem	Form 2C	SM:5310B		<0.66		1
NP051-19-181609	06/18/2019	Total Phosphate as Phosphorus	0.020	mg/L	U	UF	N	Gen Chem	Form 2C	EPA:365.4		<0.02		1
NP051-19-181609	06/18/2019	Total Recoverable Phenolics	1.67	ug/L	U	UF	N	Gen Chem	Form 2C	EPA:420.4		<1.67		1
NP051-19-181616	06/18/2019	Total Suspended Solids	0.570	mg/L	U	UF	N	Gen Chem	Form 2C	SM:2540D				
NP051-20-192659	03/10/2020	Total Suspended Solids	1.12	mg/L	U	UF	N	Gen Chem	Form 2C	SM:2540D				
NP051-20-192664	08/18/2020	Total Suspended Solids	1.60	mg/L	J	UF	Y	Gen Chem	Form 2C	SM:2540D		1.600		3

OUTFALL 051 - Metals Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181578	06/18/2019	Aluminum	19.3	ug/L	U	UF	N	Metal	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Aluminum	19.3	ug/L	U	UF	N	Metal	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Aluminum	19.3	ug/L	U	UF	N	Metal	Form 2C	EPA:200.8		<19.3		3
NP051-19-182718	06/18/2019	Aluminum (dissolved)	19.3	ug/L	U	F	N	Metal	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Aluminum (dissolved)	19.3	ug/L	U	F	N	Metal	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Aluminum (dissolved)	19.3	ug/L	U	F	N	Metal	NMWQS	EPA:200.8		<19.3		3
NP051-19-181613	06/18/2019	Aluminum (total recoverable)	19.3	ug/L	U	F10u	N	Metal	NM0028355	EPA:200.8		<19.3		1
NP051-19-181578	06/18/2019	Antimony	1.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Antimony	1.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Antimony	1.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<1.0		3
NP051-19-182718	06/18/2019	Antimony (dissolved)	1.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Antimony (dissolved)	1.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Antimony (dissolved)	1.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<1.0		3
NP051-19-181578	06/18/2019	Arsenic	2.00	ug/L	U	UF	N	Metals	Metals	EPA:200.8				
NP051-19-181616	06/18/2019	Arsenic	2.00	ug/L	U	UF	N	Metals	Metals	EPA:200.8				
NP051-19-181617	06/18/2019	Arsenic	2.00	ug/L	U	UF	N	Metals	Metals	EPA:200.8		<2.0		3
NP051-19-182718	06/18/2019	Arsenic (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Arsenic (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Arsenic (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<2.0		3
NP051-19-181578	06/18/2019	Barium	1.54	ug/L	J	UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Barium	1.73	ug/L	J	UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Barium	1.87	ug/L	J	UF	Y	Metals	Form 2C	EPA:200.8	1.71	1.87	1.87	3
NP051-19-182718	06/18/2019	Barium (dissolved)	1.51	ug/L	J	F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Barium (dissolved)	0.780	ug/L	J	F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Barium (dissolved)	0.937	ug/L	J	F	Y	Metals	NMWQS	EPA:200.8	1.08	1.51	1.51	3
NP051-19-181578	06/18/2019	Beryllium	0.200	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Beryllium	0.200	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Beryllium	0.200	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<0.2		3
NP051-19-182718	06/18/2019	Beryllium (dissolved)	0.200	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Beryllium (dissolved)	0.200	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Beryllium (dissolved)	0.200	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<0.2		3
NP051-19-181578	06/18/2019	Boron	85.7	ug/L		UF	Y	Metals	Form 2C	EPA:200.7				
NP051-19-181616	06/18/2019	Boron	92.9	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Boron	93.8	ug/L		UF	Y	Metals	Form 2C	EPA:200.8	90.80	93.80	93.8	3
NP051-19-182718	06/18/2019	Boron (dissolved)	93.2	ug/L		F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Boron (dissolved)	15.0	ug/L	U	F	N	Metals	NMWQS	EPA:200.7				
NP051-20-193517	08/18/2020	Boron (dissolved)	18.6	ug/L	J	F	Y	Metals	NMWQS	EPA:200.7	55.90	93.20	93.2	3
NP051-19-181578	06/18/2019	Cadmium	0.300	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Cadmium	0.300	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Cadmium	0.300	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-195079	03/10/2020	Cadmium	0.300	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<0.3		4
NP051-19-182718	06/18/2019	Cadmium (dissolved)	0.300	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Cadmium (dissolved)	0.300	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Cadmium (dissolved)	0.300	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<0.3		3
NP051-19-181578	06/18/2019	Chromium	3.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Chromium	3.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Chromium	3.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				

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Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195177	03/10/2020	Chromium	3.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-205978	08/18/2020	Chromium	3.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<3.0		5
NP051-19-182718	06/18/2019	Chromium (dissolved)	3.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Chromium (dissolved)	3.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Chromium (dissolved)	3.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<3.0		3
NP051-19-181616	06/18/2019	Chromium hexavalent ion	3	ug/L	UH	UF	N	Metals	NM0028355	SM:3500 Cr-B		<3.0		1
NP051-19-181616	06/18/2019	Chromium trivalent	3.000	ug/L	U	UF	N	Metals	NM0028355	Cr(III)_calculated		<3.0		
NP051-19-181578	06/18/2019	Cobalt	1	ug/L		UF	Y	Metals	Metals	EPA:200.8				
NP051-19-181616	06/18/2019	Cobalt	0.914	ug/L	J	UF	Y	Metals	Metals	EPA:200.8				
NP051-19-181617	06/18/2019	Cobalt	0.905	ug/L	J	UF	Y	Metals	Metals	EPA:200.8	0.94	1.00	1	3
NP051-19-182718	06/18/2019	Cobalt (dissolved)	1.62	ug/L		F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Cobalt (dissolved)	0.424	ug/L	J	F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Cobalt (dissolved)	1.02	ug/L		F	Y	Metals	NMWQS	EPA:200.8	1.02	1.62	1.62	3
NP051-19-181578	06/18/2019	Copper	11	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Copper	10.6	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Copper	10.2	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-20-195184	03/10/2020	Copper	1.01	ug/L	J	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-205987	08/18/2020	Copper	4.94	ug/L		UF	Y	Metals	Form 2C	EPA:200.8	6	11	11	5
NP051-19-182718	06/18/2019	Copper (dissolved)	10.4	ug/L		F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Copper (dissolved)	0.669	ug/L	J	F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Copper (dissolved)	3.28	ug/L		F	Y	Metals	NMWQS	EPA:200.8	4.78	10.40	10.4	3
NP051-19-181616	06/18/2019	Hardness	77.4	mg/L		UF	Y	Metals	NM0028355	SM:A2340B				
NP051-19-181617	06/18/2019	Hardness	74.4	mg/L		UF	Y	Metals	NM0028355	SM:A2340B				
NP051-20-195184	03/10/2020	Hardness	83.8	mg/L		UF	Y	Metals	NM0028355	SM:A2340B				
NP051-20-205987	08/18/2020	Hardness	65.1	mg/L		UF	Y	Metals	NM0028355	SM:A2340B	75.2	83.8	83.8	4
NP051-19-182718	06/18/2019	Hardness (dissolved)	77.1	mg/L		F	Y	Metals	NMWQS	SM:A2340B		77.1		1
NP051-19-181578	06/18/2019	Iron	44.9	ug/L	J	UF	Y	Metals	Form 2C	EPA:200.7				
NP051-19-181616	06/18/2019	Iron	46.4	ug/L	J	UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Iron	44.8	ug/L	J	UF	Y	Metals	Form 2C	EPA:200.8	45.37	46.40	46.4	3
NP051-19-182718	06/18/2019	Iron (dissolved)	33.0	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Iron (dissolved)	30.0	ug/L	U	F	N	Metals	NMWQS	EPA:200.7				
NP051-20-193517	08/18/2020	Iron (dissolved)	30.0	ug/L	U	F	N	Metals	NMWQS	EPA:200.7		<33		3
NP051-19-181578	06/18/2019	Lead	0.500	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Lead	0.524	ug/L	J	UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Lead	0.500	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-195177	03/10/2020	Lead	0.500	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-205978	08/18/2020	Lead	0.500	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		0.524		5
NP051-19-182718	06/18/2019	Lead (dissolved)	0.500	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Lead (dissolved)	0.500	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Lead (dissolved)	0.500	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<0.5		
NP051-19-181616	06/18/2019	Magnesium	13.3	mg/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Magnesium	12.8	mg/L		UF	Y	Metals	Form 2C	EPA:200.8	13.1	13.3	13.3	2
NP051-19-182718	06/18/2019	Magnesium (dissolved)	13.2	mg/L		F	Y	Metals	NMWQS	EPA:200.8		13.2		1
NP051-19-181578	06/18/2019	Manganese	21.4	ug/L		UF	Y	Metals	Form 2C	EPA:200.7				
NP051-19-181616	06/18/2019	Manganese	20.8	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Manganese	20.4	ug/L		UF	Y	Metals	Form 2C	EPA:200.8	20.87	21.40	21.4	3
NP051-19-182718	06/18/2019	Manganese (dissolved)	23	ug/L		F	Y	Metals	NMWQS	EPA:200.8				

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Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-193512	03/10/2020	Manganese (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.7				
NP051-20-193517	08/18/2020	Manganese (dissolved)	3.69	ug/L	J	F	Y	Metals	NMWQS	EPA:200.7	13	23	23	3
NP051-19-181578	06/18/2019	Mercury	0.067	ug/L	U	UF	N	Metals	Form 2C	EPA:245.2				
NP051-19-181616	06/18/2019	Mercury	0.067	ug/L	U	UF	N	Metals	Form 2C	EPA:245.2				
NP051-19-181617	06/18/2019	Mercury	0.067	ug/L	U	UF	N	Metals	Form 2C	EPA:245.2				
NP051-20-193488	03/10/2020	Mercury	0.0670	ug/L	U	UF	N	Metals	Form 2C	EPA:245.2				
NP051-20-195079	03/10/2020	Mercury	0.0670	ug/L	U	UF	N	Metals	Form 2C	EPA:245.2				
NP051-20-193493	08/18/2020	Mercury	0.0670	ug/L	U	UF	N	Metals	Form 2C	EPA:245.2		<0.067		6
NP051-20-193512	03/10/2020	Mercury (dissolved)	0.0670	ug/L	U	F	N	Metals	NMWQS	EPA:245.2				
NP051-20-193517	08/18/2020	Mercury (dissolved)	0.0670	ug/L	U	F	N	Metals	NMWQS	EPA:245.2		<0.067		2
NP051-19-181578	06/18/2019	Molybdenum	0.200	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Molybdenum	0.200	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Molybdenum	0.200	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<0.2		3
NP051-19-182718	06/18/2019	Molybdenum (dissolved)	0.200	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Molybdenum (dissolved)	0.200	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Molybdenum (dissolved)	0.200	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<0.2		3
NP051-19-181578	06/18/2019	Nickel	6.59	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Nickel	6.22	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Nickel	5.98	ug/L		UF	Y	Metals	Form 2C	EPA:200.8				
NP051-20-195079	03/10/2020	Nickel	0.600	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8	6.19	6.59	6.41	4
NP051-19-182718	06/18/2019	Nickel (dissolved)	6.51	ug/L		F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Nickel (dissolved)	0.600	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Nickel (dissolved)	0.600	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		6.51		3
NP051-19-181616	06/18/2019	Potassium	0.813	mg/L		UF	Y	Metals	NMWQS	EPA:200.8				
NP051-19-181617	06/18/2019	Potassium	0.802	mg/L		UF	Y	Metals	NMWQS	EPA:200.8	0.808	0.813	0.813	2
NP051-19-182718	06/18/2019	Potassium (dissolved)	0.896	mg/L		F	Y	Metals	NMWQS	EPA:200.8		0.896		1
NP051-19-181578	06/18/2019	Selenium	2.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Selenium	2.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Selenium	2.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-195079	03/10/2020	Selenium	2.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<2.0		4
NP051-19-182718	06/18/2019	Selenium (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Selenium (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Selenium (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<2.0		3
NP051-19-181578	06/18/2019	Silver	0.300	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Silver	0.300	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Silver	0.300	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<0.3		3
NP051-19-182718	06/18/2019	Silver (dissolved)	0.300	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Silver (dissolved)	0.300	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Silver (dissolved)	0.300	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<0.3		3
NP051-19-181578	06/18/2019	Thallium	0.600	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181616	06/18/2019	Thallium	0.600	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Thallium	0.600	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<0.6		3
NP051-19-182718	06/18/2019	Thallium (dissolved)	0.600	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Thallium (dissolved)	0.600	ug/L	U	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Thallium (dissolved)	0.600	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<0.6		3
NP051-19-181616	06/18/2019	Tin	1.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Tin	1.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<1.0		2

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Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-182718	06/18/2019	Tin (dissolved)	1.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<1.0		1
NP051-19-181616	06/18/2019	Titanium	2.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Titanium	2.00	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8		<2.0		2
NP051-19-182718	06/18/2019	Titanium (dissolved)	2.00	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<2.0		1
NP051-19-181578	06/18/2019	Uranium	0.17	ug/L	J	UF	Y	Metals	NMWQS	EPA:200.8		0.17		1
NP051-20-193512	03/10/2020	Uranium (dissolved)	0.367	ug/L		F	Y	Metals	NMWQS	EPA:200.8				
NP051-20-193517	08/18/2020	Uranium (dissolved)	0.453	ug/L		F	Y	Metals	NMWQS	EPA:200.8	0.410	0.453	0.453	2
NP051-19-181616	06/18/2019	Vanadium	3.30	ug/L	U	UF	N	Metals	NMWQS	EPA:200.8				
NP051-19-181617	06/18/2019	Vanadium	3.30	ug/L	U	UF	N	Metals	NMWQS	EPA:200.8		<3.3		2
NP051-19-182718	06/18/2019	Vanadium (dissolved)	3.30	ug/L	U	F	N	Metals	NMWQS	EPA:200.8		<3.3		1
NP051-19-181578	06/18/2019	Zinc	7.79	ug/L	J	UF	N	Metals	Form 2C	EPA:200.7				
NP051-19-181616	06/18/2019	Zinc	7.07	ug/L	J	UF	N	Metals	Form 2C	EPA:200.8				
NP051-19-181617	06/18/2019	Zinc	6.94	ug/L	J	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-195184	03/10/2020	Zinc	3.30	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8				
NP051-20-205987	08/18/2020	Zinc	3.30	ug/L	U	UF	N	Metals	Form 2C	EPA:200.8	7.27	7.79	7.27	5
NP051-19-182718	06/18/2019	Zinc (dissolved)	7.61	ug/L	J	F	N	Metals	NMWQS	EPA:200.8				
NP051-20-193512	03/10/2020	Zinc (dissolved)	3.44	ug/L	J	F	Y	Metals	NMWQS	EPA:200.7				
NP051-20-193517	08/18/2020	Zinc (dissolved)	3.47	ug/L	J	F	Y	Metals	NMWQS	EPA:200.7	3.46	3.47	3.47	3

OUTFALL 051 - Dioxin Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181618	06/18/2019	Tetrachlorodibenzodioxin[2,3,7,8-]	0.0000103	ug/L	U	UF	N	Dioxin	Form 2C	EPA:1613B		<0.0000103		1

OUTFALL 051 - VOC Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181609	06/18/2019	Acrolein	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Acrolein	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Acrolein	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<1.67		3
NP051-19-181609	06/18/2019	Acrylonitrile	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Acrylonitrile	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Acrylonitrile	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<1.67		3
NP051-19-181609	06/18/2019	Benzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Benzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Benzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Bromodichloromethane	0.92	ug/L	J	UF	Y	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Bromodichloromethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Bromodichloromethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		0.92		3
NP051-19-181609	06/18/2019	Bromoform	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Bromoform	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Bromoform	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Bromomethane	0.337	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Bromomethane	0.337	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Bromomethane	0.337	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.337		3
NP051-19-181609	06/18/2019	Carbon Tetrachloride	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Carbon Tetrachloride	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Carbon Tetrachloride	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Chlorobenzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Chlorobenzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Chlorobenzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Chlorodibromomethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Chlorodibromomethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Chlorodibromomethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Chloroethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Chloroethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Chloroethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Chloroethyl vinyl ether[2-]	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Chloroethyl vinyl ether[2-]	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Chloroethyl vinyl ether[2-]	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<1.67		3
NP051-19-181609	06/18/2019	Chloroform	12	ug/L		UF	Y	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Chloroform	1.63	ug/L		UF	Y	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Chloroform	1.57	ug/L		UF	Y	VOC	Form 2C	EPA:624.1	5	12	12	3
NP051-19-181609	06/18/2019	Chloromethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Chloromethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Chloromethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichlorobenzene[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichlorobenzene[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichlorobenzene[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichlorobenzene[1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichlorobenzene[1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichlorobenzene[1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichlorobenzene[1,4-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichlorobenzene[1,4-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichlorobenzene[1,4-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-20-192659	03/10/2020	Dichlorodifluoromethane	0.355	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.355		1

OUTFALL 051 - VOC Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181609	06/18/2019	Dichloroethane[1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichloroethane[1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichloroethane[1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichloroethane[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichloroethane[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichloroethane[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichloroethene[1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichloroethene[1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichloroethene[1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichloroethene[trans-1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichloroethene[trans-1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichloroethene[trans-1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichloropropane[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichloropropane[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichloropropane[1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichloropropene[cis-1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichloropropene[cis-1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichloropropene[cis-1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Dichloropropene[trans-1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Dichloropropene[trans-1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Dichloropropene[trans-1,3-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Ethylbenzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Ethylbenzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Ethylbenzene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Methylene Chloride	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Methylene Chloride	5.07	ug/L		UF	Y	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Methylene Chloride	1.67	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		5.07		3
NP051-19-181609	06/18/2019	Oxybis(1-chloropropane)[2,2'-]	1.67	ug/L	U	UF	N	VOC		EPA:624.1				
NP051-20-192659	03/10/2020	Oxybis(1-chloropropane)[2,2'-]	1.67	ug/L	U	UF	N	VOC		EPA:624.1		<1.67		2
NP051-19-181609	06/18/2019	Tetrachloroethane[1,1,2,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Tetrachloroethane[1,1,2,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Tetrachloroethane[1,1,2,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Tetrachloroethene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Tetrachloroethene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Tetrachloroethene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Toluene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Toluene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Toluene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Trichloroethane[1,1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Trichloroethane[1,1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Trichloroethane[1,1,1-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Trichloroethane[1,1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Trichloroethane[1,1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Trichloroethane[1,1,2-]	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-19-181609	06/18/2019	Trichloroethene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192659	03/10/2020	Trichloroethene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Trichloroethene	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3
NP051-20-192659	03/10/2020	Trichlorofluoromethane	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		1
NP051-19-181609	06/18/2019	Vinyl Chloride	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				

OUTFALL 051 - VOC Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-192659	03/10/2020	Vinyl Chloride	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1				
NP051-20-192664	08/18/2020	Vinyl Chloride	0.333	ug/L	U	UF	N	VOC	Form 2C	EPA:624.1		<0.333		3

OUTFALL 051 - SVOC Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181609	06/18/2019	Acenaphthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Acenaphthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Acenaphthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Acenaphthylene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Acenaphthylene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Acenaphthylene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-20-192659	03/10/2020	Azobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Azobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		2
NP051-19-181609	06/18/2019	Benzidine	3.90	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Benzidine	3.90	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Benzidine	3.90	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.9		3
NP051-19-181609	06/18/2019	Benzo(a)anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Benzo(a)anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Benzo(a)anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Benzo(a)pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Benzo(a)pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Benzo(a)pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Benzo(b)fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Benzo(b)fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Benzo(b)fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Benzo(g,h,i)perylene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Benzo(g,h,i)perylene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Benzo(g,h,i)perylene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Benzo(k)fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Benzo(k)fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Benzo(k)fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Bis(2-chloroethoxy)methane	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Bis(2-chloroethoxy)methane	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Bis(2-chloroethoxy)methane	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Bis(2-chloroethyl)ether	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Bis(2-chloroethyl)ether	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Bis(2-chloroethyl)ether	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Bis(2-ethylhexyl)phthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Bis(2-ethylhexyl)phthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Bis(2-ethylhexyl)phthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Bromophenyl-phenylether[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Bromophenyl-phenylether[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Bromophenyl-phenylether[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Butylbenzylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Butylbenzylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Butylbenzylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Chloro-3-methylphenol[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Chloro-3-methylphenol[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				

OUTFALL 051 - SVOC Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-192664	08/18/2020	Chloro-3-methylphenol[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Chloronaphthalene[2-]	0.410	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Chloronaphthalene[2-]	0.410	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Chloronaphthalene[2-]	0.410	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.410		3
NP051-19-181609	06/18/2019	Chlorophenol[2-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Chlorophenol[2-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Chlorophenol[2-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Chlorophenyl-phenyl[4-] Ether	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Chlorophenyl-phenyl[4-] Ether	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Chlorophenyl-phenyl[4-] Ether	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Chrysene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Chrysene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Chrysene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Dibenz(a,h)anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dibenz(a,h)anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dibenz(a,h)anthracene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Dichlorobenzidine[3,3'-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dichlorobenzidine[3,3'-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dichlorobenzidine[3,3'-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Dichlorophenol[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dichlorophenol[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dichlorophenol[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Diethylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Diethylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Diethylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Dimethyl Phthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dimethyl Phthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dimethyl Phthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Dimethylphenol[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dimethylphenol[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dimethylphenol[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Di-n-butylphthalate	0.52	ug/L	J	UF	Y	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Di-n-butylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Di-n-butylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		0.52		3
NP051-19-181609	06/18/2019	Dinitro-2-methylphenol[4,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dinitro-2-methylphenol[4,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dinitro-2-methylphenol[4,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Dinitrophenol[2,4-]	5.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dinitrophenol[2,4-]	5.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dinitrophenol[2,4-]	5.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<5.0		3
NP051-19-181609	06/18/2019	Dinitrotoluene[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dinitrotoluene[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dinitrotoluene[2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Dinitrotoluene[2,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Dinitrotoluene[2,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Dinitrotoluene[2,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3

OUTFALL 051 - SVOC Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181609	06/18/2019	Di-n-octylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Di-n-octylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Di-n-octylphthalate	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Diphenylamine	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Diphenylamine	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Diphenylamine	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Diphenylhydrazine[1,2-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		1
NP051-19-181609	06/18/2019	Fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Fluoranthene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Fluorene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Fluorene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Fluorene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Hexachlorobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Hexachlorobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Hexachlorobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Hexachlorobutadiene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Hexachlorobutadiene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Hexachlorobutadiene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Hexachlorocyclopentadiene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Hexachlorocyclopentadiene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Hexachlorocyclopentadiene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Hexachloroethane	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Hexachloroethane	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Hexachloroethane	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Indeno(1,2,3-cd)pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Indeno(1,2,3-cd)pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Indeno(1,2,3-cd)pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Isophorone	3.50	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Isophorone	3.50	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Isophorone	3.50	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.5		3
NP051-19-181609	06/18/2019	Naphthalene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Naphthalene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Naphthalene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Nitrobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Nitrobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Nitrobenzene	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Nitrophenol[2-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Nitrophenol[2-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Nitrophenol[2-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Nitrophenol[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Nitrophenol[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Nitrophenol[4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Nitrosodimethylamine[N-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Nitrosodimethylamine[N-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-193480	03/10/2020	Nitrosodimethylamine[N-]	0.0185	ug/L		UF	Y	SVOC	NMWQS	Nitrosamines:HRMS				

OUTFALL 051 - SVOC Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-192664	08/18/2020	Nitrosodimethylamine[N-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		0.0185		4
NP051-19-181609	06/18/2019	Nitroso-di-n-propylamine[N-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Nitroso-di-n-propylamine[N-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-193480	03/10/2020	Nitroso-di-n-propylamine[N-]	0.00018	ug/L	U	UF	N	SVOC	NMWQS	Nitrosamines:HRMS				
NP051-20-192664	08/18/2020	Nitroso-di-n-propylamine[N-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.00018		4
NP051-19-181609	06/18/2019	Oxybis(1-chloropropane)[2,2'-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Oxybis(1-chloropropane)[2,2'-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Oxybis(1-chloropropane)[2,2'-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Pentachlorophenol	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Pentachlorophenol	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Pentachlorophenol	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Phenanthrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Phenanthrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Phenanthrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Phenol	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Phenol	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Phenol	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Pyrene	0.300	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<0.3		3
NP051-19-181609	06/18/2019	Trichlorobenzene[1,2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Trichlorobenzene[1,2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Trichlorobenzene[1,2,4-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3
NP051-19-181609	06/18/2019	Trichlorophenol[2,4,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192659	03/10/2020	Trichlorophenol[2,4,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1				
NP051-20-192664	08/18/2020	Trichlorophenol[2,4,6-]	3.00	ug/L	U	UF	N	SVOC	Form 2C	EPA:625.1		<3.0		3

OUTFALL 051 - Pesticide Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Require ment	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181609	06/18/2019	Aldrin	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	BHC[alpha-]	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	BHC[beta-]	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	BHC[delta-]	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	BHC[gamma-]	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	Chlordane(alpha/gamma)	0.086	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0876		1
NP051-19-181609	06/18/2019	Chlordane[alpha-]	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	Chlordane[gamma-]	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	DDD[4,4'-]	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	DDE[4,4'-]	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	DDT[4,4'-]	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	Dieldrin	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	Endosulfan I	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	Endosulfan II	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	Endosulfan Sulfate	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	Endrin	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	Endrin Aldehyde	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	Endrin Ketone	0.0112	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0112		1
NP051-19-181609	06/18/2019	Heptachlor	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	Heptachlor Epoxide	0.00747	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.00747		1
NP051-19-181609	06/18/2019	Methoxychlor[4,4'-]	0.0562	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.0562		1
NP051-19-181609	06/18/2019	Toxaphene (Technical Grade)	0.169	ug/L	U	UF	N	Pesticide	Form 2C	EPA:608.3		<0.169		1

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Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-19-181578	06/18/2019	Aroclor-1016	0.034	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193488	03/10/2020	Aroclor-1016	0.0336	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193493	08/18/2020	Aroclor-1016	0.0333	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082		<0.0336		3
NP051-19-181578	06/18/2019	Aroclor-1221	0.034	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193488	03/10/2020	Aroclor-1221	0.0336	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193493	08/18/2020	Aroclor-1221	0.0333	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082		<0.0336		3
NP051-19-181578	06/18/2019	Aroclor-1232	0.034	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193488	03/10/2020	Aroclor-1232	0.0336	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193493	08/18/2020	Aroclor-1232	0.0333	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082		<0.0336		3
NP051-19-181578	06/18/2019	Aroclor-1242	0.034	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193488	03/10/2020	Aroclor-1242	0.0336	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193493	08/18/2020	Aroclor-1242	0.0333	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082		<0.0336		3
NP051-19-181578	06/18/2019	Aroclor-1248	0.034	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193488	03/10/2020	Aroclor-1248	0.0336	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193493	08/18/2020	Aroclor-1248	0.0333	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082		<0.0336		3
NP051-19-181578	06/18/2019	Aroclor-1254	0.034	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193488	03/10/2020	Aroclor-1254	0.0336	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193493	08/18/2020	Aroclor-1254	0.0333	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082		<0.0336		3
NP051-19-181578	06/18/2019	Aroclor-1260	0.034	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193488	03/10/2020	Aroclor-1260	0.0336	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082				
NP051-20-193493	08/18/2020	Aroclor-1260	0.0333	ug/L	U	UF	N	PCBs	Form 2C	SW-846:8082		<0.0336		3
NP051-19-181618	06/18/2019	Total PCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total PCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C		0		2
NP051-19-181618	06/18/2019	PCB-1	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-1	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-10	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-10	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-103	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-103	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-104	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-104	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-105	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-105	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-106	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-106	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-107	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-107	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-108/PCB-124	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-108/PCB-124	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-11	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-11	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-110/PCB-115	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-110/PCB-115	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-111	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-111	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-112	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-112	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-114	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

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Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195070	03/10/2020	PCB-114	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-118	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-118	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-12/PCB-13	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-12/PCB-13	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-120	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-120	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-121	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-121	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-122	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-122	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-123	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-123	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-126	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-126	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-127	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-127	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-128/PCB-166	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-128/PCB-166	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-129/PCB-138/PCB-163	0.00031	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-129/PCB-138/PCB-163	0.000314	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-130	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-130	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-131	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-131	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-132	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-132	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-133	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-133	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-134	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-134	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-135/PCB-151	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-135/PCB-151	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-136	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-136	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-137	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-137	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-139/PCB-140	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-139/PCB-140	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-14	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-14	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-141	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-141	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-142	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-142	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-143	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-143	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-144	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

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Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195070	03/10/2020	PCB-144	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-145	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-145	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-146	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-146	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-147/PCB-149	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-147/PCB-149	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-148	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-148	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-15	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-15	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-150	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-150	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-152	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-152	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-153/PCB-168	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-153/PCB-168	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-154	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-154	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-155	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-155	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-156/PCB-157	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-156/PCB-157	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-158	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-158	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-159	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-159	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-16	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-16	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-160	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-160	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-161	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-161	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-162	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-162	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-164	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-164	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-165	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-165	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-167	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-167	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-169	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-169	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-17	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-17	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-170	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-170	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-171/PCB-173	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

OUTFALL 051 - PCB Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195070	03/10/2020	PCB-171/PCB-173	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-172	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-172	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-174	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-174	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-175	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-175	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-176	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-176	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-177	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-177	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-178	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-178	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-179	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-179	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-18/PCB-30	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-18/PCB-30	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-180/PCB-193	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-180/PCB-193	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-181	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-181	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-182	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-182	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-183/PCB-185	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-183/PCB-185	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-184	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-184	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-186	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-186	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-187	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-187	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-188	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-188	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-189	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-189	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-19	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-19	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-190	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-190	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-191	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-191	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-192	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-192	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-194	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-194	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-195	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-195	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-196	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

OUTFALL 051 - PCB Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195070	03/10/2020	PCB-196	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-197/PCB-200	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-197/PCB-200	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-198/PCB-199	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-198/PCB-199	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-2	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-2	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-20/PCB-28	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-20/PCB-28	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-201	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-201	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-202	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-202	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-203	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-203	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-204	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-204	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-205	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-205	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-206	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-206	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-207	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-207	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-208	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-208	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-209	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-209	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-21/PCB-33	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-21/PCB-33	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-22	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-22	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-23	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-23	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-24	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-24	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-25	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-25	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-26/PCB-29	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-26/PCB-29	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-27	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-27	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-3	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-3	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-31	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-31	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-32	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-32	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-34	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

OUTFALL 051 - PCB Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195070	03/10/2020	PCB-34	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-35	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-35	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-36	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-36	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-37	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-37	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-38	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-38	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-39	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-39	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-4	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-4	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-40/PCB-71	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-40/PCB-71	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-41	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-41	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-42	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-42	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-43	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-43	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-44/PCB-47/PCB-65	0.00031	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-44/PCB-47/PCB-65	0.000314	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-45/PCB-51	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-45/PCB-51	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-46	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-46	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-48	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-48	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-49/PCB-69	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-49/PCB-69	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-5	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-5	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-50/PCB-53	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-50/PCB-53	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-52	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-52	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-54	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-54	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-55	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-55	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-56	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-56	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-57	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-57	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-58	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-58	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-59/PCB-62/PCB-75	0.00031	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

OUTFALL 051 - PCB Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195070	03/10/2020	PCB-59/PCB-62/PCB-75	0.000314	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-6	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-6	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-60	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-60	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-61/PCB-70/PCB-74/PCB-76	0.000413	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-61/PCB-70/PCB-74/PCB-76	0.000419	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-63	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-63	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-64	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-64	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-66	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-66	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-67	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-67	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-68	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-68	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-7	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-7	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-72	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-72	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-73	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-73	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-77	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-77	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-78	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-78	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-79	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-79	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-8	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-8	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-80	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-80	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-81	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-81	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-82	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-82	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-83	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-83	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-84	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-84	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-85/PCB-116/PCB-117	0.00031	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-85/PCB-116/PCB-117	0.000314	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-86/87/97/109/119/125	0.00062	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-86/87/97/109/119/125	0.000628	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-88/PCB-91	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-88/PCB-91	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-89	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

OUTFALL 051 - PCB Data From Discharges June 2019, March 2020, and August 2020

Sample ID	Date	Parameter	Result	Units	Qualifier	Filtered/ Unfiltered	Detected	Analysis	Requirement	Lab Method	Long Term Avg	Daily Max	30 Day Max	Total No. Samples
NP051-20-195070	03/10/2020	PCB-89	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-9	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-9	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-90/PCB-101/PCB-113	0.00031	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-90/PCB-101/PCB-113	0.000314	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-92	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-92	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-93/PCB-100	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-93/PCB-100	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-94	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-94	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-95	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-95	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-96	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-96	0.000157	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-98/PCB-102	0.000207	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-98/PCB-102	0.000209	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	PCB-99	0.000103	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	PCB-99	0.000105	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total decaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total decaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total diCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total diCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total heptaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total heptaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total hexaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total hexaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total monoCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total monoCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total nonaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total nonaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total octaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total octaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total pentaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total pentaCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total tetraCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total tetraCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-19-181618	06/18/2019	Total triCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				
NP051-20-195070	03/10/2020	Total triCB	0	ug/L	U	UF	N	PCB	NM0028355	EPA:1668C				

ENCLOSURE 6

Notices of Planned Change to Outfall 001 Submitted November 27, 2019 (EPC-DO-19-430) and July 16, 2020 (EPC-DO-20-221)

EPC-DO: 20-096

LA-UR-20-21143

OCT 28 2020

Date:_____

Los Alamos
NATIONAL LABORATORY
EST. 1943

Environmental Protection & Compliance Division
Compliance Programs Group
PO Box 1663, K490
Los Alamos, NM 87545
505-667-0666

Symbol: EPC-DO: 19-430
LA-UR: 19-31762
Locates Action No: N/A
Date: NOV 2 7 2019

Ms. Nancy Williams
U.S. Environmental Protection Agency, Region 6
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Subject: **Los Alamos National Laboratory, National Pollutant Discharge Elimination System, Permit No. NM0028355, Notice of Planned Change to Power Plant Discharges to Outfall 001**

Dear Ms. Williams:

The National Pollutant Discharge Elimination System (NPDES) Permit No. NM0028355 for the National Nuclear Security Administration (NNSA) and Triad National Security, LLC (Triad) requires the permittee(s) to notify the U. S. Environmental Protection Agency (EPA) of any physical alterations or additions to a permitted facility that could significantly change the nature or increase the quantity of pollutants discharged (see Part III.D.1.a. Report Requirements).

This notice of change provides Revision 2 to the Outfall 001 Fact Sheet submitted with the 2019 NPDES Permit Re-Application on March 26, 2019 and with minor revisions in the supplemental letter provided to EPA on August 23, 2019. The change addresses improvements to be made to the power plant facilities that will allow Los Alamos National Laboratory (LANL) to resume co-generation power/steam operations. This renovation will resume the discharge of reverse osmosis concentrate, de-minerlizer regeneration, steam condensate blowdown, boiler blowdown, and cooling tower blowdown to Outfall 001 either directly or indirectly after it has been treated at the SWWS treatment facility.

This change is expected to increase the volume to the outfall. The potential impact to effluent quality needs to be further evaluated when the facility comes on line. The Laboratory's Environmental Protection and Compliance Group (EPC-CP) will sample the effluent for metals and other water quality parameters. Sampling results will be provided to EPA and the New Mexico Environment Department (NMED), upon receipt. Organics and/or new potential contaminates are not expected based upon the use of newer equipment and past experience with similar discharges. In addition, this notice of change removes the future change to rout the TA-55 Cooling Tower blowdown to the TA-3 Reuse Tank. Attachment 1 provides a red line strike out copy of the revisions to the fact sheet.

Potential impacts to Outfall 001 are expected to begin next fall and it is Triad's intention to update the EPA with intermediate notices regarding the status of the project as it proceeds through design, construction, and startup. These updates will include the results of operational samples during startup of the operations to support the development of waste stream profiles for SWWS and to ensure that permit limits (existing or new) will continue to be met.

Please contact Jennifer Griffin at (505) 667-6741 or Michael T. Saladen at (505) 665-6085 of the Environmental Compliance Programs Group (EPC-CP) if you have questions.

Sincerely,

Taunia S. Van Valkenburg
Group Leader

TVV/MTS/JKG:jdm

Attachment(s): Attachment 1 NPDES-FS-18-001-R2, Outfall 001 Fact Sheet

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Attachment 1

NPDES-FS-18-001-R2, Outfall 001 Fact Sheet

EPC-DO: 19-430

LA-UR-19-31762

DATE: NOV 27 2019

Industrial and Sanitary Outfalls
2019 NPDES Permit Re-Application
Outfall 001 Fact Sheet

Utilities and Infrastructure (U&I)

Power Plant, Sanitary Wastewater System (SWWS) Facility, Sanitary Effluent Reclamation Facility (SERF), and Strategic Computing Complex (SCC) Cooling Towers

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Table of Contents

List of Tables

Revision Log

Revision No.	Date	Page Nos.	Change Description
0	3/18/2019	NA	Original
1	7/31/19	Page 8 of 12, Table 3	Revised to remove the chemical concentration percentages which may vary as chemicals are ordered.
		Page 9 of 12, Table 3	Updated the chemical information for C358 and R-630 for the SCC Cooling Towers. Deleted WEST C-825 because the chemical is no longer in use.
		Page 11 of 12, Table 6	Updated the potential chemicals associated with the SCC Cooling Towers to match Table 3.
		Attachment D, Page D-8 of 11	Revised Summary line for Aluminum to say "Aluminum, Total"
		Attachment D, Page D-8 of 11	Revised Summary line for Copper to say "Copper, Dissolved"
		Attachment D, Page D-9 of 9	Revised PCB to say "PCB, Total"
		Attachment D, Page D-9 of 9	Revised Gross Alpha to say "Adjusted Gross Alpha"
		Attachment E, Page E23	Replaced Sodium Hydroxide MSDS with a current SDS.
2	-10/8/19	Page 10 of 11, Section 4.0	• -Updated the first bullet to provide more current information regarding the construction and startup of 5 more cooling towers at SCC. • Deleted the second bullet. The possible connection of the 03A181 to the Reuse Tank is a possible project with no real implementation plan at this time. • Added a new bullet to address the process streams and volume increases associated with the power plant renovation.
		Page 10 of 11, Table 5	• -Deleted the volumes associated with 03A181. • Revised the future volumes associated with the power plant. • Revised the total outfall volume numbers to be consistent with the other data.
		Attachment D, Page D-9 of 9	Corrected the reported values for PCBs in September 2018 so that they match the DMR that was submitted to the EPA.
		Attachment B	Added a new figure showing the future water balance for Outfall 001.

INDUSTRIAL AND SANITARY OUTFALLS
2019 NPDES PERMIT RE-APPLICATION
OUTFALL 001 FACT SHEET

1.0 OUTFALL LOCATION [Section I]

Outfall ID No.:	001	**Outfall Location:**	Technical Area 3
Category:	Power Plant Discharges	**Originating Structure for the Discharge:**	TA-3-22, Power Plant
Flow Type:	Continuous	**Receiving Stream:**	Perennial Reach of Sandia Canyon, Water Quality Segment 20.6.4.126 NMAC
Longitude:	106° 19' 09" W	**Latitude:**	35° 52' 26" N

2.0 FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES [Section II]

Outfall 001 is located at Technical Area (TA) 3 and discharges to a perennial reach of Sandia Canyon in Water Quality Segment 20.6.4.126 NMAC. The outfall discharges cooling water from the power plant, treated sanitary wastewater effluent from the Sanitary Wastewater System (SWWS) Facility, recycled sanitary effluent from the Sanitary Effluent Reclamation Facility (SERF), and treated cooling tower blowdown from the Strategic Computing Complex (SCC). Attachment A provides a location map. Table 1 identifies the discharge sources, locations, and composition.

Table 1
Sources for Discharges to Outfall 001

TA	Building	Source Type	Transportation Mode (Piping, Truck etc.)	Discharge Source	Source Composition
3	22, 24, 336, 592	Cooling	Piping	Power Plant	Once Through Cooling Water
46	333, 334,431, 336, 335, 337, 338, 375, 347, 339, 340, 477	Sanitary	Piping	SWWS Facility	Treated Sanitary Effluent from SWWS
3	1398, 3093, 3085	Process	Piping	SERF	Treated SERF Effluent
3	2327	Cooling	Piping	SCC Cooling Towers	Treated Cooling Tower Blowdown
					Potable Water Used as Makeup Water
					SERF Effluent Used as Makeup Water - SERF Treatment Chemicals - SWWS Facility Treatment Chemicals and Chemicals identified on Influent Waste Stream Profile Forms

SCC = Strategic Computing Complex; SERF = Sanitary Effluent Reclamation Facility; SWWS = Sanitary Wastewater System

2.1 Process Schematic and Water Balance [II.A]

A process schematic line drawing that shows the outfall sources and route taken by water is provided in Attachment B. This drawing includes all operations that contribute process, sanitary, and/or cooling water to the discharge at Outfall 001. A water balance is also provided on the process schematic with daily average flows. The water balance is based upon data collected from operations personnel.

2.2 Water Treatment Processes [II.B]

The following bullets provide a description of the facilities with water treatment processes that discharge to Outfall 001:

1. **Power Plant:** The Co-Generation Power and Steam Plant provides steam heating to most of the buildings at TA-3. Makeup water is supplied to the pump/fan bearings to provide once through cooling. The cooling water is routed to the power plant cooling towers and allowed to cool. There are currently no chemicals added to the makeup water or cooling towers. The cooled water overflows from the cooling tower basin and is routed to Manhole A and de-

chlorinated prior to discharge to Outfall 001. A schematic for the operations at the power plant is provided in Attachment B and photographs are provided in Attachment C.

2. **Sanitary Wastewater System (SWWS)**: The SWWS Facility treats sanitary wastewater, process water, and cooling water discharged to the sanitary sewer and/or collected in storage containers/tanks from all technical areas at the Laboratory. All wastewater discharged to the SWWS Facility for treatment must comply with the facility's Waste Acceptance Criteria and, if it is something other than sanitary waste (i.e., cooling water, process water), must have a completed/approved Waste Stream Profile Form. The following bullets summarize the treatment process at the SWWS Facility.

   1. Wastewater flows to the SWWS Facility by gravity through the collection system and into a mechanical Bar Screen that is used to remove large inert solids (i.e., gloves, mop strings, paper towels, sand, asphalt, gravel) from the wastewater prior to treatment. This protects the pumps, valves, pipelines, and other downstream appurtenances from damage and/or clogging.

   2. The screened wastewater from the mechanical bar screen is routed through a Grit Chamber to remove heavy suspended solids such as sand, gravel, seeds, and coffee grounds from the wastewater. Wastewater from the grit chamber is routed to a splitter box where glycerin and soda ash are added. The glycerin is used to provide a carbon food source to the microorganisms and the soda ash is used to adjust the alkalinity. The wastewater from the splitter box is routed to the Equalization Basins (2) to stabilize the flow of wastewater being treated through the facility.

   3. Wastewater from the Equalization Basins (2) is routed to the Aeration Basins (4) and sparged/mixed with air at different rates to mix the water with microorganisms and promote biological growth. Dog food is added to the Aeration Basis to promote microorganism health and growth as needed. From the Aerations Basins the wastewater is routed to the Secondary Clarifiers. At this time one clarifier is being used as a Digester (for waste microorganisms) and the second is used as a Clarifier.

   4. Clarified water is routed to the Chlorine Contact Chamber to be disinfected. The chlorine is generated by a mixed oxidant (MIOX) treatment unit that uses brine water and electrophoresis to create a mixed oxidant solution that is used for disinfection.

   5. Disinfected water is discharged from the chlorine contact chamber to the Effluent Holding Pond for storage until it can be pumped to the Reuse Tank at the Power Plant or discharged to Outfall 13S.

   6. Disinfected water that is discharged to an outfall is disinfected as follows:
      - Disinfected water pumped to the Reuse Tank is dechlorinated at the Power Plant Manhole A as it is discharged to Outfall 001.
      - Disinfected water will be dechlorinated at the SWWS Facility ONLY if it is discharged to Outfall 13S.

   7. Secondary wastewater, sludge, debris, and solids generated due to treatment at the SWWS Facility are managed as follows:
      - Solids from the bar screen and grit chamber are removed and disposed of at an approved landfill.
      - Waste sludge (from the clarifier and/or digester) is mixed with a polymer to help flocculate the sludge into large pieces, and discharged to the sludge drying beds. Decanted water from the digester and/or sludge drying beds is recycled to the head works for treatment. Dried sludge is either composted and land applied or packaged into roll off bins and shipped to an approved landfill.

      NOTE: The land application of compost (biosolids) at LANL is subject to 40 CFR Part 503 Subpart B and Part IV of LANL's NPDES Industrial Outfall Permit NM0028355 – Sewage Sludge Requirements. Biosolids applied to land must meet risk-based pollutant limits specified in Part 503. Operational standards to control disease-causing organisms (pathogens) and reduce the attraction of vectors (e.g., flies and mosquitoes) to biosolids must also be met. The SWWS Compost Facility is registered pursuant to the requirements in 20.9.3.27 NMAC under Certificate No. 0215151C.

See the permit section provided for Outfall 13S for a schematic and photographs for the operations at the SWWS Facility.

- **Sanitary Effluent Reclamation Facility (SERF):** The SERF provides tertiary treatment of Treated SWWS effluent so that it can be reused/recycled as makeup water in the cooling towers at the Laboratory. The SWWS effluent is collected in the Reuse Tank located at the Power Plant where routed to SERF. At the SERF the SWWS effluent is treated to remove naturally occurring silica using precipitation, pH control, microfilters, and reverse osmosis. The treated water is stored in a tank and then blended with untreated SWWS effluent prior to being discharged to Outfall 001 and/or to the SCC Cooling Towers for use as makeup water. At the SCC Cooling Towers the SERF Effluent is used as makeup water and circulated through the towers, chillers, and then blown down to Outfall 03A027 and/or to Outfall 001. The blowdown can also be discharged to the SWWS Facility or back to the SERF for treatment. A schematic for the operations at the SERF Facility are provided in Attachment B and photographs are provided in Attachment C.

Strategic Computing Complex (SCC): The SCC currently has ten cooling towers that provide cooling water to the chillers and heat exchangers to support cooling of computers, equipment, and the building office areas. Makeup water is fed to the tower basins, circulated through the facility chillers and heat exchangers, and routed back to the cooling towers approximately 2-3 times before it is blown down and recharged with fresh makeup water. The cooling towers are maintained by two identical water treatment systems that draw a small amount of water from the basin discharge line (for circulation and/or blowdown) into a process logic controller and monitoring system to determine conductivity and chlorine content. This system determines the amount of water treatment chemicals and makeup water added to the tower basins. It also determines the amount and rate of blowdown from the tower. Table 2 identifies the wastewater treatment codes associated with the water treatment system. See the permit section provided for Outfall 03A027 for a schematic and photographs for the operations at the SWWS Facility.

Table 2
Wastewater Treatment Codes Assigned to Outfall 001

Source	Treatment Code	Description	Justification
Power Plant	2-E	Dechlorination	Chlorine Scavenger is added to Manhole A at the Power Plant
SWWS Facility	1-M	Grit Removal	Grit Chamber
	1-O	Mixing	Grit Chamber with Splinter Box
	1-T	Screening	Use of Bar Screen to Remove Solids
	1-U	Sedimentation (settling)	Sludge is Settled in Clarifier and Digester
	2-E	Dechlorination	Dechlorination chemical (SO2) used at SWWS if effluent is discharged to Outfall 13S
	2-F	Disinfection (chlorine)	Chlorine is Generated Using a MIOX System
	3-A	Activated Sludge	Activated Sludge is Used to Treat Water
	3-E	Pre-Aeration	Aeration Basins
	5-G	Composting	Composting of Sludge
	5-H	Drying Beds	Sludge Drying Beds on Site
	5-Q	Landfill	Sludge is disposed of at an Approved Landfill or Land Applied. Screened solids are disposed of at an approved Landfill.
SERF	1-F	Evaporation	RO Concentrate that Cannot be reused
	1-S	Reverse Osmosis (Hyper-filtration)	Secondary Filtration/Polish of SWWS Effluent for Reuse
	2-C	Chemical Precipitation	Treatment of SWWS Effluent
	2-E	Dechlorination	Chlorine Scavenger Chemical is added to maintain the RO units at SERF
	2-K	Neutralization	Adjust pH Prior to treatment in the RO Units
	2-L	Reduction	Corrosion Inhibitor is Added to SERF Effluent prior to Pumping it for Reuse at the SCC Cooling Towers
	4-C	Reuse/Recycle of Treated Effluent	SWWS Effluent is treated at SERF and reused/recycled in the SCC Cooling Towers.
	5-Q	Landfill	Sludge and Solids from SWWS and SERF disposed of at an Approved Landfill
	5-R	Pressure Filtration	Solids Dewatering

Table 2
Wastewater Treatment Codes Assigned to Outfall 001

Source	Treatment Code	Description	Justification
SCC Cooling Towers	2-E	Dechlorination	Chlorine Scavenger Chemicals are Added
	2-H	Disinfection (other)	Chemicals are added to Control Microorganisms
	2-L	Reduction	Chemicals that are Antiscalant and Corrosion Inhibitors are Added

MIOX = mixed oxidation; RO = reverse osmosis; SCC = Strategic Computing Complex; SERF = Sanitary Effluent Reclamation Facility; SWWS = Sanitary Wastewater System

The water treatment processes identified in Table 2 utilize the chemicals identified in Table 3.

Table 3
List of Treatment Chemicals used in the Operations that Contribute to Outfall 001

Source	Chemical Name	Reason for Use	Toxic Pollutant and/or Hazardous Substances Table 2C-3 or 2C-4	
Power Plant	Nalco 7408	Chlorine Scavenger Dechlorination	Sodium bisulfite	2C-4
	Bright Dyes FLT Yellow/Green Liquid	Water Line & Drain Tracing Dye	NA	NA
	Bright Dyes FLT Yellow/Green Tablet	Water Line & Drain Tracing Dye	NA	NA
SWWS Facility [a]	Clarifloc C-6265	Polymer Flocculation Agent	NA	NA
	Dog Food	Food Source for Microorganisms	NA	NA
	Glycerin	Carbon Source for Microorganisms	NA	NA
	Sodium Bisulfite	Dechlorination	sodium bisulfite	2C-4
	Soda Ash	Add Alkalinity	NA	NA
	Sodium Chloride	Chlorine Source for Disinfection Using the MIOX System	Chlorine	2C-4
	Sulfur Dioxide	Dechlorination	NA	NA
	Bright Dyes FLT Yellow/Green Liquid	Water Line & Drain Tracing Dye	NA	NA
	Bright Dyes FLT Yellow/Green Tablet	Water Line & Drain Tracing Dye	NA	NA
SERF	Ferric Chloride	Promote Precipitation	Ferric Chloride	2C-4
	Magnesium Chloride	Promote Precipitation	Magnesium Chloride	NA
	Hydrochloric Acid	pH Adjustment	Hydrochloric Acid	2C-4
	Sodium Hypochlorite	Clean/Disinfect RO Units	Sodium Hypochlorite	2C-4
	Sodium Hydroxide	pH Adjustment	Sodium Hydroxide	2C-4
	Sodium Bisulfite	Injected prior to the RO Unit as a de-chlorinating Agent.	Sodium Bisulfite	2C-4
	Perma Treat PC-510T	RO Unit Antiscalant Polymer	Sodium Nitrite	2C-4
	Bright Dyes FLT Yellow/Green Liquid	Water Line & Drain Tracing Dye	NA	NA
	Bright Dyes FLT Yellow/Green Tablet	Water Line & Drain Tracing Dye	NA	NA
SCC Cooling Towers [b]	Bromine Tablets	Biocide	Bromo-chloro-5,5-dimethyl hydantoin (chlorine source)	2C-4
	HACH 203832	Sulfuric Acid Solution 19.2 N	Sulfuric Acid	2C-4
	HACH 1407028	Free Chorine Reagent	Sodium Phosphate Dibasic	2C-4
			EDTA	2C-4
	HACH 2076053	Molybdovanadate Reagent	Sulfuric Acid	2C-4
	HACH 2105669	Total Chlorine Reagent	Sodium Phosphate Dibasic	2C-4
	HACH 2263411	Total Chlorine Indicator	Sulfuric Acid	2C-4
	HACH 2263511	Total Chlorine Buffer Solution	Sodium Hydroxide	2C-4
			EDTA	2C-4

Table 3
List of Treatment Chemicals used in the Operations that Contribute to Outfall 001

Source	Chemical Name	Reason for Use	Toxic Pollutant and/or Hazardous Substances Table 2C-3 or 2C-4	
	HACH 2297255	Compound for Free and Total Chlorine Analyzers	NA	NA
	HACH 2314011	Free Chlorine Indicator Solution for CL-17 Analyzer	Toluene	2C-4
	HACH 2314111	Free Chlorine Buffer for CL-117 Analyzer	NA	NA
	HACH 2756549	pH Storage Solution	Sodium Phosphate Dibasic	2C-4
	WEST C-358A	Corrosion Inhibitor and Antiscalant	Sodium Hydroxide	2C-4
	WEST R-630	De-Chlorination	Sodium Metabisulfite	2C-4
	Bright Dyes FLT Yellow/Green Liquid	Water Line & Drain Tracing Dye	NA	NA
	Bright Dyes FLT Yellow/Green Tablet	Water Line & Drain Tracing Dye	NA	NA

a. See the permit application section provided for Outfall 13S for the Safety Data Sheets associated with SWWS.
b. See the permit application section provided for Outfall 03A027 for the Safety Data Sheets associated with the SCC Cooling Towers.

EDTA = Ethylene Diamine Tetraacetic Acid; MIOX = mixed oxidation; RO = reverse osmosis; SCC = Strategic Computing Complex; SERF = Sanitary Effluent Reclamation Facility; SWWS = Sanitary Wastewater System

2.3 Discharge Rate and Frequency [II.C]

The discharge rates and frequencies for Outfall 001 and its sources are provided in Table 4.

Table 4
Rates and Frequencies for Discharge Sources to Outfall 001

Source [a]	Frequency		Flow Rates and Volumes				
	Days/Week	Months	Average (MGD)	Maximum (MGD)	Average Volume (GPD)	Maximum Volume (GPD)	Duration (days)
Power Plant	7	12	0.050	0.195	49,652	194,524	365
SWWS Facility [b, c]	7	12	0.026	0.209	26,432	209,173	365
SERF	7	12	0.040	0.122	39,807	121,914	365
SCC Cooling Towers [d, e]	7	12	0.051	0.105	50,679	104,804	365
Total Outfall 001	7	12	0.154	0.333	153,931	332,600	365

a. Calculated between October 2017 and September 2018.
b. The average volume of SWWS effluent discharged to Outfall 001 is significantly less on average due to reuse at the SCC after being treated at SERF.
c. See the permit section provided for Outfall 13S for a schematic.
d. Cooling tower blowdown calculated for the operation of 10 cooling towers.
e. See the permit section provided for Outfall 03A027 for a schematic.

GPD = gallons per day; MGD = million gallons per day; SCC = Strategic Computing Complex; SERF = Sanitary Effluent Reclamation Facility; SWWS = Sanitary Wastewater System

3.0 PRODUCTION [Section III]

Section III is not applicable to Outfall 001.

4.0 IMPROVEMENTS [Section IV]

The following future changes may impact the flow rate and composition of Consolidated Outfall 001 after the NPDES 2019 Permit Reapplication is submitted and/or the new permit is implemented:

- The SCC is currently adding 5 more cooling towers to its cooling system. These towers will utilize the existing water treatment system and makeup water supply as described in Section 2.2 and the fact sheet for Outfall 03A027. ~~See the fact sheet provided for Outfall 03A027 for a schematic of the change.~~ This change is expected to increase the volume to Outfall 001 as indicated in Table 5. A preliminary analysis suggests that the effluent quality will not be impacted (i.e., no increase in concentration of the parameters identified in the Form 2C). This project is currently under construction and is expected to start operations in 2020.

- The Power Plant will be renovated to resume co-generation power/steam operations. This renovation will resume the discharge of reverse osmosis concentrate, deminerlizer regeneration, steam condensate blowdown, boiler blowdown, and cooling tower blowdown to Outfall 001 either directly or indirectly after it has been and treated at the SWWS treatment facility. The water treatment system for the boilers and cooling tower will include chemicals identical or equivalent to those listed in Table 3. The volume to the outfall is expected increase as shown in Table 5. An evaluation of historical power plant source data suggests that effluent quality may be impacted by increased concentrations of some metals (i.e., copper, zinc, nickel) and water quality parameters (i.e., sulfate, phosphorus). Organic and/or new potential contaminates are not expected based upon the use of newer equipment and previous experience with similar discharges. Operational samples will be collected during startup of the operations to support the development of waste stream profiles for SWWS and to ensure that the permit limits are met. In addition, a full set of Form 2C parameters will be sampled for when the renovated facility begins to routinely discharge to the Outfall. This project is currently in design and is expected to start construction in 2020.
- ~~Future changes to Outfall 001 may include the routing of the TA-55 Cooling Tower blowdown, currently discharging through Outfall 03A181, to the Reuse Tank at TA-3. If implemented, the discharge will either be recycled to SERF or discharged to Outfall 001. See the fact sheet provided for Outfall 03A181 for a schematic of the change. This project has not been started and is not yet scheduled.~~

A Notice of Planned Change will be submitted for these ~~future~~ changes prior to their implementation and ~~impact discharge~~ to the outfall. Intermediate notices may also be sent to provide updated design information and/or operational data. Table 5 provides an estimate for the future flow rates and frequencies ~~should these projects be implemented~~. Attachment B provides a proposed schematics and water balance information for ~~each of~~ the future configuration~~s~~.

Table 5
Potential New Future Flow Rates and Frequencies for Discharges to Outfall 001

Potential Future Source	Frequency		Flow Rates and Volumes				
	Days/Week	Months	Average (MGD)	Maximum (MGD)	Average Volume (GPD)	Maximum Volume (GPD)	Duration (days)
SCC Cooling Towers [a, b]	7.0	12	0.074	0.201	74,436	201,056	365
Power Plant Co-Generation Renovation	7.0	12	0.170	0.220	169,920	220,320	365
~~TA-55-006 Cooling Towers [c]~~	~~7.0~~	~~12~~	~~0.009~~	~~0.032~~	~~9,365~~	~~31,986~~	~~365~~
Future Outfall 001 Total [c]	7.0	12	~~0.199~~ 0.311	~~0.439~~ 0.751	~~199,320~~ 310,595	~~438,586~~ 752,463	365

a. See the permit section provided for Outfall 03A027 for a schematic showing this change.
b. Cooling tower blowdown calculated for the operation of 15 towers.
~~b.~~c. Total volume estimate for four source facilities: SWWS Effluent; SERF Effluent; SCC Cooling Towers; and Power Plant Co-Generation Renovation. All four facilities are hydraulically connected and eventually discharge water to Outfall 001 regardless of flow path.
~~See the permit section provided for Outfall 03A181 for a schematic showing this change.~~

GPD = gallons per day; MGD = million gallons per day; SCC = Strategic Computing Complex; LDCC = Laboratory Data Communications Center

5.0 INTAKE AND EFFLUENT CHARACTERISTICS [Section V]

5.1 Analytical Data [V.A, B, and C]

The analytical results provided for the Outfall 001 Permit Reapplication on the Form 2C were provided from the following sources:

- Samples collected on August 21, 2018 – August 23, 2018 that were shipped to an independent laboratory for analysis.
- Field samples collected and analyzed on August 21, 2018 – August 23, 2018 for temperature, residual chlorine, and pH.
- Field samples collected and analyzed on January 15, 2018 for sulfite.
- Discharge monitoring report summary for Outfall 001 from October 2014 to September 2018 (Attachment D).
- Hardness = 37.5 mg/L ($CaCO_3$)

5.2 Potential Pollutants [V.D]

The treatment chemicals associated with the water treatment operations at the power plant, SWWS, SERF, and the SCC Cooling Towers constitute the potential pollutant load of the discharges to Outfall 001. Table 6 identifies the Table 2C-3 and 2C-4 pollutants by discharge source. It also identifies those pollutants (if any) that were detected in the analytical results from the samples collected for the 2019 Permit Renewal Application.

Table 6
Potential Pollutants by Source for Outfall 001

Source Description	POTENTIAL Toxic Pollutant and/or Hazardous Substances Table 2C-3 or 2C-4		Analytical Data Results from Outfall 001 [a]
Power Plant	Sodium Bisulfite	2C-4	Sulfite = 1 mg/L
SWWS Facility Treatment Chemicals	Chlorine	2C-4	Residual Chlorine = 0
	Sodium Bisulfite	2C-4	Sulfite = 1 mg/L
SWWS Chemicals identified on Influent Waste Stream Profile Forms	Acetic Acid	2C-4	pH = 7 to 8.5 S.U.
	Acetone	2C-4	Not Analyzed [c]
	Ammonia	2C-4	0.207 mg/L
	Aniline	2C-3 & 2C-4	Not Analyzed [c]
	Benzene	2C-4	1.81 ug/L
	Benzoic Acid	2C-4	pH = 7 to 8.5 S.U.
	Calcium Hypochlorite	2C-4	Chloride = 45.5 mg/L
	Carbon Disulfide	2C-3 & 2C-4	Not Analyzed [c]
	Chlorine	2C-4	Residual chlorine = 0
	Chloroform	2C-4	0.82 ug/L
	Cresol	2C-3 & 2C-4	Not Analyzed [c]
	Ethylbenzene	2C-4	Not Detected (VOC)
	Polychlorinated Biphenyls [b]	2C-4	Not Detected
	Phenol	2C-4	Not Detected (SVOC)
	Phosphoric Acid	2C-4	pH = 7 to 8.5 S.U. Total Phosphorus = 1.83 mg/L
	Potassium Hydroxide	2C-4	pH = 7 to 8.5 S.U.
	Sodium	2C-4	Not Analyzed [c]
	Sodium Bisulfite	2C-4	Sulfite = 1 mg/L
	Sodium Hydroxide	2C-4	pH = 7 to 8.5 S.U.
	Sodium Hypochlorite	2C-4	Chloride = 45.5 mg/L
	Sodium Nitrite	2C-4	Nitrate/nitrite = 1.69 mg/L
	Strontium	2C-3	Not Analyzed [c]
	Styrene	2C-3 & 2C-4	Not Analyzed [c]
	Toluene	2C-4	Not Detected (VOC)
	Uranium	2C-3	Not Analyzed [c]
	Vanadium	2C-3	Not Analyzed [c]

Table 6 Potential Pollutants by Source for Outfall 001			
Source Description	**POTENTIAL Toxic Pollutant and/or Hazardous Substances Table 2C-3 or 2C-4**		**Analytical Data Results from Outfall 001 [a]**
SERF Treatment Chemicals	Ferric Chloride	2C-4	Chloride = 45.5 mg/L Iron = 37.9 mg/L
	Hydrochloric Acid	2C-4	pH = 7 to 8.5 S.U.
	Magnesium Chloride	2C-4	Magnesium = 2,930 mg/L Chloride = 45.5 mg/L
	Sodium Bisulfite	2C-4	Sulfite = 1 mg/L
	Sodium Hydroxide	2C-4	pH = 7 to 8.5 S.U.
	Sodium Hypochlorite	2C-4	Chloride = 45.5 mg/L
	Sodium Nitrite	2C-4	Nitrate/Nitrite = 1.69 mg/L
SCC Cooling Towers Treatment Chemicals	EDTA	2C-4	pH = 7 to 8.5 S.U.
	Sodium Bisulfite/Metabisulfite	2C-4	Sulfite = 1 mg/L
	Sodium Hydroxide	2C-4	pH = 7 to 8.5 S.U.
	Sodium Phosphate Dibasic	2C-4	Total Phosphorus = 1.83 mg/L
	Sulfuric Acid	2C-4	pH = 7 to 8.5 S.U.
	Toluene	2C-4	Not Detected (VOC)
	Chlorine	2C-4	Total Residual Chlorine = 0

a. Results are from the representative sample collected at Outfall 001 on August 21, 2018 – August 23, 2019.
b. Results were obtained using the EPA Aroclor Method 608.3 as required by the Form 2C. Low concentrations of PCBs have been detected in the discharged to Outfall 001 using the Congener Method. These results are provided with the DMR Summary provided in Attachment D.
c. The potential pollutant was not analyzed because it is not specifically called out on the Form 2C.

EDTA = Ethylene Diamine Tetra-Acetic Acid; PCB = polychlorinated biphenyls; SCC = Strategic Computing Center; SERF = Sanitary Effluent Reclamation Facility; SVOC = semi-volatile organic compounds; S.U. = Standard Units; SWWS = Sanitary Wastewater System; VOC = Volatile Organic Compound

The safety data sheets associated with the chemicals used to treat water at the Power Plant, SWWS, SERF, and SCC are provided in Attachment E.

6.0 POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS [Section VI]

Section VI is not applicable to Outfall 001.

7.0 BIOLOGICAL TOXICITY TESTING DATA [Section VII]

Whole Effluent Toxicity (WET) 7 Day Chronic Toxicity was performed on May 23, 25, and 27 of 2015 to determine the results at a critical dilution of 100% using a dilution series of 32%, 42%, 56%, 75%, and 100%. The WET including the following criteria as required by the permit:

- Ceriodaphnia dubia, 24-hr composite, 1/5 Years (term)
- Pimephales promelas, 24-hr composite, 1/5 Years (term)

The WET test results indicated that the effluent from Outfall 001 passed the test for Pimephales promelas and no further testing has been performed. The effluent did not pass the test for reproduction of Ceriodaphnia dubia which required that additional testing be performed. See the WET Test Summary Report provided in Attachment D of the Fact Sheet provided with the permit application.

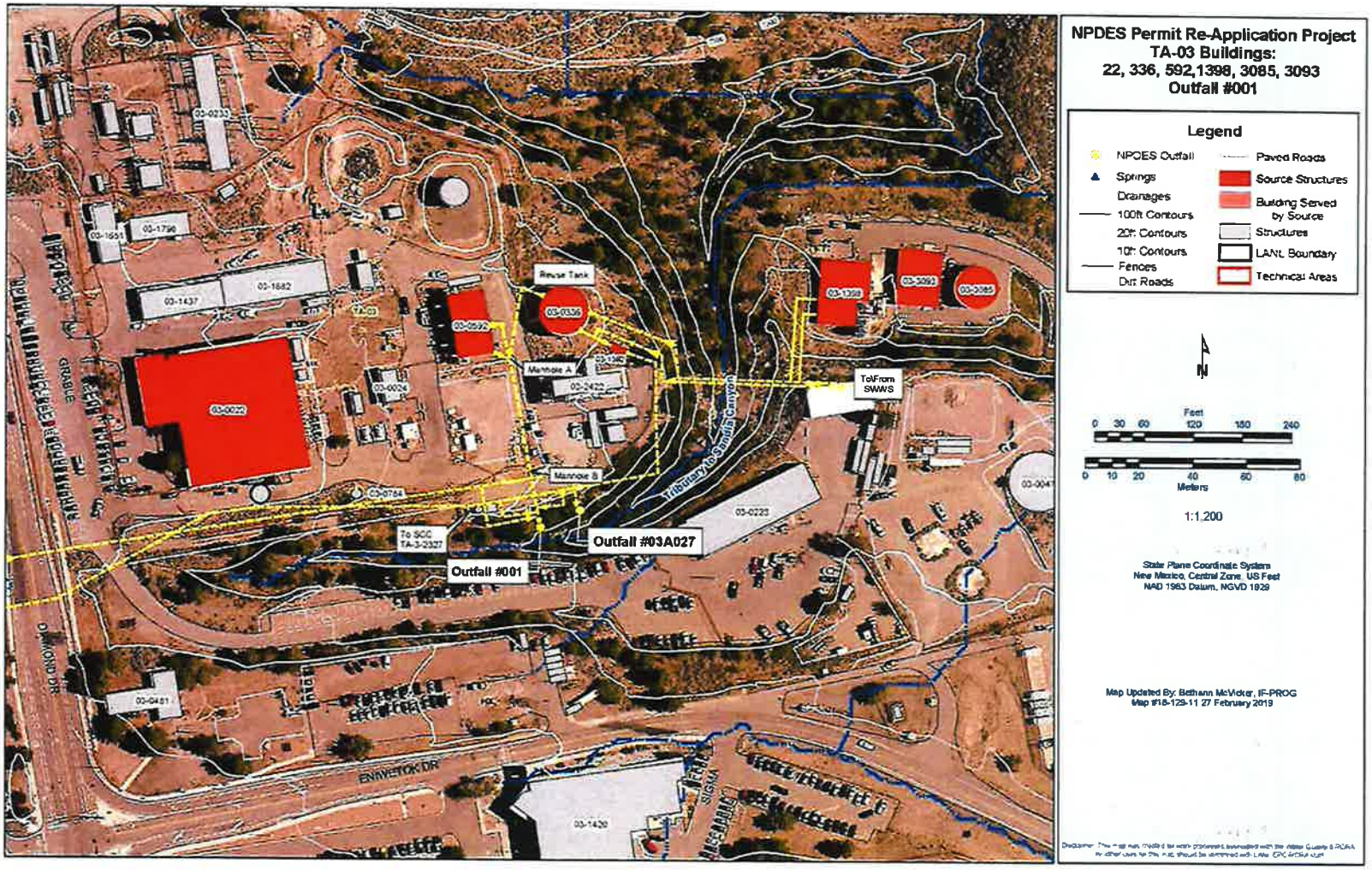
8.0 CONTRACT ANALYSIS INFORMATION [Section VIII]

Samples from Outfall 001 were collected on August 21, 2018 – August 23, 2018 for the Form 2C constituents required by the permit application forms. These samples were field analyzed and/or submitted to independent laboratories (Table 7) as summarized in Section 5.1.

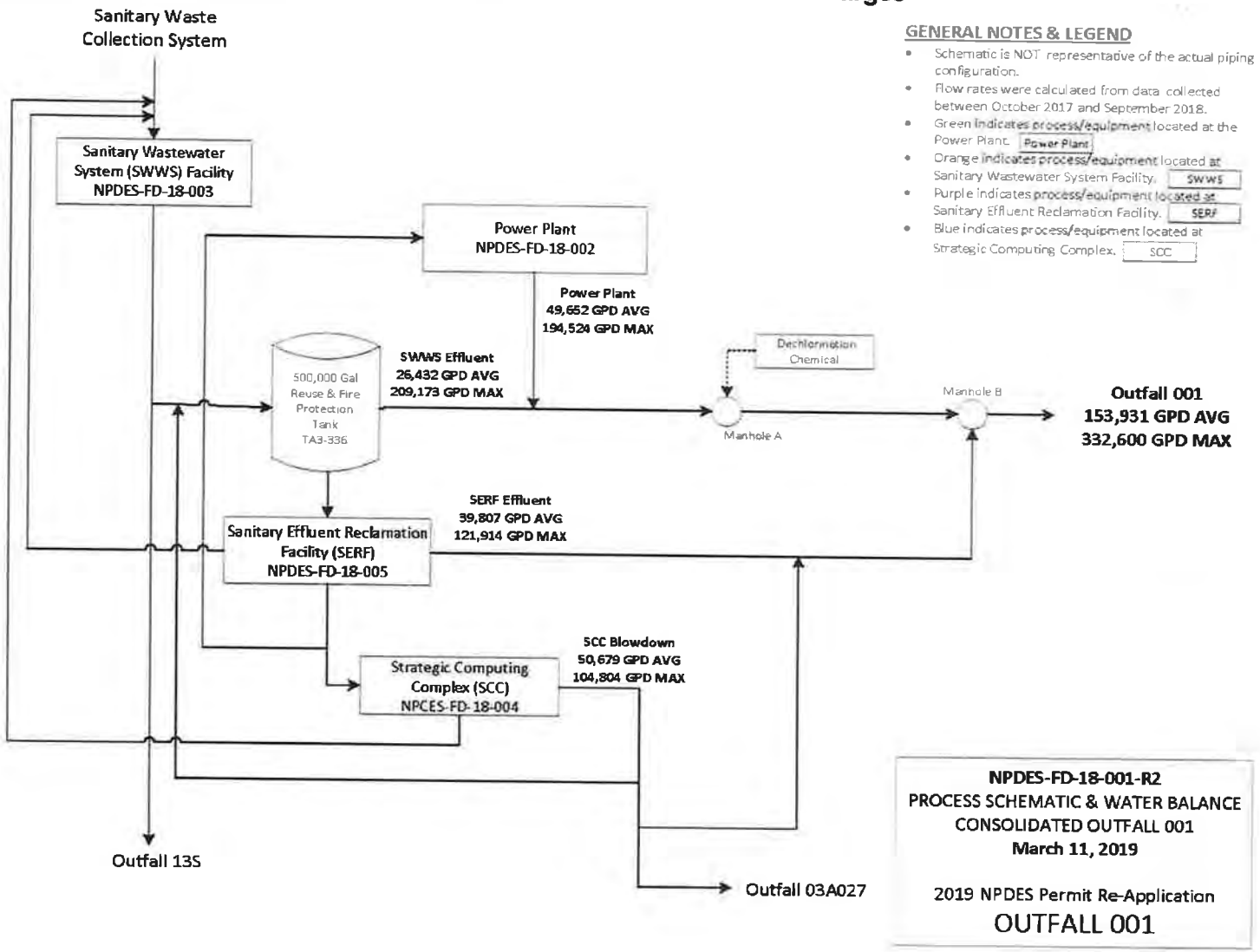
Table 7
List of Independent Laboratories Used for NPDES Water Analysis

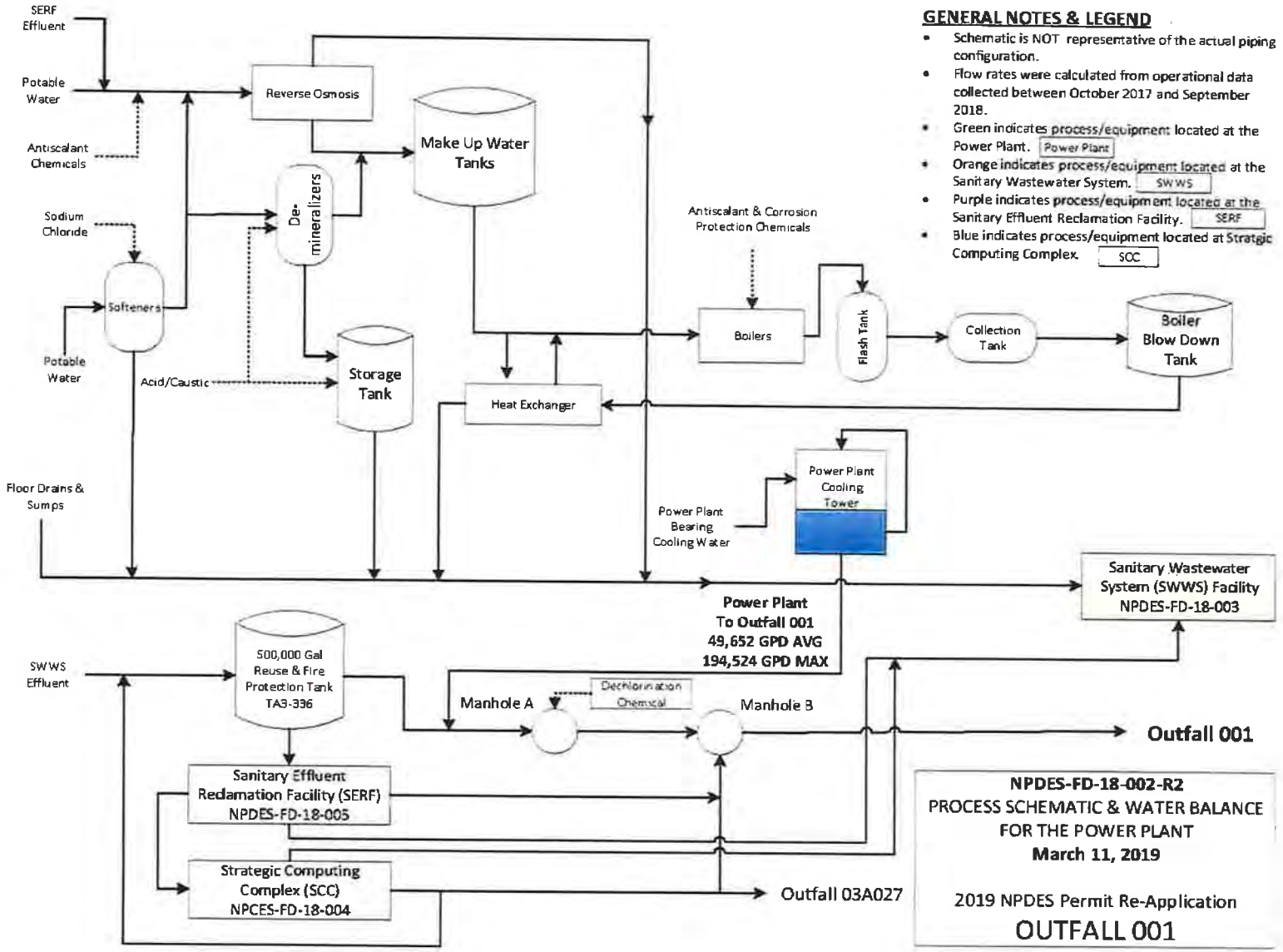
Laboratory Name	Address and Contact Info	Analytes
GEL Laboratories LLC	2040 Savage Road Charleston SC 29407 (843) 556-8171	Biological Oxygen Demand, General Chemistry, Pesticides, Polychlorinated Biphenyls, Radiochemistry, Semi-volatile Organic Compounds, Total Metals, Total Suspended Solids, Volatile Organic Compounds
New Mexico Water Testing Laboratory, Inc.	401 North Coronado Ave Espanola, NM 87532 (505) 929-4545	E.coli
Cape Fear Analytical LLC	3306 Kitty Hawk Road Suite 120 Wilmington, NC 28405 (910) 795-0421	TCDD (Dioxin)
Pacific EcoRisk	2250 Cordelia Rd. Fairfield, CA 94534 (707) 207-7760	Whole Effluent Toxicity

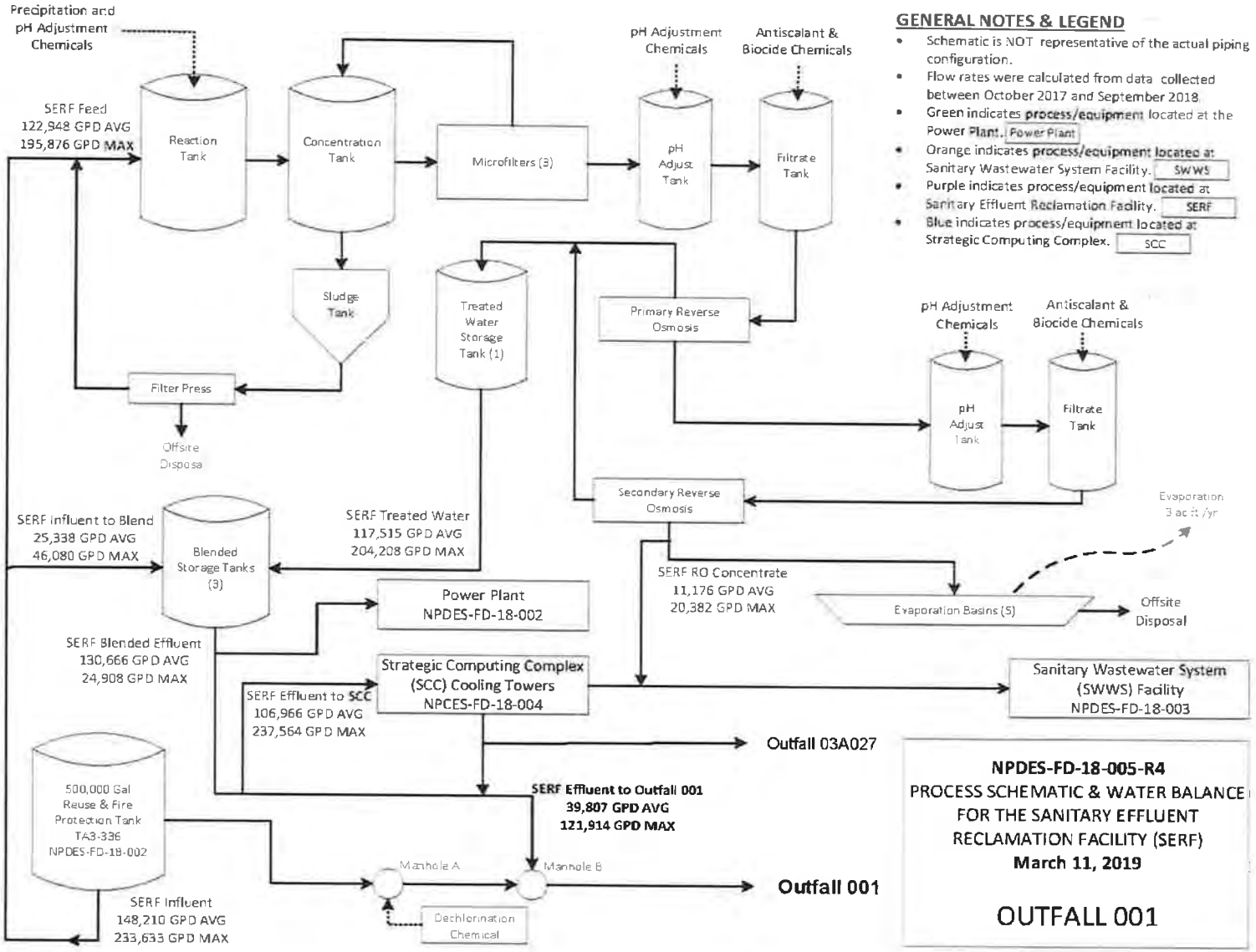
ATTACHMENT A: Location Map for Outfall 001

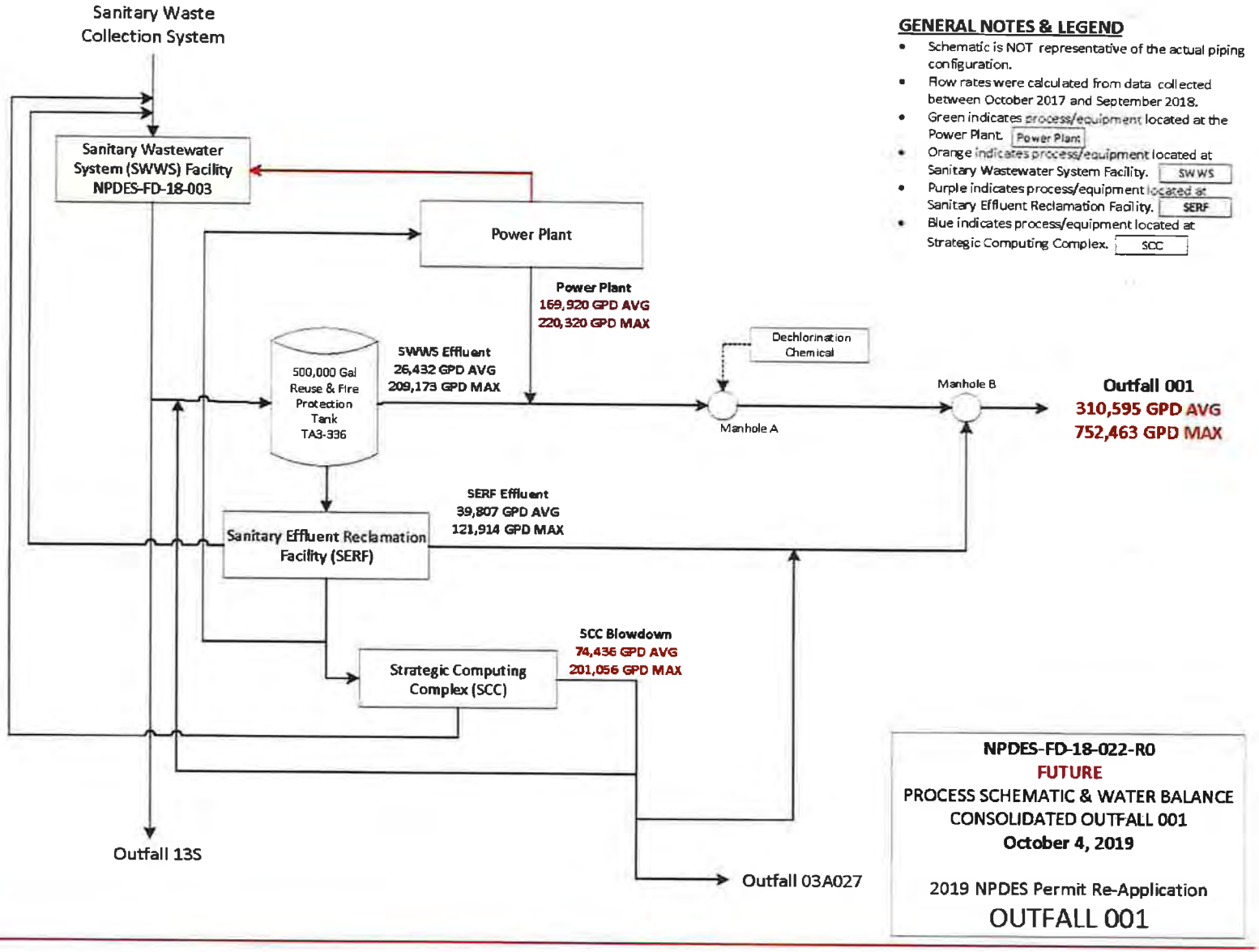


ATTACHMENT B: Process Schematics and Water Balances for Outfall 001 Discharges




SERF Effluent
Potable Water
Antiscalant Chemicals
Sodium Chloride
Softeners
Potable Water
Acid/Caustic
Reverse Osmosis
De-mineralizers
Make Up Water Tanks
Storage Tank
Heat Exchanger
Antiscalant & Corrosion Protection Chemicals
Boilers
Flash Tank
Collection Tank
Boiler Blow Down Tank
Power Plant Cooling Tower
Power Plant Bearing Cooling Water
Floor Drains & Sumps
Power Plant To Outfall 001 49,652 GPD AVG 194,524 GPD MAX
Sanitary Wastewater System (SWWS) Facility NPDES-FD-18-003
SWWS Effluent
500,000 Gal Reuse & Fire Protection Tank TA3-336
Dechlorination Chemical
Manhole A
Manhole B
Outfall 001
Sanitary Effluent Reclamation Facility (SERF) NPDES-FD-18-005
Strategic Computing Complex (SCC) NPCES-FD-18-004
Outfall 03A027
GENERAL NOTES & LEGEND
Schematic is NOT representative of the actual piping configuration.
Flow rates were calculated from operational data collected between October 2017 and September 2018.
Green indicates process/equipment located at the Power Plant. Power Plant
Orange indicates process/equipment located at the Sanitary Wastewater System. SWWS
Purple indicates process/equipment located at the Sanitary Effluent Reclamation Facility. SERF
Blue indicates process/equipment located at Stratgic Computing Complex. SCC
NPDES-FD-18-002-R2
PROCESS SCHEMATIC & WATER BALANCE
FOR THE POWER PLANT
March 11, 2019
2019 NPDES Permit Re-Application
OUTFALL 001


Precipitation and pH Adjustment Chemicals
SERF Feed
122,948 GPD AVG
195,876 GPD MAX
Reaction Tank
Concentration Tank
Microfilters (3)
pH Adjustment Chemicals
Antiscalant & Biocide Chemicals
pH Adjust Tank
Filtrate Tank
Sludge Tank
Treated Water Storage Tank (1)
Primary Reverse Osmosis
Filter Press
Offsite Disposa
pH Adjustment Chemicals
Antiscalant & Biocide Chemicals
pH Adjust Tank
Filtrate Tank
Secondary Reverse Osmosis
Evaporation
3 ac ft /yr
SERF influent to Blend
25,338 GPD AVG
46,080 GPD MAX
Blended Storage Tanks (3)
SERF Treated Water
117,515 GPD AVG
204,208 GPD MAX
SERF RO Concentrate
11,176 GPD AVG
20,382 GPD MAX
Evaporation Basins (5)
Offsite Disposal
Power Plant
NPDES-FD-18-002
SERF Blended Effluent
130,666 GPD AVG
24,908 GPD MAX
Strategic Computing Complex (SCC) Cooling Towers
NPCES-FD-18-004
Sanitary Wastewater System (SWWS) Facility
NPDES-FD-18-003
SERF Effluent to SCC
106,966 GPD AVG
237,564 GPD MAX
Outfall 03A027
500,000 Gal Reuse & Fire Protection Tank TA3-336 NPDES-FD-18-002
SERF Effluent to Outfall 001
39,807 GPD AVG
121,914 GPD MAX
Manhole A
Manhole B
Outfall 001
SERF Influent
148,210 GPD AVG
233,633 GPD MAX
Dechlorination Chemical
GENERAL NOTES & LEGEND
Schematic is NOT representative of the actual piping configuration.
Flow rates were calculated from data collected between October 2017 and September 2018.
Green indicates process/equipment located at the Power Plant. Power Plant
Orange indicates process/equipment located at Sanitary Wastewater System Facility. SWWS
Purple indicates process/equipment located at Sanitary Effluent Reclamation Facility. SERF
Blue indicates process/equipment located at Strategic Computing Complex. SCC
NPDES-FD-18-005-R4
PROCESS SCHEMATIC & WATER BALANCE FOR THE SANITARY EFFLUENT RECLAMATION FACILITY (SERF)
March 11, 2019
OUTFALL 001


Sanitary Waste Collection System
Sanitary Wastewater System (SWWS) Facility NPDES-FD-18-003
Power Plant
Power Plant
169,920 GPD AVG
220,320 GPD MAX
500,000 Gal Reuse & Fire Protection Tank TA3-336
SWWS Effluent
26,432 GPD AVG
209,173 GPD MAX
Dechlorination Chemical
Manhole A
Manhole B
Outfall 001
310,595 GPD AVG
752,463 GPD MAX
SERF Effluent
39,807 GPD AVG
121,914 GPD MAX
Sanitary Effluent Reclamation Facility (SERF)
SCC Blowdown
74,436 GPD AVG
201,056 GPD MAX
Strategic Computing Complex (SCC)
Outfall 13S
Outfall 03A027
GENERAL NOTES & LEGEND
Schematic is NOT representative of the actual piping configuration.
Flow rates were calculated from data collected between October 2017 and September 2018.
Green indicates process/equipment located at the Power Plant. Power Plant
Orange indicates process/equipment located at Sanitary Wastewater System Facility. SWWS
Purple indicates process/equipment located at Sanitary Effluent Reclamation Facility. SERF
Blue indicates process/equipment located at Strategic Computing Complex. SCC
NPDES-FD-18-022-R0
FUTURE
PROCESS SCHEMATIC & WATER BALANCE
CONSOLIDATED OUTFALL 001
October 4, 2019
2019 NPDES Permit Re-Application
OUTFALL 001

Los Alamos
NATIONAL LABORATORY
EST. 1943

Environmental Protection & Compliance Division
Compliance Programs Group
Los Alamos National Laboratory
PO Box 1663, K490
Los Alamos, NM 87545
505-667-0666

Symbol: EPC-DO: 20-221
LA-UR: 20-23984
Date: JUL 16 2020

Ms. Nancy Williams
U.S. Environmental Protection Agency, Region 6
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Subject: National Pollutant Discharge Elimination System Permit No. NM0028355 Notice of Planned Change to Outfall 001

Dear Ms. Williams:

The National Pollutant Discharge Elimination System (NPDES) Permit No. NM0028355 for the Nuclear Security Administration (NNSA) and Triad National Security, LLC (Triad) requires the permittee(s) to notify the U. S. Environmental Protection Agency (EPA) of any physical alterations or additions to a permitted facility that could significantly change the nature or increase the quantity of pollutants discharged (see Part III.D.1.a. Report Requirements).

This notice of change provides Revision 3 to the Outfall 001 Flow Diagram that was submitted with the 2019 NPDES Permit Re-Application on March 26, 2019. Specifically the change addresses improvements made to reduce the temperature of effluent discharged to the outfall as follows:

- Piping modification to allow for effluent stored in the Reuse Tank to be routed (as needed) to the power plant cooling tower prior to discharge.
- Piping modification to allow for blowdown associated with the Strategic Computing Complex (SCC) Cooling Towers to be routed to the Reuse Tank where (as needed) it can either be recycled to SERF or routed to the power plant cooling tower prior to discharge.

Analysis of temperature data collected from the outfall and its sources indicates that the effluent temperature of these sources is elevated by the ambient temperature as it increases in June, July, and August. These piping modifications provide passive cooling of the effluent prior to discharge so that the outfall continues to meet 20°C 6T3 temperature requirements provided in the NPDES

Permit NM 0028355. This change will not increase the volume or impact the effluent quality (i.e., no new chemicals) other than to reduce the temperature.

Attachment 1 provides a revised flow diagram for Outfall 001. This revised flow diagram also includes an update to the source volumes/flows that are expected due to the following changes that were previously submitted:

- Startup of 5 additional Cooling Towers at the SCC. This modification was included as a future change in the 2019 NPDES Permit Application submitted March 26, 2019 (see EPC-DO: 19-106).
- Renovation of the power plant. This change was submitted as a notice of change on November 26, 2019 (see EPC-DO: 19-430).

Please contact Jennifer Griffin at (505) 667-6741 or Michael T. Saladen at (505) 665-6085 of the Environmental Compliance Programs Group (EPC-CP) if you have questions.

Sincerely,

MICHAEL SALADEN
(Affiliate)

Digitally signed by MICHAEL SALADEN (Affiliate)
Date: 2020.07.15 17:51:30 -06'00'

Taunia Van Valkenburg
Group Leader

TVV/MTS/JKG:jdm

Attachment(s): Attachment 1 NPDES-FD-18-001-R3, Outfall 001 Flow Diagram

Copy: Sarah Holcomb, NMED/SWQB, sarah.Holcomb@state.nm.us (Hard Copy)
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Enrique Torres, Triad/EWP, etorres@lanl.gov
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Taunia S. Van Valkenburg, Triad/EPC-CP, tauniav@lanl.gov
Michael T. Saladen, Triad/EPC-CP, saladen@lanl.gov
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epccorrespondence@lanl.gov
adesh-records@lanl.gov

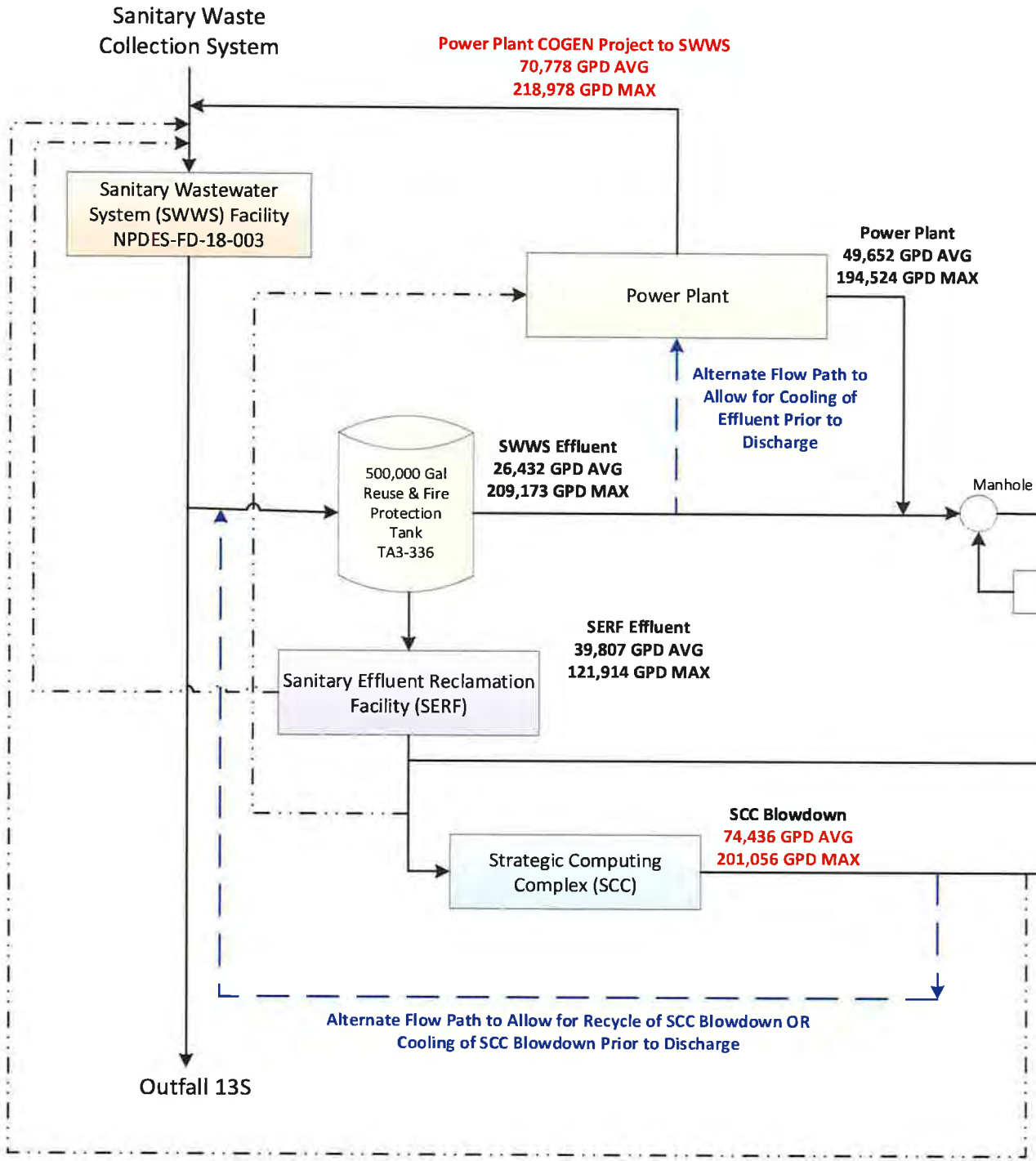
ATTACHMENT 1

NPDES-FD-18-001-R3, Outfall 001 Flow Diagram

EPC-DO: 20-221

LA-UR-20-24984

Date: JUL 16 2020



GENERAL NOTES & LEGEND

- Schematic is NOT representative of the actual piping configuration.
- Flow rates were calculated from data collected between October 2017 and September 2018.
- Green indicates process/equipment located at the Power Plant. Power Plant
- Orange indicates process/equipment located at Sanitary Wastewater System Facility. SWWS
- Purple indicates process/equipment located at Sanitary Effluent Reclamation Facility. SERF
- Blue indicates process/equipment located at Strategic Computing Complex. SCC
- ——— Routine Flow Path.
- — · — · — Alternate Flow Path.
- — — - Alternate Flow Path to Allow for Cooling to Effluent Prior to Discharge to Outfall 001.

NPDES-FD-18-001-R3

PROCESS SCHEMATIC & WATER BALANCE
CONSOLIDATED OUTFALL 001
May 20, 2020

2019 NPDES Permit Re-Application
OUTFALL 001
LA-UR-19-21143

ENCLOSURE 7

Notice of Planned Change to Outfall 03A048
Submitted July 14, 2020 (EPC-DO-20-222)

EPC-DO: 20-096

LA-UR-20-21143

Date: OCT 28 2020

Los Alamos
NATIONAL LABORATORY
EST.1943

Environmental Protection & Compliance Division
Compliance Programs Group
Los Alamos National Laboratory
PO Box 1663, K490
Los Alamos, NM 87545
505-667-0666

Symbol: EPC-DO: 20-222
LA-UR: 20-24983
Date: JUL 14 2020

Ms. Nancy Williams
U.S. Environmental Protection Agency, Region 6
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Subject: National Pollutant Discharge Elimination System Permit No. NM0028355 Notice of Planned Change to Outfall 03A048

Dear Ms. Williams:

The National Pollutant Discharge Elimination System (NPDES) Permit No. NM0028355 for the Nuclear Security Administration (NNSA) and Triad National Security, LLC (Triad) requires the permittee(s) to notify the U. S. Environmental Protection Agency (EPA) of any physical alterations or additions to a permitted facility that could significantly change the nature or increase the quantity of pollutants discharged (see Part III.D.1.a. Report Requirements).

This notice of change provides Revision 3 to the Outfall 03A048 Fact Sheet submitted with the 2019 NPDES Permit Re-Application on March 26, 2019. Specifically, the monitoring of free and total chlorine in the blowdown prior to its discharge to the outfall. The monitoring system will add small quantities of the following chemicals:

- HACH Free Chlorine Buffer Solution
- HACH Free Chlorine Indicator Solution
- HACH Total Chlorine Solution
- HACH Total Indicator Solution
- HACH DPD Compound for Free and Total Chlorine Analyzers

Attachment 1 provides the revised pages from Revision 3 of the Outfall 03A048 Fact Sheet with the changes indicated in red. Attachment 2 provides copies of the safety data sheets for the chemicals associated with the monitoring system.

Please contact Jennifer Griffin at (505) 667-6741 or Michael T. Saladen at (505) 665-6085 of the Environmental Compliance Programs Group (EPC-CP) if you have questions.

Sincerely,

Taunia Van Valkenburg
Group Leader

TVV/MTS/JKG:jdm

Attachment(s): Attachment 1 NPDES-FS-18-005-R3, Outfall 03A048 Fact Sheet Red Line Pages
Attachment 2 Safety Data Sheets

Copy: Sarah Holcomb, NMED/SWQB, sarah.Holcomb@state.nm.us (Hard Copy)
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Michael T. Saladen, Triad/EPC-CP, saladen@lanl.gov
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ATTACHMENT 1

NPDES-FS-18-005-R3, Outfall 03A048 Fact Sheet Red Line Pages

EPC-DO: 20-222

LA-UR-20-24983

JUL 14 2020

Date: _____

Industrial and Sanitary Outfalls
2019 NPDES Permit Re-Application
Outfall 03A048 Fact Sheet

Los Alamos Neutron Science Center (LANSCE) Facility Operations (LFO)
TA-53-963/964 and TA-53-978/979 Cooling Towers

Table 2 identifies the wastewater treatment codes associated with the water treatment system. Attachment C provides photographs of the outfall, cooling towers, and the wastewater treatment equipment.

Table 2
Wastewater Treatment Codes Assigned to Outfall 03A048

Treatment Code	Description	Justification
2-E	Dechlorination	Chlorine Scavenger Chemicals
2-H	Disinfection (other)	Chemicals are added to Control Microorganisms
2-L	Reduction	Chemicals that are Corrosion Inhibitors

The water treatment processes identified in Table 2 utilize chemicals to control corrosion, limit biological growth, and de-chlorinate blowdown prior to discharge. Table 3 provides a list of the chemicals used to treat the water in the cooling towers.

Table 3
List of Treatment Chemicals used in the Operations that Contribute to Outfall 03A048

Source	Chemical Name	Reason for Use	Toxic Pollutant and/or Hazardous Substances Table 2C-3 or 2C-4	
TA-53-963/964 (West) and 978/979 (East) Cooling Towers	Bromicide Tablets	Biocide	Bromo-chloro-5,5-dimethyl hydantoin (chlorine source)	2C-4
	WEST C-358	Corrosion Inhibitor	Sodium hydroxide	2C-4
	WEST R-630	De-Chlorination	Sodium bisulfite	2C-4
	Bright Dyes FLT Yellow/Green Liquid	Water Line & Drain Tracing Dye	NA	NA
	Bright Dyes FLT Yellow/Green Tablet	Water Line & Drain Tracing Dye	NA	NA
	HACH Free Chlorine Buffer Solution	Chlorine monitoring system	NA	NA
	HACH Free Chlorine Indicator Solution	Chlorine monitoring system	NA	NA
	HACH Total Chlorine Solution	Chlorine monitoring system	Sodium Hydroxide, EDTA,	2C-4
	HACH Total Indicator Solution	Chlorine monitoring system	Sulfuric Acid	2C-4
	HACH DPD Compound for Free and Total Chlorine Analyzers	Chlorine monitoring system	NA	NA

2.3 Discharge Rate and Frequency [II.C]

The discharge rates and frequencies for Outfall 03A048 are provided in Table 4.

Table 4
Flow Rates and Frequencies for Discharges to Outfall 03A048

Source [a]	Frequency		Flow Rates and Volumes				
	Days/Week	Months	Average (MGD)	Maximum (MGD)	Average Volume (GPD)	Maximum Volume (GPD)	Duration (days)
TA-53-963/964 (West) and 978/979 (East) Cooling Towers	7	12	0.088	0.169	87,606	168,900	365

a. Calculated between October 2017 and September 2018

GPD = gallons per day, MGD = million gallons per day

3.0 PRODUCTION [Section III]

Section III is not applicable to Outfall 03A048.

4.0 IMPROVEMENTS [Section IV]

Section IV is not applicable to Outfall 03A048.

5.0 INTAKE AND EFFLUENT CHARACTERISTICS [Section V]

5.1 Analytical Data [V.A, B, and C]

The analytical results provided for the Outfall 03A048 Permit Reapplication on the Form 2C were provided from the following sources:

- Samples collected on August 13, 2018 were shipped to an independent laboratory for analysis.
- Field samples collected and analyzed on August 13, 2018 for temperature, residual chlorine, and pH.
- Field samples collected and analyzed on January 29, 2019 for sulfite.
- Discharge Monitoring Report Summary for Outfall 03A048 from October 2014 to September 2018 (Attachment D).
- Calculated Hardness = 126 mg/L ($CaCO_3$)

5.2 Potential Pollutants [V.D]

The treatment chemicals associated with the cooling tower water treatment system, and the potable water used for makeup water to the towers constitute the pollutant load of the discharge to Outfall 03A048. Table 5 identifies the Table 2C-3 and 2C-4 pollutants by discharge source. It also identifies those pollutants (if any) that were detected in the analytical results from the samples collected for the 2019 Permit Renewal Application.

Table 5
Potential Pollutants by Source for Outfall 03A048

Source Description	POTENTIAL Toxic Pollutant and/or Hazardous Substances Table 2C-3 or 2C-4		Analytical Data Results
TA-53-963/964 (West) and 978/979 (East) Cooling Tower	Sodium hydroxide	2C-4	pH = 6.9 – 8.9 S.U.
	Sodium bisulfite	2C-4	Sulfite = 13.8 mg/L [a]
	Sulfuric acid	2C-4	pH = 6.9 – 8.9 S.U.
	EDTA	2C-4	pH = 6.9 – 8.9 S.U.
	Chlorine	2C-4	Residual Chlorine = 0
Potable water used as Makeup water	Chlorine	2C-4	Residual Chlorine = 0

a. Sulfite result may be artificially high because it was collected at a time of year when the cooling load on the towers was low.

The safety data sheets associated with the chemicals used at the cooling towers are provided in Attachment E.

6.0 POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS [Section VI]

Section VI is not applicable to Outfall 03A048.

7.0 BIOLOGICAL TOXICITY TESTING DATA [Section VII]

Section VII is not applicable to Outfall 03A048.

8.0 CONTRACT ANALYSIS INFORMATION [Section VIII]

Samples were collected from the cooling tower blowdown on August 13, 2018 for the Form 2C constituents required by the permit application forms. These samples were submitted to independent laboratories as summarized in Table 6.

Table 6
List of Independent Laboratories Used for NPDES Water Analysis

Laboratory Name	Address and Contact Info	Analytes
GEL Laboratories LLC	2040 Savage Road Charleston SC 29407 (843) 556-8171	Biological Oxygen Demand, General Chemistry, Pesticides, Polychlorinated Biphenyls, Radiochemistry, Semi-volatile

ATTACHMENT E: Safety Data Sheets

LIST OF SAFETY DATA SHEETS
Bromicide Tablets
WEST C-358
WEST R-630
Bright Dyes FLT Yellow/Green Liquid
Bright Dyes FLT Yellow/Green Tablet
HACH Free Chlorine Buffer Solution
HACH Free Chlorine Indicator Solution
HACH Total Chlorine Solution
HACH Total Indicator Solution
HACH DPD Compound for Free and Total Chlorine Analyzers

ATTACHMENT 2

Safety Data Sheets

EPC-DO: 20-222

LA-UR-20-24983

JUL 14 2020

Date: _____

SAFETY DATA SHEET

Be Right™

Issue Date 14-Jun-2019 **Revision Date** 14-Jun-2019 **Version** 1.3

1. Identification

Product identifier

Product Name Free Chlorine Buffer Solution

Other means of identification

Product Code(s) 2314111 (U.S. Product Code 2314111)

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Determination of Free Chlorine.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

2. Hazards identification

Classification

Acute toxicity - Oral	Category 5 - (H303)

Label elements

Signal word - Warning

Hazard statements
H303 - May be harmful if swallowed

Precautionary statements
P312 - Call a POISON CENTER or doctor if you feel unwell

Other Hazards Known
Not applicable

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Synonyms	Percent Range
2-Butenedioic acid (Z)-, dilithium salt	50977-65-6	No information available	20 - 30%
2-Butenedioic acid (Z)-, monolithium salt	85796-96-9	No information available	3 - 7%

4. First aid measures

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical No information available.

Hazardous combustion products Carbon monoxide, Carbon dioxide.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

Special protective actions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	No special protective equipment required.
Skin and body protection	No special protective equipment required.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	**Color**	yellow
Odor	Bland	**Odor threshold**	No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	7.06	
Melting point/freezing point	-65 °C / -85 °F	
Boiling point / boiling range	99 °C / 210 °F	
Evaporation rate	0.53 (water = 1)	
Vapor pressure	22.427 mm Hg / 2.99 kPa at 25 °C / 77 °F	
Vapor density (air = 1)	0.62 (air = 1)	
Specific gravity (water = 1 / air = 1)	1.21	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity

Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
2-Butenedioic acid (Z)-, dilithium salt	50977-65-6	No data available	-
2-Butenedioic acid (Z)-, monolithium salt	85796-96-9	No data available	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available
Flammable properties	
Flash point	No data available
Flammability Limit in Air	
Upper flammability limit	No data available
Lower flammability limit	No data available
Oxidizing properties	No data available.
Bulk density	No data available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous Decomposition Products	Heating to decomposition releases toxic fumes of carbon monoxide and carbon dioxide.

11. Toxicological information

Information on Likely Routes of Exposure

Product Information

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.
Symptoms	No information available.

Acute toxicity
May be harmful if swallowed

Product Acute Toxicity Data
No data available.

Ingredient Acute Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
2-Butenedioic acid	Rat	836 mg/kg	None	None reported	No information available

(Z)-, monolithium salt (3 - 7%) CAS#: 85796-96-9	LD_{50}	reported

Unknown acute toxicity
0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	2,869.50
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
Based on available data, the classification criteria are not met.

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
No data available.

Serious eye damage/eye irritation
Based on available data, the classification criteria are not met.

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
No data available.

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
No data available.

Ingredient Sensitization Data
No data available.

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data
No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
No data available.

Carcinogenicity
Based on available data, the classification criteria are not met.

Product Carcinogenicity Data
No data available.

Ingredient Carcinogenicity Data
No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
2-Butenedioic acid (Z)-, dilithium salt	50977-65-6	-	-	-	-
2-Butenedioic acid (Z)-, monolithium salt	85796-96-9	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* Data
No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data
No data available.

Product Germ Cell Mutagenicity *invivo* Data
No data available.

Ingredient Germ Cell Mutagenicity *invivo* Data
No data available.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity	Based on available data, the classification criteria are not met.
Unknown aquatic toxicity	0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water)	Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient	Not applicable

Other adverse effects
No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. Transportation information

MEX	Not regulated
TDG	Not regulated
DOT	Not regulated
ICAO (air)	Not regulated
IATA	Not regulated
IMDG	Not regulated

RID	Not regulated
ADR	Not regulated
ADN	Not regulated

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Complies.
DSL/NDSL	Complies.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Complies.
KECL	Complies.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

16. Other Information

NFPA	**Health hazards** 0	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS	**Health hazards** 1	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	SKN*	Skin designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By	Hach Product Compliance Department.
Issue Date	14-Jun-2019
Revision Date	14-Jun-2019
Revision Note	None

NOM-018-STPS-2015

The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

End of Safety Data Sheet

SAFETY DATA SHEET

Issue Date 14-Jun-2019 **Revision Date** 14-Jun-2019 **Version** 1.5

1. Identification

Product identifier

Product Name Free Chlorine Indicator Solution

Other means of identification

Product Code(s) 2314011

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Determination of Free Chlorine.

Restrictions on use For Laboratory Use Only.

Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

2. Hazards Identification

Classification

Corrosive to metals	Category 1 - (H290)
Acute toxicity - Oral	Category 5 - (H303)
Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)

Label elements

Signal word - Danger

Hazard statements
H290 - May be corrosive to metals
H303 - May be harmful if swallowed
H314 - Causes severe skin burns and eye damage

Corrosion

Precautionary statements
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P234 - Keep only in original packaging
P390 - Absorb spillage to prevent material damage

Other Hazards Known
Not applicable

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical Family Organic Acid.

Chemical nature Aqueous solution of organic acids.

Chemical name	CAS No.	Synonyms	Percent Range
Toluene, 4-sulfonic acid, monohydrate	6192-52-5	4-Methylbenzenesulfonic acid, monohydrate	5 - 10%

4. First aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open

	while rinsing. Do not rub affected area. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	This material will not burn.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective actions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Other information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Face protection shield.
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	**Color**	colorless
Odor	Irritating	**Odor threshold**	No data available

Property	Values	Remarks • Method
Molecular weight	Not applicable	
pH	0.34	
Melting point/freezing point	-3 °C / 26.6 °F	
Boiling point / boiling range	~ 101 °C / 213.8 °F	
Evaporation rate	0.8 (water = 1)	
Vapor pressure	17.327 mm Hg / 2.31 kPa at 20 °C / 68 °F	
Vapor density (air = 1)	0.62	
Specific gravity (water = 1 / air = 1)	1.027	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	~ 1.5 cP (mPa s) at 20 °C / 68 °F	
Kinematic viscosity	~ 1.461 cSt (mm^2/s) at 20 °C / 68 °F	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Aqueous alkaline solutions	Soluble	> 1000 mg/L	25 °C / 77 °F
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F
Ether	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity
Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate	52.07 mm/yr / 2.05 in/yr
Aluminum Corrosion Rate	No data available /

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Toluene, 4-sulfonic acid, monohydrate	6192-52-5	Not applicable	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	No data available

Flammability Limit in Air

Upper flammability limit	No data available
Lower flammability limit	No data available
Oxidizing properties	No data available.
Bulk density	Not applicable

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Oxidizing agent. Acids. Bases.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information

Information on Likely Routes of Exposure

Product Information

Inhalation	Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
Eye contact	Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Corrosive. Causes severe burns. Avoid contact with skin and clothing.
Ingestion	Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark

blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity
Based on available data, the classification criteria are not met

Product Acute Toxicity Data
No data available.

Ingredient Acute Toxicity Data
No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Toluene, 4-sulfonic acid, monohydrate (5 - 10%) CAS#: 6192-52-5	Rat	400 mg/kg	None reported	None reported	HSDB (Hazardous Substances Data Bank)

Unknown acute toxicity
0.01 % of the mixture consists of ingredient(s) of unknown toxicity.

0.01 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0.01 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0.01 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
0.01 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0.01 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	4,073.00
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
Causes severe burns.

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
No data available.

Serious eye damage/eye irritation
Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
No data available.

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Ingredient Sensitization Data
No data available.

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data
No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
No data available.

Carcinogenicity
Based on available data, the classification criteria are not met.

Product Carcinogenicity Data
No data available.

Ingredient Carcinogenicity Data
No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Toluene, 4-sulfonic acid, monohydrate	6192-52-5	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* Data
No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data
No data available.

Product Germ Cell Mutagenicity *invivo* Data
No data available.

Ingredient Germ Cell Mutagenicity *invivo* Data
No data available.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity Based on available data, the classification criteria are not met.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Toluene, 4-sulfonic acid, monohydrate (5 - 10%) CAS#: 6192-52-5	96 hours	*Oncorhynchus mykiss*	LC_{50}	60 mg/L	IPCS INCHEM (International Programme on Chemical Safety)

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Other adverse effects
No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. Transportation information

MEX

UN/ID no	UN2586
Proper shipping name	Alkylsulphonic acids, liquid
Hazard Class	8
Packing Group	III
Description	UN2586, Alkylsulphonic acids, liquid, 8, III

Note: No special precautions necessary.

TDG

UN/ID no	UN2586
Proper shipping name	Arylsulphonic Acid, Liquid
Hazard Class	8
Packing Group	III
Description	UN2586, Alkylsulfonic acids, liquid, 8, III

DOT

UN/ID no	UN2586
Proper shipping name	Alkylsulfonic acids, liquid
Hazard Class	8
Packing Group	III
Special Provisions	IB3, T4, TP1
Description	UN2586, Alkyl sulfonic acids, liquid, 8, III
Emergency Response Guide Number	153

ICAO (air)

UN/ID no	UN2586
Proper shipping name	Alkylsulphonic acids, liquid
Hazard Class	8
Packing Group	III
Description	UN2586, Alkylsulphonic acids, liquid, 8, III

IATA

UN/ID no	UN2586
Proper shipping name	Alkylsulphonic acids, liquid
Hazard Class	8
Packing Group	III
ERG Code	8L
Special precautions for user	A803

IMDG

UN/ID no	UN2586
Proper shipping name	Alkylsulphonic acids, liquid
Hazard Class	8
Packing Group	III
EmS-No	F-A, S-B

RID

UN/ID no	UN2586
Proper shipping name	Alkylsulphonic acids, liquid*
Hazard Class	8
Packing Group	III

Classification code	C3
Description	UN2586, Alkylsulphonic acids, liquid*, 8, III

ADR

UN/ID no	UN2586
Proper shipping name	Alkylsulphonic acids, liquid
Hazard Class	8
Packing Group	III
Classification code	C3
Tunnel restriction code	(E)
Description	UN2586, Alkylsulphonic acids, liquid, 8, III, (E)
Labels	8

ADN

Proper shipping name	Alkylsulphonic acids, liquid*
Hazard Class	8
Packing Group	III
Classification code	C3
Description	UN2586, Alkylsulphonic acids, liquid*, 8, III
Hazard label(s)	8
Limited quantity (LQ)	5 L

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Complies.
DSL/NDSL	Complies.
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ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

16. Other information

NFPA	**Health hazards** 3	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS	**Health hazards** 3	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	SKN*	Skin designation

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EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By	Hach Product Compliance Department
Issue Date	14-Jun-2019
Revision Date	14-Jun-2019
Revision Note	None

NOM-018-STPS-2015

The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

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End of Safety Data Sheet

SAFETY DATA SHEET

Be Right™

Issue Date 13-Jun-2019 **Revision Date** 13-Jun-2019 **Version** 1.5

1. Identification

Product identifier

Product Name Total Chlorine Buffer Solution

Other means of identification

Product Code(s) 2263511

Recommended use of the chemical and restrictions on use

Recommended Use Buffer.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

2. Hazards identification

Classification

Corrosive to metals	Category 1 - (H290)
Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)

Label elements

Signal word - Danger

Hazard statements
H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage

Corrosion

Precautionary statements
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P234 - Keep only in original packaging
P390 - Absorb spillage to prevent material damage

Other Hazards Known
Not applicable

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Synonyms	Percent Range
Sodium hydroxide	1310-73-2	Caustic soda Sodium hydroxide	1 - 5%
Decyl phenoxybenzenedisulfonic acid, disodium salt	36445-71-3	Benzenesulfonic acid, decyl(sulfophenoxy)-, disodium salt Decyl(sulfophenoxy)benzenesulfonic Acid, Disodium Salt	<1%
Tetrasodium EDTA	64-02-8	Tetrasodium EDTA Tetrasodium ethylenediaminetetraacetate	<1%
Benzenesulfonic acid, oxybis[decyl-, disodium salt	70146-13-3	Oxybis(decylbenzenesulfonic acid)	<0.1%
Sodium sulfite	7757-83-7	Anhydrous sodium sulfite	<0.1%

4. First aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

	Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	Iodine compounds. Carbon monoxide, Carbon dioxide.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective actions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Other information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the

environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits Based on NOM-010-STPS-2014

Chemical name	TWA	STEL	Ceiling Limit Value
Sodium hydroxide 1310-73-2	-	-	2 mg/m³

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Face protection shield
Hand protection	Wear suitable gloves. Impervious gloves
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	**Color**	colorless
Odor	None	**Odor threshold**	No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	11.9	
Melting point/freezing point	~ -13 °C / 9 °F	
Boiling point / boiling range	106 °C / 223 °F	
Evaporation rate	0.61 (water = 1)	
Vapor pressure	22.427 mm Hg / 2.99 kPa at 25 °C / 77 °F	
Vapor density (air = 1)	0.62 (air = 1)	
Specific gravity (water = 1 / air = 1)	1.246	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity
Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate	0.25 mm/yr / 0.01 in/yr
Aluminum Corrosion Rate	754.63 mm/yr / 29.71 in/yr

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sodium hydroxide	1310-73-2	No data available	-
Decyl phenoxybenzenedisulfonic acid, disodium salt	36445-71-3	No data available	-
Tetrasodium EDTA	64-02-8	No data available	-
Benzenesulfonic acid, oxybis[decyl-, disodium salt	70146-13-3	No data available	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	No data available

Flammability Limit in Air

Upper flammability limit	No data available
Lower flammability limit	No data available
Oxidizing properties	No data available.
Bulk density	No data available

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to avoid Exposure to air or moisture over prolonged periods.

Incompatible materials Oxidizing agent. Acids. Bases.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information

Information on Likely Routes of Exposure

Product Information

Inhalation Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Corrosive. Causes severe burns. Avoid contact with skin and clothing.

Ingestion Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity
Based on available data, the classification criteria are not met

Product Acute Toxicity Data
No data available.

Ingredient Acute Toxicity Data
No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Decyl phenoxybenzenedisulfonic acid, disodium salt (<1%) CAS#: 36445-71-3	Rat LD_{50}	1000 mg/kg	None reported	None reported	EPA (United States Environmental Protection Agency)
Tetrasodium EDTA (<1%) CAS#: 64-02-8	Rat LD_{50}	1658 mg/kg	None reported	None reported	ERMA (New Zealands Environmental Risk Management Authority)
Sodium sulfite (<0.1%) CAS#: 7757-83-7	Rat LD_{50}	3560 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Chemical name	**Endpoint type**	**Reported dose**	**Exposure time**	**Toxicological effects**	**Key literature references and sources for data**
Decyl phenoxybenzenedisulfonic acid, disodium salt (<1%) CAS#: 36445-71-3	Rabbit LD_{50}	2000 mg/kg	None reported	None reported	EPA (United States Environmental Protection Agency)
Sodium sulfite (<0.1%) CAS#: 7757-83-7	Rat LD_{50}	2000 mg/kg	None reported	None reported	EPA (United States Environmental Protection Agency)
Chemical name	**Endpoint type**	**Reported dose**	**Exposure time**	**Toxicological effects**	**Key literature references and sources for data**
Sodium sulfite (<0.1%) CAS#: 7757-83-7	Rat LC_{50}	5.5 mg/L	4 hours	None reported	ECHA (The European Chemicals Agency)

Unknown acute toxicity
0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	34,608.00
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
Causes severe burns.

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium hydroxide (1 - 5%) CAS#: 1310-73-2	Patch test	Human	20 mg	24 hours	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)
Decyl phenoxybenzenedisulfonic acid, disodium salt (<1%) CAS#: 36445-71-3	None reported	Rabbit	None reported	None reported	Skin irritant	No information available
Sodium sulfite (<0.1%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)

Serious eye damage/eye irritation
Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium hydroxide (1 - 5%) CAS#: 1310-73-2	Standard Draize Test	Rabbit	0.05 mg	24 hours	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
Decyl phenoxybenzenedisulfonic acid, disodium salt (<1%) CAS#: 36445-71-3	None reported	Rabbit	None reported	None reported	Corrosive to eyes	No information available
Sodium sulfite (<0.1%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA (The European Chemicals Agency)

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
No data available.

Ingredient Sensitization Data

No data available.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium sulfite (<0.1%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data
No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
No data available.

Carcinogenicity
Based on available data, the classification criteria are not met.

Product Carcinogenicity Data
No data available.

Ingredient Carcinogenicity Data
No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sodium hydroxide	1310-73-2	-	-	-	-
Decyl phenoxybenzenedisulfonic acid, disodium salt	36445-71-3	-	-	-	-
Tetrasodium EDTA	64-02-8	-	-	-	-
Benzenesulfonic acid, oxybis[decyl-, disodium salt	70146-13-3	-	-	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* Data
No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data
No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium sulfite (<0.1%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Germ Cell Mutagenicity *invivo* Data
No data available.

Ingredient Germ Cell Mutagenicity *invivo* Data
No data available.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hydroxide (1 - 5%) CAS#: 1310-73-2	96 hours	*Oncorhynchus mykiss*	LC_{50}	45.4 mg/L	IUCLID (The International Uniform Chemical Information Database)
Decyl phenoxybenzenedisulfonic acid, disodium salt (<1%) CAS#: 36445-71-3	96 hours	None reported	LC_{50}	3 mg/L	No information available
Sodium sulfite (<0.1%) CAS#: 7757-83-7	96 hours	*Leuciscus idus*	LC_{50}	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data

Sodium hydroxide (1 - 5%) CAS#: 1310-73-2	48 Hours	*Daphnia sp.*	EC_{50}	40.4 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium sulfite (<0.1%) CAS#: 7757-83-7	48 Hours	*Daphnia magna*	EC_{50}	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay
Chemical name	**Exposure time**	**Species**	**Endpoint type**	**Reported dose**	**Key literature references and sources for data**
Sodium sulfite (<0.1%) CAS#: 7757-83-7	None reported	*Chlamydomonas reinhardtii*	EC_{50}	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Other adverse effects
Contains a substance with an endocrine-disrupting potential.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transportation information

MEX Not regulated

Note: No special precautions necessary.

TDG

UN/ID no	UN1824
Proper shipping name	Sodium Hydroxide Solution
Hazard Class	8
Packing Group	II

DOT

UN/ID no	UN1824
Proper shipping name	Sodium Hydroxide Solution
Hazard Class	8
Packing Group	II

Emergency Response Guide Number	154

ICAO (air) Not regulated

IATA

UN/ID no	UN1824
Hazard Class	8
Packing Group	II
ERG Code	154

IMDG

UN/ID no	UN1824
Hazard Class	8
Packing Group	II

RID Not regulated

ADR

UN/ID no	UN1824
Proper shipping name	Sodium Hydroxide Solution
Hazard Class	8
Packing Group	II

ADN Not regulated

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Complies.
DSL/NDSL	Complies.
EINECS/ELINCS	Complies.
ENCS	Contact supplier for inventory compliance status.
IECSC	Complies.
KECL	Complies.
PICCS	Complies.
AICS	Complies.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

16. Other information

NFPA	**Health hazards** 3	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS	**Health hazards** 3	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	SKN*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By	Hach Product Compliance Department.
Issue Date	13-Jun-2019
Revision Date	13-Jun-2019
Revision Note	None

NOM-018-STPS-2015

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End of Safety Data Sheet

SAFETY DATA SHEET

Issue Date 13-Jun-2019 **Revision Date** 13-Jun-2019 **Version** 1.4

1. Identification

Product identifier

Product Name Total Chlorine Indicator Solution

Other means of identification

Product Code(s) 2263411

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use. Total chlorine analyzer reagent.

Restrictions on use Not applicable.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

2. Hazards identification

Classification

Corrosive to metals	Category 1 - (H290)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)

Label elements

Signal word - Danger

Hazard statements
H290 - May be corrosive to metals
H315 - Causes skin irritation
H318 - Causes serious eye damage

Corrosion

Precautionary statements
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P234 - Keep only in original packaging
P390 - Absorb spillage to prevent material damage

Other Hazards Known
Not applicable

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical Family	Mixture.
Chemical nature	Inorganic acid in aqueous solution.

Chemical name	CAS No.	Synonyms	Percent Range
Sulfuric acid	7664-93-9	Oil of vitriol	5 - 10%

4. First aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Hazardous combustion products	May emit toxic and corrosive fumes.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective actions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
Other information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits Based on NOM-010-STPS-2014.

Chemical name	TWA	STEL	Ceiling Limit Value
Sulfuric acid 7664-93-9	0.2 mg/m³	-	-

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	**Color**	colorless
Odor	None	**Odor threshold**	Not applicable

Property	Values	Remarks • Method
Molecular weight	Not applicable	
pH	< 0.5	
Melting point/freezing point	~ -1 °C / 30.2 °F	
Boiling point / boiling range	~ 100 °C / 212 °F	@ 100 °C
Evaporation rate	0.81 (water = 1)	
Vapor pressure	0.075 mm Hg / 0.01 kPa at 25 °C / 77 °F	

Vapor density (air = 1)	0.03 (air = 1)
Specific gravity (water = 1 / air = 1)	1.056
Partition Coefficient (n-octanol/water)	Not applicable
Soil Organic Carbon-Water Partition Coefficient	Not applicable
Autoignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity	No data available
Kinematic viscosity	No data available

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity
Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate	19.62 mm/yr / 0.77 in/yr
Aluminum Corrosion Rate	7.37 mm/yr / 0.29 in/yr

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfuric acid	7664-93-9	No data available	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	No data available

Flammability Limit in Air

Upper flammability limit	No data available
Lower flammability limit	No data available

Oxidizing properties	No data available.
Bulk density	No data available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Oxidizing agent. Strong acids. Strong bases.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological Information

Information on Likely Routes of Exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.

Acute toxicity
Based on available data, the classification criteria are not met

Product Acute Toxicity Data
No data available.

Ingredient Acute Toxicity Data
No data available.

Unknown acute toxicity
0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
Classification based on data available for ingredients. Irritating to skin.

Product Skin Corrosion/Irritation Data
Test data reported below.

Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
OECD Test 404: Acute Dermal Corrosion/Irritation	Rabbit	0.5 mL	4 hours	Not corrosive to skin	Outside testing

Ingredient Skin Corrosion/Irritation Data
No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (5 - 10%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)

Serious eye damage/eye irritation
Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (5 - 10%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB (Hazardous Substances Data Bank)

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
No data available.

Ingredient Sensitization Data
No data available.

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (5 - 10%) CAS#: 7664-93-9	Human TD_{Lo}	0.144 mg/L	5 minutes	**Lungs, Thorax, or Respiration** Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (5 - 10%) CAS#: 7664-93-9	Human TC_{Lo}	0.003 mg/L	168 days	**Musculoskeletal** Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)

Carcinogenicity

Product Carcinogenicity Data
No data available.

Ingredient Carcinogenicity Data
No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sulfuric acid	7664-93-9	A2	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)	Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)	Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* Data
No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data
No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (5 - 10%) CAS#: 7664-93-9	Cytogenetic analysis	Hamster ovary	4 mmol/L	None reported	Positive test result for mutagenicity	No information available

Product Germ Cell Mutagenicity *invivo* Data
No data available.

Ingredient Germ Cell Mutagenicity *invivo* Data
No data available.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data

Sulfuric acid (5 - 10%) CAS#: 7664-93-9	Rabbit TC_{Lo}	0.02 mg/L	7 hours	**Specific Developmental Abnormalities** Musculoskeletal system	RTECS (Registry of Toxic Effects of Chemical Substances)

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Other adverse effects
No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transportation information

MEX

UN/ID no	UN2796
Proper shipping name	Sulphuric Acid
Hazard Class	8
Packing Group	II
Description	UN2796, Sulphuric acid, 8, II

Note: No special precautions necessary.

TDG

UN/ID no	UN2796
Proper shipping name	Battery fluid, acid
Hazard Class	8
Packing Group	II
Description	UN2796, Battery fluid, acid, 8, II

DOT

UN/ID no	UN2796
Proper shipping name	Sulfuric acid solution
Hazard Class	8
Packing Group	II
Reportable Quantity (RQ)	Sulfuric acid: RQ kg= 4637.39
Special Provisions	A3, A7, B2, B15, IB2, N6, N34, T8, TP2
Description	UN2796, Sulfuric acid solution, 8, II
Emergency Response Guide Number	157

ICAO (air)

UN/ID no	UN2796
Proper shipping name	Battery fluid, acid
Hazard Class	8
Packing Group	II
Description	UN2796, Sulphuric acid solution, 8, II

IATA

UN/ID no	UN2796
Proper shipping name	Sulphuric acid solution
Hazard Class	8
Packing Group	II
ERG Code	8L

IMDG

UN/ID no	UN2796
Proper shipping name	Sulphuric acid
Hazard Class	8
Packing Group	II
EmS-No	F-A, S-B

RID

UN/ID no	UN2796
Proper shipping name	Sulphuric Acid
Hazard Class	8
Packing Group	II
Classification code	C1
Description	UN2796, Sulphuric acid, 8, II

ADR

UN/ID no	UN2796
Proper shipping name	Sulphuric Acid
Hazard Class	8
Packing Group	II
Classification code	C1

Tunnel restriction code	(E)
Description	UN2796, Sulphuric acid, 8, II, (E)
Labels	8

ADN

Proper shipping name	Sulphuric Acid
Hazard Class	8
Packing Group	II
Classification code	C1
Description	UN2796, Sulphuric acid, 8, II
Hazard label(s)	8
Limited quantity (LQ)	1 L

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Complies.
DSL/NDSL	Complies.
EINECS/ELINCS	Complies.
ENCS	Complies.
IECSC	Complies.
KECL	Complies.
PICCS	Complies.
AICS	Complies.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

16. Other information

NFPA	**Health hazards** 3	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS	**Health hazards** 3	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	SKN*	Skin designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By Hach Product Compliance Department.

Issue Date 13-Jun-2019

Revision Date 13-Jun-2019

Revision Note None

NOM-018-STPS-2015

The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

End of Safety Data Sheet

SAFETY DATA SHEET

Be Right™

Issue Date 13-Jun-2019 **Revision Date** 20-Jun-2019 **Version** 1.6

1. Identification

Product Identifier

Product Name DPD Compound for Free and Total Chlorine Analyzers

Other means of identification

Product Code(s) 2297255

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent.

Restrictions on use For Laboratory Use Only.

Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

2. Hazards identification

Classification

Acute toxicity - Oral	Category 4 - (H302)
Serious eye damage/eye irritation	Category 2 - (H319)
Acute aquatic toxicity	Category 3 - (H402)
Chronic aquatic toxicity	Category 3 - (H412)

Label elements

Signal word - Warning

Hazard statements
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

Exclamation mark

Precautionary statements
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P273 - Avoid release to the environment
P501 - Dispose of contents/ container to an approved waste disposal plant
P270 - Do not eat, drink or smoke when using this product
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth

Other Hazards Known
Not applicable

3. Composition/information on ingredients

Substance

Chemical Family	Confidential.
Chemical nature	Confidential.

Chemical name	CAS No.	Synonyms	Percent Range
Salt of N,N-Diethyl-p-Phenylenediamine	-	Confidential	100%

4. First aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Carbon dioxide (CO2). Carbon monoxide.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective actions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
Other information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach

of children.

8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid		
Appearance	powder	**Color**	white
Odor	None	**Odor threshold**	Not applicable

Property	Values	Remarks • Method
Molecular weight	164.24 g/mole	
pH	2.01	5% Solution
Melting point/freezing point	180 °C / 356 °F	
Boiling point / boiling range	No data available	
Evaporation rate	Not applicable	
Vapor pressure	Not applicable	
Vapor density (air = 1)	Not applicable	
Specific gravity (water = 1 / air = 1)	1.226	
Partition Coefficient (n-octanol/water)	No data available	

Soil Organic Carbon-Water Partition Coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity	Not applicable
Kinematic viscosity	Not applicable

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	> 10000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Other Information

Metal Corrosivity

Steel Corrosion Rate	Not applicable
Aluminum Corrosion Rate	Not applicable

Volatile Organic Compounds (VOC) Content
This Product is by Weight 100% an Individual Pure Chemical Substance

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Salt of N,N-Diethyl-p-Phenylenediamine	-	Not applicable	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	Not applicable

Flammability Limit in Air

Upper flammability limit	No data available
Lower flammability limit	No data available

Oxidizing properties	No data available.
Bulk density	No data available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information

Information on Likely Routes of Exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation. May cause redness, itching, and pain.
Skin contact	May cause irritation. Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.
Symptoms	May cause redness and tearing of the eyes.

Acute toxicity
Based on available data, the classification criteria are not met

Product Acute Toxicity Data
If available, see ingredient data below.

Ingredient Acute Toxicity Data
No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (100%) CAS#: -	Rat LD_{50}	695 mg/kg	None reported	None reported	Outside testing

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (100%) CAS#: -	None reported	None reported	None reported	None reported	No information available

Acute Toxicity Estimations (ATE)
Not applicable
The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) No information available

ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
May cause skin irritation.

Product Skin Corrosion/Irritation Data
If available, see ingredient data below.

Ingredient Skin Corrosion/Irritation Data
No data available.

Serious eye damage/eye irritation
Classification based on data available for ingredients. Irritating to eyes.

Product Serious Eye Damage/Eye Irritation Data
If available, see ingredient data below.

Ingredient Eye Damage/Eye Irritation Data
No data available.

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
If available, see ingredient data below.

Ingredient Sensitization Data
No data available.

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data
If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
No data available.

Carcinogenicity
Based on available data, the classification criteria are not met.

Product Carcinogenicity Data
If available, see ingredient data below.

Ingredient Carcinogenicity Data
No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Salt of	-	-	-	-	-

N,N-Diethyl-p-Phenylenedi amine

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* Data
If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity *invitro* Data
No data available.

Product Germ Cell Mutagenicity *invivo* Data
If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity *invivo* Data
No data available.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
If available, see ingredient data below.

Aquatic Chronic Toxicity
If available, see ingredient data below.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data

Salt of N,N-Diethyl-p-Phenyl enediamine (100%) CAS#: -	48 Hours	*Daphina magna*	EC_{50}	10.8 mg/L	Internal Data

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient No data available

Other adverse effects
No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transportation information

MEX Not regulated

TDG Not regulated

DOT Not regulated

ICAO (air) Not regulated

IATA Not regulated

IMDG Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Complies.
DSL/NDSL	Complies.
EINECS/ELINCS	Complies.
ENCS	Complies.
IECSC	Complies.
KECL	Complies.
PICCS	Complies.
AICS	Complies.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

16. Other information

NFPA	**Health hazards** 2	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS	**Health hazards** 2	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	SKN*	Skin designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

End of Safety Data Sheet