EDWARD F. POOLOS
DIRECTOR

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Montgomery, Alabama 36130-1463
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OCT 3 0 2025

GEORGE PARTEN
PLANT MANAGER
TATE & LYLE SUCRALOSE, LLC
588 INDUSTRIAL ROAD
MCINTOSH, AL 36553

RE: DRAFT PERMIT MODIFICATION
NPDES PERMIT NUMBER AL0069736

Dear Mr. Parten:

Transmitted herein is a draft of the referenced permit.

We would appreciate your comments on the permit within **30 days** of the date of this letter. Please direct any comments of a technical or administrative nature to the undersigned.

By copy of this letter and the draft permit, we are also requesting comments within the same time frame from EPA.

Our records indicate that you have utilized the Department's web-based electronic environmental (E2) reporting system for submittal of discharge monitoring reports (DMRs). The Department transitioned from the E2 Reporting System to the Alabama Environmental Permitting and Compliance System (AEPACS) for the submittal of DMRs on November 15, 2021. AEPACS is an electronic system that allows facilities to apply for and maintain permits as well as submit other required applications, registrations, and certifications. In addition, the system allows facilities to submit required compliance reports or other information to the Department. The Department has used the E2 User account information to set up a similar User Profile in AEPACS based on the following criteria:

1. The user has logged in to E2 since October 1, 2019; and
2. The E2 user account is set up using a unique email address.

E2 users that met the above criteria will only need to establish an ADEM Web Portal account (https://prd.adem.alabama.gov/awp) under the same email address as their E2 account to have the same permissions in AEPACS as they did in E2. They will also automatically be linked to the same facilities they were in E2.

The Alabama Department of Environmental Management encourages you to voluntarily consider pollution prevention practices and alternatives at your facility. Pollution Prevention may assist you in complying with effluent limitations, and possibly reduce or eliminate monitoring requirements.

If you have questions regarding this permit or monitoring requirements, please contact Clint Dear by e-mail at **clint.dear@adem.alabama.gov** or by phone at **(334) 271-7851.**

Sincerely,

Scott Jackson, Chief
Industrial Section
Industrial/Municipal Branch
Water Division

Enclosure: Draft Permit

pc via website: Montgomery Field Office
EPA Region IV
U.S. Fish & Wildlife Service
Al Historical Commission
Advisory Council on Historic Preservation
Department of Conservation and Natural Resources

Birmingham Office
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Office
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Coastal Office
1615 South Broad Street
Mobile, AL 36605
(251) 450-3400
(251) 479-2593 (FAX)

Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: TATE & LYLE SUCRALOSE, LLC

FACILITY LOCATION: TATE & LYLE SUCRALOSE, LLC
588 INDUSTRIAL ROAD
MCINTOSH, ALABAMA 36553
WASHINGTON COUNTY

PERMIT NUMBER: AL0069736

RECEIVING WATERS: DSN001 - TOMBIGBEE RIVER
DSN002, DSN003 - UNNAMED TRIBUTARY TO BILBO CREEK

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1388 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-17, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.

ISSUANCE DATE: **MARCH 1, 2024**

EFFECTIVE DATE: **MARCH 1, 2024**

MODIFICATION ISSUANCE DATE:

MODIFICATION EFFECTIVE DATE:

EXPIRATION DATE: **FEBRUARY 28, 2029**

DRAFT

Alabama Department of Environmental Management
Water Division Chief

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PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

DSN 0011: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	272.9 Monthly Average	705.6 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Continuous	Continuous	All Months
Solids, Total Suspended (00530) Effluent Gross Value	342.0 Monthly Average	1069.2 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Monthly	Grab	All Months
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months
Chloride (As Cl) (00940) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months
Length of Longest pH Excursion (72107) 4/ P - See Comments Below	*****	60 Single Sample	min	*****	*****	*****	*****	Continuous	Continuous	All Months
Daily Excursion Time (Min) (82576) 4/ P - See Comments Below	*****	*****	*****	*****	446 Monthly Total	(Report) Cumulative Total	min	Continuous	Continuous	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

4/ 99 percent compliance is required on a monthly basis for pH, with no excursion outside the 6.0 to 9.0 range to exceed sixty (60) minutes in duration. Monthly reports shall contain the following information: A) Minimum and Maximum pH for each day, B) Daily minutes out of the 6.0 to 9.0 range per excursion for each day, C) Total minutes out of the 6.0 to 9.0 range for each month and D) Number of occurrences of pH excursions exceeding 60 minutes.

DSN 001P: PFAS Monitoring 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Perfluorooctanoic Acid (51521) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorobutanoic Acid (51522) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorooctanesulfonamide (51525) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluoropentanoic Acid (51623) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorohexanoic Acid (51624) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluoroheptanoic Acid (51625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorononanoic acid (51626) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorodecanoic Acid (51627) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluoroundecanoic Acid (51628) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

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2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ EPA Method 1633, or alternative methods specifically approved by the Department, shall be used for the analyses of Per- and Polyfluorinated Alkyl Substances (PFAS).

DSN 001P (Continued): PFAS Monitoring 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Perfluorododecanoic acid (51629) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorotridecanoic Acid (51630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorotetradecanoic Acid (51631) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
N-ethyl perfluorooctanesulfonamidoethanol (51641) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
N-methyl perfluorooctanesulfonamidoethanol (51642) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
2-(N-ethyl-PFOSA) acetic acid (51643) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
2-(N-methyl-PFOSA) acetic acid (51644) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorobutanesulfonic acid (52602) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorodecanesulfonic acid (52603) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months

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DSN 001P (Continued): PFAS Monitoring 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Perfluoroheptanesulfonic acid (52604) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorohexanesulfonic acid (52605) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorooctanesulfonic acid (52606) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
1H,1H, 2H, 2H-Perfluorohexane sulfonic acid (52607) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (52608) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
1H,1H, 2H, 2H-Perfluorodecane sulfonic acid (52609) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluoropentansulfonic acid (52610) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorononanesulfonic acid (52611) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Hexafluoropropylene oxide dimer acid (52612) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months

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DSN 001P (Continued): PFAS Monitoring 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Nonafluoro-3,6-dioxaheptanoic acid (52626) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluoro(2-ethoxyethane)sulfonic acid (52629) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluorododecanesulfonic acid (52632) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
4,8-Dioxa-3H-perfluorononanoic acid (52636) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
N-methyl perfluorooctanesulfonamide (52641) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
N-ethyl perfluorooctanesulfonamide (52642) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
3-Perfluoropropyl propanoic acid (PF001) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluoro-3-methoxypropanoic acid (PF002) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (PF003) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months

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2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ EPA Method 1633, or alternative methods specifically approved by the Department, shall be used for the analyses of Per- and Polyfluorinated Alkyl Substances (PFAS).

DSN 001P (Continued): PFAS Monitoring 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (PF004) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
3-Perfluoroheptyl propanoic acid (PF005) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
Perfluoro-4-methoxybutanoic acid (PF006) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months
2H,2H,3H,3H-Perfluorooctanoic acid (PF007) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months

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2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ EPA Method 1633, or alternative methods specifically approved by the Department, shall be used for the analyses of Per- and Polyfluorinated Alkyl Substances (PFAS).

DSN 001Q: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Cyanide, Total (00720) Effluent Gross Value 4/	0 Monthly Average	0 Maximum Daily	Lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Nickel Total Recoverable (01074) Effluent Gross Value	2.241 Monthly Average	5.278 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Zinc, Total (As Zn) (01092) Effluent Gross Value	1.392 Monthly Average	3.461 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Lead, Total Recoverable (01114) Effluent Gross Value	0.424 Monthly Average	0.915 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Chromium Total Recoverable (01118) Effluent Gross Value	1.472 Monthly Average	3.673 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Copper Total Recoverable (01119) Effluent Gross Value	1.923 Monthly Average	4.482 Maximum Daily	lbs/day	*****	10.3 Monthly Average	10.9 Maximum Daily	mg/l	Quarterly	Grab	All Months
Carbon Tetrachloride (32102) Effluent Gross Value	0.104 Monthly Average	0.219 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,2-Dichloroethane (32103) Effluent Gross Value	0.391 Monthly Average	1.215 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Chloroform (32106) Effluent Gross Value	0.121 Monthly Average	0.265 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months

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2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

4/ In lieu of testing for this parameter, the permittee may submit annual certification of non-use. Should the permittee choose this option in lieu of testing, *9 should be reported for cyanide on the quarterly DMR form.

DSN 001Q (Continued): Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Toluene (34010) Effluent Gross Value	0.15 Monthly Average	0.461 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Benzene (34030) Effluent Gross Value	0.213 Monthly Average	0.783 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Acenaphthylene (34200) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Acenaphthene (34205) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Acrylonitrile (34215) Effluent Gross Value	0.553 Monthly Average	1.393 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Anthracene (34220) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Benzo (B) Fluoranthene (3,4-Benzo) (34230) Effluent Gross Value	0.132 Monthly Average	0.351 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Benzo (K) Fluoranthene (34242) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Benzo (A) Pyrene (34247) Effluent Gross Value	0.132 Monthly Average	0.351 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

DSN 001Q (Continued): Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Chlorobenzene (34301) Effluent Gross Value	0.086 Monthly Average	0.161 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Chrysene (34320) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Diethyl Phthalate (34336) Effluent Gross Value	0.466 Monthly Average	1.169 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Dimethyl Phthalate (34341) Effluent Gross Value	0.109 Monthly Average	0.271 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Ethylbenzene (34371) Effluent Gross Value	0.184 Monthly Average	0.622 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Fluoranthene (34376) Effluent Gross Value	0.144 Monthly Average	0.391 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Fluorene (34381) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Hexachloroethane (34396) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Methyl Chloride (34418) Effluent Gross Value	0.495 Monthly Average	1.094 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months

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1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

DSN 001Q (Continued): Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Methylene Chloride (34423) Effluent Gross Value	0.23 Monthly Average	0.512 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Nitrobenzene (34447) Effluent Gross Value	0.155 Monthly Average	0.391 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Phenanthrene (34461) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Pyrene (34469) Effluent Gross Value	0.144 Monthly Average	0.386 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Tetrachloroethylene (34475) Effluent Gross Value	0.127 Monthly Average	0.322 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,1-Dichloroethane (34496) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,1-Dichloroethylene (34501) Effluent Gross Value	0.092 Monthly Average	0.144 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,1,1-Trichloroethane (34506) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,1,2-Trichloroethane (34511) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months

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1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

DSN 001Q (Continued): Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Benzo (A) Anthracene (34526) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,2-Dichlorobenzene (34536) Effluent Gross Value	0.443 Monthly Average	0.938 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,2-Dichloropropane (34541) Effluent Gross Value	0.881 Monthly Average	1.324 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,2-Trans-Dichloroethylene (34546) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,2,4-Trichlorobenzene (34551) Effluent Gross Value	0.391 Monthly Average	0.806 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,3-Dichlorobenzene (34566) Effluent Gross Value	0.178 Monthly Average	0.253 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,4-Dichlorobenzene (34571) Effluent Gross Value	0.086 Monthly Average	0.161 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
2-Chlorophenol (34586) Effluent Gross Value	0.178 Monthly Average	0.564 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
2-Nitrophenol (34591) Effluent Gross Value	0.236 Monthly Average	0.397 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months

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1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

DSN 001Q (Continued): Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
2,4-Dichlorophenol (34601) Effluent Gross Value	0.225 Monthly Average	0.645 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
2,4-Dimethylphenol (34606) Effluent Gross Value	0.104 Monthly Average	0.207 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
2,4-Dinitrotoluene (34611) Effluent Gross Value	0.651 Monthly Average	1.641 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
2,4-Dinitrophenol (34616) Effluent Gross Value	0.409 Monthly Average	0.708 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
2,6-Dinitrotoluene (34626) Effluent Gross Value	1.468 Monthly Average	3.690 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
4-Nitrophenol (34646) Effluent Gross Value	0.415 Monthly Average	0.714 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
4,6-Dinitro-O-Cresol (34657) Effluent Gross Value	0.449 Monthly Average	1.595 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Phenol, Single Compound (34694) Effluent Gross Value	0.086 Monthly Average	0.150 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Naphthalene (34696) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

DSN 001Q (Continued): Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Bis (2-Ethylhexyl) Phthalate (39100) Effluent Gross Value	0.593 Monthly Average	1.606 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Di-N-Butyl Phthalate (39110) Effluent Gross Value	0.155 Monthly Average	0.328 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Vinyl Chloride (39175) Effluent Gross Value	0.599 Monthly Average	1.543 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Trichloroethylene (39180) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Hexachlorobenzene (39700) Effluent Gross Value	0 Monthly Average	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Hexachlorobutadiene (1) (39702) Effluent Gross Value	0.115 Monthly Average	0.282 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
1,3 Dichloropropene (77163) Effluent Gross Value	0.167 Monthly Average	0.253 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months
Chloroethane (85811) Effluent Gross Value	0.599 Monthly Average	1.543 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

DSN 001T: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose. 3/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Toxicity, Ceriodaphnia Acute (61425) Effluent Gross Value	*****	0 Maximum Daily	pass=0:fail=1	*****	*****	*****	*****	Semi-Annually	Grab	All Months
Toxicity, Pimephales Acute (61427) Effluent Gross Value	*****	0 Maximum Daily	pass=0:fail=1	*****	*****	*****	*****	Semi-Annually	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.C. Effluent Toxicity Limitations and Biomonitoring Requirements.

DSN 001Y: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose.

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
Annual Certification Statement (51930) 3/ Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0;No=1	Annually	Not Applicable	All Months

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1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3. By indicating "0" for this parameter, the permittee is certifying that there has been no use of raw materials containing cyanide during the twelve month period from January 1st to December 31st of the previous year. Should the permittee elect to perform and report cyanide testing results on the DMR for DSN001Q, submittal of an annual certification is not required and *9 should be reported for this parameter on the annual DMR form.

DSN 002S: Stormwater associated with non-process areas. 3/4/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Measured	All Months
Solids, Total Dissolved (70295) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Chemical Oxygen Demand (COD) (81017) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months

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1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

4/ See Part IV.B for Stormwater Measurement and Sampling Requirements.

DSN 003S: Stormwater associated with non-process areas (administrative buildings and employee parking). 3/4/

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from the outfall(s) listed above and described more fully in the Permittee's application. Such discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency[2]	Sample Type[1]	Seasonal
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Measured	All Months
Solids, Total Dissolved (70295) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months
Chemical Oxygen Demand (COD) (81017) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

4/ See Part IV.B for Stormwater Measurement and Sampling Requirements.

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this permit.

2. Test Procedures

For the purpose of reporting and compliance, permittees shall use one of the following procedures:

a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h). If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance; however, should EPA approve a method with a lower minimum level during the term of this permit the permittee shall use the newly approved method.

b. For pollutants parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures A and B above shall be reported on the permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

3. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The facility name and location, point source number, date, time and exact place of sampling;

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used, including source of method and method number; and

f. The results of all required analyses.

4. Records Retention and Production

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the above reports or the application for this permit, for a period of at least three years from the date of the sample measurement, report or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director or his designee, the

permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records shall not be submitted unless requested.

All records required to be kept for a period of three years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

5. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

C. DISCHARGE REPORTING REQUIREMENTS

1. Reporting of Monitoring Requirements

a. The permittee shall conduct the required monitoring in accordance with the following schedule:

MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this permit and every month thereafter.

QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this permit, but it should be submitted with the last DMR due for the quarter, i.e., (March, June, September and December DMR's).

SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The permittee shall conduct the semiannual monitoring during the first complete calendar semiannual period following the effective date of this permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this permit, but it should be submitted with the last DMR for the month of the semiannual period, i.e. (June and December DMR's).

ANNUAL MONITORING shall be conducted at least once during the period of January through December. The permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this permit, but it should be submitted with the December DMR.

b. The permittee shall submit discharge monitoring reports (DMRs) on the forms provided by the Department and in accordance with the following schedule:

REPORTS OF MORE FREQUENTLY THAN MONTHLY AND MONTHLY TESTING shall be submitted on a **monthly** basis. The first report is due on the **28th day of April, 2024.** The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF QUARTERLY TESTING shall be submitted on a **quarterly** basis. The first report is due on the **28th day of July, 2024.** The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF SEMIANNUAL TESTING shall be submitted on a semiannual basis. The reports are due on the 28th day of JANUARY and the 28th day of JULY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF ANNUAL TESTING shall be submitted on an annual basis. The first report is due on the 28th day of JANUARY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

c. Except as allowed by Provision I.C.1.c.(1) or (2), the permittee shall submit all Discharge Monitoring Reports (DMRs) required by Provision I.C.1.b electronically.

(1) If the permittee is unable to complete the electronic submittal of DMR data due to technical problems originating with the Department's electronic system (this could include entry/submittal issues with an entire set of DMRs or individual parameters), the permittee is not relieved of their obligation to submit DMR data to the Department by the date specified in Provision I.C.1.b, unless otherwise directed by the Department.

If the Department's electronic system is down on the 28th day of the month in which the DMR is due or is down for an extended period of time, as determined by the Department, when a DMR is required to be submitted, the permittee may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within 5 calendar days of the Department's electronic system resuming operation, the permittee shall enter the data into the Department's electronic system, unless an alternate timeframe is approved by the Department. A comment should be included on the electronic DMR submittal verifying the original submittal date (date of the fax, copy of the dated e-mail, or hand-delivery stamped date), if applicable.

(2) The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable.

Permittees with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The permittee shall submit the Department-approved DMR forms to the address listed in Provision I.C.1.e.

(3) If a permittee is allowed to submit a hard copy DMR, the DMR must be legible and bear an original signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this permit.

(4) If the permittee, using approved analytical methods as specified in Provision I.B.2, monitors any discharge from a point source for a limited substance identified in Provision I.A. of this permit more frequently than required by this permit, the results of such monitoring shall be included in the calculation and reporting of values on the DMR and the increased frequency shall be indicated on the DMR.

(5) In the event no discharge from a point source identified in Provision I.A. of this permit and described more fully in the permittee's application occurs during a monitoring period, the permittee shall report "No Discharge" for such period on the appropriate DMR.

d. All reports and forms required to be submitted by this permit, the AWPCA and the Department's Rules, shall be electronically signed (or, if allowed by the Department, traditionally signed) by a "responsible official" of the permittee as defined in ADEM Administrative Code Rule 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Administrative Code Rule 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

e. Discharge Monitoring Reports required by this permit, the AWPCA, and the Department's Rules that are being submitted in hard copy shall be addressed to:

Alabama Department of Environmental Management
Water Division
Office of Water Services
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail containing Discharge Monitoring Reports shall be addressed to:

Alabama Department of Environmental Management
Water Division
Office of Water Services
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

f. All other correspondence and reports required to be submitted by this permit, the AWPCA, and the Department's Rules shall be addressed to:

Alabama Department of Environmental Management`
Water Division
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

g. If this permit is a re-issuance, then the permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.C.1.b above.

2. Noncompliance Notification

a. 24-Hour Noncompliance Reporting

The permittee shall report to the Director, within 24-hours of becoming aware of the noncompliance, any noncompliance which may endanger health or the environment. This shall include but is not limited to the following circumstances:

(1) does not comply with any daily minimum or maximum discharge limitation for an effluent characteristic specified in Provision I. A. of this permit which is denoted by an "(X)";

(2) threatens human health or welfare, fish or aquatic life, or water quality standards;

(3) does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a);

(4) contains a quantity of a hazardous substance which has been determined may be harmful to public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. Section 1321(b)(4);

(5) exceeds any discharge limitation for an effluent characteristic as a result of an unanticipated bypass or upset; and

(6) is an unpermitted direct or indirect discharge of a pollutant to a water of the state (unpermitted discharges properly reported to the Department under any other requirement are not required to be reported under this provision).

The permittee shall orally report the occurrence and circumstances of such discharge to the Director within 24-hours after the permittee becomes aware of the occurrence of such discharge. In addition to the oral report, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c no later than five (5) days after becoming aware of the occurrence of such discharge.

b. If for any reason, the permittee's discharge does not comply with any limitation of this permit, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c below, such report shall be submitted with the next Discharge Monitoring Report required to be submitted by Part I.C.1 of this permit after becoming aware of the occurrence of such noncompliance.

c. Any written report required to be submitted to the Director or Designee by Part I.C.2 a. or b. shall be submitted using a Noncompliance Notification Form (ADEM Form 421) available on the Department's website (http://adem.alabama.gov/DeptForms/Form421.pdf) and include the following information:

(1) A description of the discharge and cause of noncompliance;

(2) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

(3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

D. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

The permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

2. Termination of Discharge

The permittee shall notify the Director, in writing, when all discharges from any point source(s) identified in Provision I. A. of this permit have permanently ceased. This notification shall serve as sufficient cause for instituting procedures for modification or termination of the permit.

3. Updating Information

a. The permittee shall inform the Director of any change in the permittee's mailing address, telephone number or in the permittee's designation of a facility contact or office having the authority and responsibility to prevent and abate violations of the AWPCA, the Department's Rules, and the terms and conditions of this permit, in writing, no later than ten (10) days after such change. Upon request of the Director or his designee, the permittee shall furnish the Director with an update of any information provided in the permit application.

b. If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

4. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director or his designee may request to determine whether cause exists for modifying, revoking and re-issuing, suspending, or terminating this permit, in whole or in part, or to determine compliance with this permit.

5. Cooling Water and Boiler Water Additives

a. The permittee shall notify the Director in writing not later than thirty (30) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in a cooling or boiler system, not identified in the application for this permit, from which discharge is allowed by this permit. Notification is not required for additives that do not contain a heavy metal(s) as an active ingredient and that pass through a wastewater treatment system prior to discharge nor is notification required for additives that should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer's data or testing by the permittee. Such notification shall include:

(1) name and general composition of biocide or chemical;

(2) 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge will ultimately reach;

(3) quantities to be used;

(4) frequencies of use;

(5) proposed discharge concentrations; and

(6) EPA registration number, if applicable.

b. The use of a biocide or additive containing tributyl tin, tributyl tin oxide, zinc, chromium or related compounds in cooling or boiler system(s), from which a discharge regulated by this permit occurs, is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or additive will not pose a reasonable potential to violate the applicable State water quality standards for these substances. The use of any additive, not identified in this permit or in the

application for this permit or not exempted from notification under this permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

6. Permit Issued Based on Estimated Characteristics

a. If this permit was issued based on estimates of the characteristics of a process discharge reported on an EPA NPDES Application Form 2D (EPA Form 3510-2D), the permittee shall complete and submit an EPA NPDES Application Form 2C (EPA Form 3510-2C) no later than two years after the date that discharge begins. Sampling required for completion of the Form 2C shall occur when a discharge(s) from the process(s) causing the new or increased discharge is occurring. If this permit was issued based on estimates concerning the composition of a stormwater discharge(s), the permittee shall perform the sampling required by EPA NPDES Application Form 2F (EPA Form 3510-2F) no later than one year after the industrial activity generating the stormwater discharge has been fully initiated.

b. This permit shall be reopened if required to address any new information resulting from the completion and submittal of the Form 2C and or 2F.

E. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the discharge limitations specified in Provision I. A. in accordance with the following schedule:

COMPLIANCE SHALL BE ATTAINED ON THE EFFECTIVE DATE OF THIS PERMIT

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

PART II: OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit.

2. Best Management Practices

a. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director or his designee has granted prior written authorization for dilution to meet water quality requirements.

b. The permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. Section 112 if required thereby.

c. The permittee shall prepare, submit for approval and implement a Best Management Practices (BMP) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a significant potential for discharge, if so required by the Director or his designee. When submitted and approved, the BMP Plan shall become a part of this permit and all requirements of the BMP Plan shall become requirements of this permit.

3. Spill Prevention, Control, and Management

The permittee shall provide spill prevention, control, and/or management sufficient to prevent any spills of pollutants from entering a water of the state or a publicly or privately owned treatment works. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and which shall prevent the contamination of groundwater and such containment system shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided.

B. OTHER RESPONSIBILITIES

1. Duty to Mitigate Adverse Impacts

The permittee shall promptly take all reasonable steps to mitigate and minimize or prevent any adverse impact on human health or the environment resulting from noncompliance with any discharge limitation specified in Provision I. A. of this permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as necessary to determine the nature and impact of the noncomplying discharge.

2. Right of Entry and Inspection

The permittee shall allow the Director, or an authorized representative, upon the presentation of proper credentials and other documents as may be required by law to:

a. enter upon the permittee's premises where a regulated facility or activity or point source is located or conducted, or where records must be kept under the conditions of the permit;

b. have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

c. inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

d. sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

C. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in b. and c. below:

b. A bypass is not prohibited if:

(1) It does not cause any discharge limitation specified in Provision I. A. of this permit to be exceeded;

(2) It enters the same receiving stream as the permitted outfall; and

(3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and

(3) The permittee submits a written request for authorization to bypass to the Director at least ten (10) days prior to the anticipated bypass (if possible), the permittee is granted such authorization, and the permittee complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass.

d. The permittee has the burden of establishing that each of the conditions of Provision II.C.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in a. and an exemption, where applicable, from the discharge limitations specified in Provision I. A. of this permit.

2. Upset

a. A discharge which results from an upset need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, the permittee orally reports the occurrence and circumstances of the upset to the Director or his designee; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, the permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, or other relevant evidence, demonstrating that (i) an upset occurred; (ii) the permittee can identify the specific cause(s) of the upset; (iii) the permittee's facility was being properly operated at the time of the upset; and (iv) the permittee promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset.

b. The permittee has the burden of establishing that each of the conditions of Provision II. C.2.a. of this permit have been met to qualify for an exemption from the discharge limitations specified in Provision I.A. of this permit.

D. DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES

1. Duty to Comply

a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the AWPCA and the FWPCA and is grounds for enforcement action, for permit termination, revocation and reissuance, suspension, modification; or denial of a permit renewal application.

b. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of the permit shall not be a defense for a permittee in an enforcement action.

c. The discharge of a pollutant from a source not specifically identified in the permit application for this permit and not specifically included in the description of an outfall in this permit is not authorized and shall constitute noncompliance with this permit.

d. The permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this permit or to minimize or prevent any adverse impact of any permit violation.

e. Nothing in this permit shall be construed to preclude and negate the permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, Federal, State, or Local Government permits, certifications, licenses, or other approvals.

2. Removed Substances

Solids, sludges, filter backwash, or any other pollutant or other waste removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department Rules.

3. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facilities, including but not limited to the loss or failure of the primary source of power of the treatment facility, the permittee shall, where necessary to maintain compliance with the discharge limitations specified in Provision I. A. of this permit, or any other terms or conditions of this permit, cease, reduce, or otherwise control production and/or all discharges until treatment is restored. If control of discharge during loss or failure of the primary source of power is to be accomplished by means of alternate power sources, standby generators, or retention of inadequately treated effluent, the permittee must furnish to the Director within six months a certification that such control mechanisms have been installed.

4. Compliance with Statutes and Rules

a. This permit has been issued under ADEM Administrative Code, Chapter 335-6-6. All provisions of this chapter, that are applicable to this permit, are hereby made a part of this permit. A copy of this chapter may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36130.

b. This permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

E. PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, AND REISSUANCE

1. Duty to Reapply or Notify of Intent to Cease Discharge

a. If the permittee intends to continue to discharge beyond the expiration date of this permit, the permittee shall file a complete permit application for reissuance of this permit at least 180 days prior to its expiration. If the permittee does not intend to continue discharge beyond the expiration of this permit, the permittee shall submit written notification of this intent which shall be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Administrative Code Rule 335-6-6-.09.

b. Failure of the permittee to apply for reissuance at least 180 days prior to permit expiration will void the automatic continuation of the expiring permit provided by ADEM Administrative Code Rule 335-6-6-.06 and should the permit not be reissued for any reason any discharge after expiration of this permit will be an unpermitted discharge.

2. Change in Discharge

a. The permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants or increase the quantity of a discharged pollutant such that existing permit limitations would be exceeded or that could result in an additional discharge point. This requirement applies to pollutants that are or that are not subject to discharge limitations in this permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

b. The permittee shall notify the Director as soon as it is known or there is reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(i) one hundred micrograms per liter;

(ii) two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dini-trophenol; and one milligram per liter for antimony;

(iii) five times the maximum concentration value reported for that pollutant in the permit application; or

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

(i) five hundred micrograms per liter;

(ii) one milligram per liter for antimony;

(iii) ten times the maximum concentration value reported for that pollutant in the permit application.

3. Transfer of Permit

This permit may not be transferred or the name of the permittee changed without notice to the Director and subsequent modification or revocation and reissuance of the permit to identify the new permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership or control of the permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership or control of the permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership or control, he may decide not to modify the existing permit and require the submission of a new permit application.

4. Permit Modification and Revocation

a. This permit may be modified or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to revoke and reissue this permit instead of terminating the permit;

(2) If a request to transfer this permit has been received, the Director may decide to revoke and reissue or to modify the permit; or

(3) If modification or revocation and reissuance is requested by the permittee and cause exists, the Director may grant the request.

b. This permit may be modified during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to modify this permit instead of terminating this permit;

(2) There are material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(3) The Director has received new information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;

(4) A new or revised requirement(s) of any applicable standard or limitation is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA;

(5) Errors in calculation of discharge limitations or typographical or clerical errors were made;

(6) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;

(7) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, permits may be modified to change compliance schedules;

(8) To agree with a granted variance under 30l(c), 30l(g), 30l(h), 30l(k), or 3l6(a) of the FWPCA or for fundamentally different factors;

(9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;

(10) When required by the reopener conditions in this permit;

(11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);

(12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;

(13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or

(14) When requested by the permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules.

5. Permit Termination

This permit may be terminated during its term for cause, including but not limited to, the following:

a. Violation of any term or condition of this permit;

b. The permittee's misrepresentation or failure to disclose fully all relevant facts in the permit application or during the permit issuance process or the permittee's misrepresentation of any relevant facts at any time;

c. Materially false or inaccurate statements or information in the permit application or the permit;

d. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

e. The permittee's discharge threatens human life or welfare or the maintenance of water quality standards;

f. Permanent closure of the facility generating the wastewater permitted to be discharged by this permit or permanent cessation of wastewater discharge;

g. New or revised requirements of any applicable standard or limitation that is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA that the Director determines cannot be complied with by the permittee; or

h. Any other cause allowed by the ADEM Administrative Code, Chapter 335-6-6.

6. Permit Suspension

This permit may be suspended during its term for noncompliance until the permittee has taken action(s) necessary to achieve compliance.

7. Request for Permit Action Does Not Stay Any Permit Requirement

The filing of a request by the permittee for modification, suspension or revocation of this permit, in whole or in part, does not stay any permit term or condition.

F. Compliance with Toxic Pollutant Standard or Prohibition

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a), for a toxic pollutant discharged by the permittee and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Provision I. A. of this permit, or controls a pollutant not limited in Provision I. A. of this permit, this permit shall be modified to conform to the toxic pollutant effluent standard or prohibition and the permittee shall be notified of such modification. If this permit has not been modified to conform to the toxic pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the permittee shall attain compliance with the requirements of the standard or prohibition within the time period required by the standard or prohibition and shall continue to comply with the standard or prohibition until this permit is modified or reissued.

G. Discharge of Wastewater Generated by Others

The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the permittee or not identified in the application for this permit or not identified specifically in the description of an outfall in this permit is not authorized by this permit.

PART III: OTHER PERMIT CONDITIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under the permit shall, upon conviction, be subject to penalties as provided by the AWPCA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties as provided by the AWPCA.

3. Permit Enforcement

a. Any NPDES permit issued or reissued by the Department is a permit for the purpose of the AWPCA and the FWPCA and as such any terms, conditions, or limitations of the permit are enforceable under state and federal law.

b. Any person required to have a NPDES permit pursuant to ADEM Administrative Code Chapter 335-6-6 and who discharges pollutants without said permit, who violates the conditions of said permit, who discharges pollutants in a manner not authorized by the permit, or who violates applicable orders of the Department or any applicable rule or standard of the Department, is subject to any one or combination of the following enforcement actions under applicable state statutes.

(1) An administrative order requiring abatement, compliance, mitigation, cessation, clean-up, and/or penalties;

(2) An action for damages;

(3) An action for injunctive relief; or

(4) An action for penalties.

c. If the permittee is not in compliance with the conditions of an expiring or expired permit the Director may choose to do any or all of the following provided the permittee has made a timely and complete application for reissuance of the permit:

(1) initiate enforcement action based upon the permit which has been continued;

(2) issue a notice of intent to deny the permit reissuance. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) reissue the new permit with appropriate conditions; or

(4) take other actions authorized by these rules and AWPCA.

4. Relief from Liability

Except as provided in Provision II.C.1 (Bypass) and Provision II.C.2 (Upset), nothing in this permit shall be construed to relieve the permittee of civil or criminal liability under the AWPCA or FWPCA for noncompliance with any term or condition of this permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the FWPCA, 33 U.S.C. Section 1321.

C. PROPERTY AND OTHER RIGHTS

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of federal, state, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the state or of the United States.

D. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, Section 22-22-9(c), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential.

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

1. If this permit was issued for a new discharger or new source, this permit shall expire eighteen months after the issuance date if construction of the facility has not begun during the eighteen-month period.

2. If this permit was issued or modified to allow the discharge of increased quantities of pollutants to accommodate the modification of an existing facility and if construction of this modification has not begun during the eighteen month period after issuance of this permit or permit modification, this permit shall be modified to reduce the quantities of pollutants allowed to be discharged to those levels that would have been allowed if the modification of the facility had not been planned.

3. Construction has begun when the owner or operator has:

   a. begun, or caused to begin as part of a continuous on-site construction program:

      (1) any placement, assembly, or installation of facilities or equipment; or

      (2) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

   b. entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

F. COMPLIANCE WITH WATER QUALITY STANDARDS

1. On the basis of the permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this permit should assure compliance with the applicable water quality standards.

2. Compliance with permit terms and conditions notwithstanding, if the permittee's discharge(s) from point sources identified in Provision I. A. of this permit cause or contribute to a condition in contravention of state water quality standards, the Department may require abatement action to be taken by the permittee in emergency situations or modify the permit pursuant to the Department's Rules, or both.

3. If the Department determines, on the basis of a notice provided pursuant to this permit or any investigation, inspection or sampling, that a modification of this permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the discharge until the permit has been modified.

G. GROUNDWATER

Unless specifically authorized under this permit, this permit does not authorize the discharge of pollutants to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem and the Director may require that the Permittee undertake measures to abate any such discharge and/or contamination.

H. DEFINITIONS

1. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

2. Average weekly discharge limitation - means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

3. Arithmetic Mean – means the summation of the individual values of any set of values divided by the number of individual values.

4. AWPCA - means the Alabama Water Pollution Control Act.

5. BOD – means the five-day measure of the pollutant parameter biochemical oxygen demand.

6. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.

7. CBOD – means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.

8. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.

9. Daily maximum - means the highest value of any individual sample result obtained during a day.

10. Daily minimum - means the lowest value of any individual sample result obtained during a day.

11. Day - means any consecutive 24-hour period.

12. Department - means the Alabama Department of Environmental Management.

13. Director - means the Director of the Department.

14. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other wastes into waters of the state". Code of Alabama 1975, Section 22-22-1(b)(8).

15. Discharge Monitoring Report (DMR) - means the form approved by the Director to accomplish reporting requirements of an NPDES permit.

16. DO – means dissolved oxygen.

17. 8HC – means 8-hour composite sample, including any of the following:

    a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

    b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

18. EPA - means the United States Environmental Protection Agency.

19. FC – means the pollutant parameter fecal coliform.

20. Flow – means the total volume of discharge in a 24-hour period.

21. FWPCA - means the Federal Water Pollution Control Act.

22. Geometric Mean – means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).

23. Grab Sample – means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.

24. Indirect Discharger – means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.

25. Industrial User – means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.

26. MGD – means million gallons per day.

27. Monthly Average – means, other than for fecal coliform bacteria, the arithmetic mean of the entire composite or grab samples taken for the daily discharges collected in one month period. The monthly average for fecal coliform bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period.

28. New Discharger – means a person, owning or operating any building, structure, facility or installation:

    a. from which there is or may be a discharge of pollutants;

    b. that did not commence the discharge of pollutants prior to August 13, 1979, and which is not a new source; and

    c. which has never received a final effective NPDES permit for dischargers at that site.

29. NH3-N – means the pollutant parameter ammonia, measured as nitrogen.

30. Permit application - means forms and additional information that is required by ADEM Administrative Code Rule 335-6-6-.08 and applicable permit fees.

31. Point source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, . . . from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. Section 1362(14).

32. Pollutant - includes for purposes of this permit, but is not limited to, those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and those effluent characteristics specified in Provision I. A. of this permit.

33. Privately Owned Treatment Works – means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".

34. Publicly Owned Treatment Works – means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.

35. Receiving Stream – means the "waters" receiving a "discharge" from a "point source".

36. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

37. Significant Source – means a source which discharges 0.025 MGD or more to a POTW or greater than five percent of the treatment work's capacity, or a source which is a primary industry as defined by the U.S. EPA or which discharges a priority or toxic pollutant.

38. Solvent – means any virgin, used or spent organic solvent(s) identified in the F-Listed wastes (F001 through F005) specified in 40 CFR 261.31 that is used for the purpose of solubilizing other materials.

39. TKN – means the pollutant parameter Total Kjeldahl Nitrogen.

40. TON – means the pollutant parameter Total Organic Nitrogen.

41. TRC – means Total Residual Chlorine.

42. TSS – means the pollutant parameter Total Suspended Solids.

43. 24HC – means 24-hour composite sample, including any of the following:

    a. the mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;

    b. a sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or

    c. a sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

44. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

45. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, Section 22-22-1(b)(2). Waters "include all navigable waters" as defined in Section 502(7) of the FWPCA, 22 U.S.C. Section 1362(7), which are within the State of Alabama.

46. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

47. Weekly (7-day and calendar week) Average – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

I. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART IV: ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS

1. BMP Plan

The permittee shall develop and implement a Best Management Practices (BMP) Plan which prevents, or minimizes the potential for, the release of pollutants from ancillary activities, including material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas, to the waters of the State through plant site runoff; spillage or leaks; sludge or waste disposal; or drainage from raw material storage.

2. Plan Content

The permittee shall prepare and implement a best management practices (BMP) plan, which shall:

a. Establish specific objectives for the control of pollutants:

(1) Each facility component or system shall be examined for its potential for causing a release of significant amounts of pollutants to waters of the State due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

(2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g. precipitation), or circumstances to result in significant amounts of pollutants reaching surface waters, the plan should include a prediction of the direction, rate of flow, and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

b. Establish specific best management practices to meet the objectives identified under paragraph a. of this section, addressing each component or system capable of causing a release of significant amounts of pollutants to the waters of the State, and identifying specific preventative or remedial measures to be implemented;

c. Establish a program to identify and repair leaking equipment items and damaged containment structures, which may contribute to contaminated stormwater runoff. This program must include regular visual inspections of equipment, containment structures and of the facility in general to ensure that the BMP is continually implemented and effective;

d. Prevent the spillage or loss of fluids, oil, grease, gasoline, etc. from vehicle and equipment maintenance activities and thereby prevent the contamination of stormwater from these substances;

e. Prevent or minimize stormwater contact with material stored on site;

f. Designate by position or name the person or persons responsible for the day to day implementation of the BMP;

g. Provide for routine inspections, on days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general. Routine inspections should be done at a frequency to ensure that the BMP is continually implemented and effective and in no case less frequent than once per year;

h. Provide for the use and disposal of any material used to absorb spilled fluids that could contaminate stormwater;

i. Develop a solvent management plan, if solvents are used on site. The solvent management plan shall include as a minimum lists of the solvents on site; the disposal method of solvents used instead of dumping, such as reclamation, contract hauling; and the procedures for assuring that solvents do not routinely spill or leak into the stormwater;

j. Provide for the disposal of all used oils, hydraulic fluids, firefighting foams, solvent degreasing material, etc. in accordance with good management practices and any applicable state or federal regulations;

k. Include a diagram of the facility showing the locations where stormwater exits the facility, the locations of any structure or other mechanisms intended to prevent pollution of stormwater or to remove pollutants from stormwater, the locations of any collection and handling systems;

l. Provide control sufficient to prevent or control pollution of stormwater by soil particles to the degree required to maintain compliance with the water quality standard for turbidity applicable to the waterbody(s) receiving discharge(s) under this permit;

m. Provide spill prevention, control, and/or management sufficient to prevent or minimize contaminated stormwater runoff. Any containment system used to implement this requirement shall be constructed of materials compatible with the

substance(s) contained and shall prevent the contamination of groundwater. The containment system shall also be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided;

n. Provide and maintain curbing, diking or other means of isolating process areas to the extent necessary to allow segregation and collection for treatment of contaminated stormwater from process areas;

o. Be reviewed by plant engineering staff and the plant manager; and

p. Bear the signature of the plant manager.

3. Compliance Schedule

The permittee shall have reviewed (and revised if necessary) and fully implemented the BMP plan as soon as practicable but no later than six months after the effective date of this permit.

4. Department Review

a. When requested by the Director or his designee, the permittee shall make the BMP available for Department review.

b. The Director or his designee may notify the permittee at any time that the BMP is deficient and require correction of the deficiency.

c. The permittee shall correct any BMP deficiency identified by the Director or his designee within 30 days of receipt of notification and shall certify to the Department that the correction has been made and implemented.

5. Administrative Procedures

a. A copy of the BMP shall be maintained at the facility and shall be available for inspection by representatives of the Department.

b. A log of the routine inspection required above shall be maintained at the facility and shall be available for inspection by representatives of the Department. The log shall contain records of all inspections performed for the last three years and each entry shall be signed by the person performing the inspection.

c. The permittee shall provide training for any personnel required to implement the BMP and shall retain documentation of such training at the facility. This documentation shall be available for inspection by representatives of the Department. Training shall be performed prior to the date that implementation of the BMP is required.

d. BMP Plan Modification. The permittee shall amend the BMP plan whenever there is a change in the facility or change in operation of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.

e. BMP Plan Review. The permittee shall complete a review and evaluation of the BMP plan at least once every three years from the date of preparation of the BMP plan. Documentation of the BMP Plan review and evaluation shall be signed and dated by the Plant Manager.

B. STORMWATER FLOW MEASUREMENT AND SAMPLING REQUIREMENTS

1. Stormwater Flow Measurement

a. All stormwater samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches.

b. The total volume of stormwater discharged for the event must be monitored, including the date and duration (in hours) and rainfall (in inches) for storm event(s) sampled. The duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event must be a minimum of 72 hours. This information must be recorded as part of the sampling procedure and records retained according to Part I.B. of this permit.

c. The volume may be measured using flow measuring devices, or estimated based on a modification of the Rational Method using total depth of rainfall, the size of the drainage area serving a stormwater outfall, and an estimate of the runoff coefficient of the drainage area. This information must be recorded as part of the sampling procedure and records retained according to Part I.B. of this permit.

2. Stormwater Sampling

a. A grab sample, if required by this permit, shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable); and a flow-weighted composite sample, if required by this permit, shall be taken for the entire event or for the first three hours of the event.

b. All test procedures will be in accordance with part I.B. of this permit.

C. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS

1. The permittee shall perform 48-hour acute toxicity tests on the wastewater discharges required to be tested for acute toxicity by Part I of this permit.

a. Test Requirements

(1) The samples shall be diluted, using an appropriate control water, to the Instream Waste Concentration (IWC) which is 2.0% effluent. The IWC is the actual concentration of effluent, after mixing, in the receiving stream during a 1-day, 10-year flow period.

(2) Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this permit.

b. General Test Requirements

(1) A grab sample shall be obtained for use in the above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the permittee and approved by the Department.

(2) Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the permittee shall rerun the tests as soon as practical within the monitoring period.

(3) In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

c. Reporting Requirements

(1) The permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

(2) Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 2. of this part, an effluent toxicity report containing the information in Section 2. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

d. Additional Testing Requirements

(1) If acute toxicity is indicated (noncompliance with permit limit), the permittee shall perform four additional valid acute toxicity tests in accordance with these procedures to determine the extent and duration of the toxic condition. The toxicity tests shall be performed once per week and shall be performed during the first four calendar weeks following the date on which the permittee became aware of the permit noncompliance and the results of these tests shall be submitted no later than 28 days following the month in which the tests were performed.

(2) After evaluation of the results of the follow-up tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

e. Test Methods

The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

2. Effluent toxicity testing reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any time suspend or reinstate this requirement or may increase or decrease the frequency of submittals.

a. Introduction

(1) Facility Name, location and county

(2) Permit number

(3) Toxicity testing requirements of permit

(4) Name of receiving water body

(5) Contract laboratory information (if tests are performed under contract)

(i) Name of firm

(ii) Telephone number

(iii) Address

(6) Objective of test

b. Plant Operations

(1) Discharge operating schedule (if other than continuous)

(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection date (MGD, CFS, GPM)

(3) Design flow of treatment facility at time of sampling

c. Source of Effluent and Dilution Water

(1) Effluent samples

(i) Sampling point

(ii) Sample collection dates and times (to include composite sample start and finish times)

(iii) Sample collection method

(iv) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)

(v) Sample temperature when received at the laboratory

(vi Lapsed time from sample collection to delivery

(vii)Lapsed time from sample collection to test intiation

(2) Dilution Water Samples

(i) Source

(ii) Collection date(s) and time(s) (where applicable)

(iii) Pretreatment

(iv) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductance, etc.)

d. Test Conditions

(1) Toxicity test method utilized

(2) End point(s) of test

(3) Deviations from referenced method, if any, and reason(s)

(4) Date and time test started

(5) Date and time test terminated

(6) Type and volume of test chambers

(7) Volume of solution per chamber

(8) Number of organisms per test chamber

(9) Number of replicate test chambers per treatment

(10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)

(11) Feeding frequency, and amount and type of food

(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

(2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)

(3) Dilution water utilized in reference toxicant test

(4) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.

(5) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate

(2) Provide table of endpoints: LC50, NOAEC, Pass/Fail (as required in the applicable NPDES permit)

(3) Indicate statistical methods used to calculate endpoints

(4) Provide all physical and chemical data required by method

(5) Results of test(s) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD).

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Action to be taken

Adapted from "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", Fifth Edition, October 2002 (EPA 821-R-02-012), Section 12, Report Preparation

D. COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS

The entity providing water to the permittee is a public water system in accordance with Section 1401 of the Safe Drinking Water Act or the water used for cooling consists of effluent, which would otherwise be discharged; therefore, the permittee is exempt from this permit condition.

ADEM PERMIT RATIONALE

PREPARED DATE: September 30, 2025
PREPARED BY: Clint Dear

Permittee Name: Tate & Lyle Sucralose, LLC

Facility Name: Tate & Lyle Sucralose, LLC

Permit Number: AL0069736

PERMIT IS FOR A MAJOR MODIFICATION

DISCHARGE SERIAL NUMBERS (DSN) & DESCRIPTIONS:

DSN	Description
001	Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater, salt recovery system wastewater and stormwater associated with the production of Sucralose.
002	Stormwater associated with non-process areas.
003	Stormwater associated with non-process areas (administrative buildings and employee parking).

INDUSTRIAL CATEGORY: **40 CFR 414** - Organic Chemicals and Synthetic Fibers Subpart H

MAJOR: **No**

STREAM INFORMATION:

Receiving Stream:	Tombigbee River (DSN001) / U T to Bilbo Creek (DSN002 & DSN003)
Classification:	Fish & Wildlife
River Basin:	Tombigbee River Basin
7Q10:	1458 cfs / 0 cfs
1Q10:	1094 cfs / 0 cfs
Annual Average Flow:	29,178 cfs / 0 cfs
303(d) List:	Yes / No
Impairment:	Metals (Mercury) / N/A
TMDL:	No / No

DISCUSSION:

This permit modification proposes the continuation of semi-annual monitoring requirements for 48-hour acute toxicity. In the current permit, an instream waste concentration (IWC) of 19% was required for toxicity testing based on a mixing zone analysis performed by the Department's Water Quality Branch dated September 22, 2023. In this modification, toxicity testing will be required using an updated IWC of 2.0% based on the mixing zone analysis performed by the Department's Water Quality Branch dated March 24, 2025. The model predicted an Acute ZID (zone of initial dilution) IWC of 1.6%; however, based on the Department's toxicity of monitoring protocols, this value is rounded to 2.0%.

The Department has updated the BMP language located in Part IV.A.2.g of the Permit. The Permit Condition now states, "Provide for routine inspections, or days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general. Routine inspections should be done at a frequency to ensure that the BMP is continually implemented and effective and in no case less frequent than once per year." This clarification was added to be consistent with 40 CFR Part 122.43(c).

DSN0011: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater. salt recovery system wastewater and stormwater associated with production of Sucralose.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	272.9 Monthly Average	705.6 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months	EGL
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	Continuous	Continuous	All Months	EGL/BPJ
Solids, Total Suspended (00530) Effluent Gross Value	342.0 Monthly Average	1069.2 Maximum Daily	lbs/day	*****	*****	*****	*****	3X Weekly test	Composite	All Months	EGL
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Monthly	Grab	All Months	BPJ
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months	BPJ
Chloride (As Cl) (00940) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	lbs/day	*****	*****	*****	*****	Monthly	Composite	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months	BPJ
Length of Longest pH Excursion (72107) P - See Comments Below	*****	60 Single Sample	min	*****	*****	*****	*****	Continuous	Continuous	All Months	BPJ
Daily Excursion Time (Min) (82576) P - See Comments Below	*****	*****	*****	*****	446 Monthly Total	(Report) Cumulative Total	min	Continuous	Continuous	All Months	BPJ
pH Range Excursions, > 60 Minutes (82581) P - See Comments Below	*****	(Report) Total	occur/month	*****	*****	*****	*****	Continuous	Continuous	All Months	BPJ

DSN001P: PFAS Monitoring (Method 1633) - Semiannual

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Perfluorooctanoic Acid (51521) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorobutanoic Acid (51522) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorooctanesulfonamide (51525) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluoropentanoic Acid (51623) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorohexanoic Acid (51624) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Perfluoroheptanoic Acid (51625) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorononanoic acid (51626) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorodecanoic Acid (51627) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluoroundecanoic Acid (51628) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorododecanoic acid (51629) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorotridecanoic Acid (51630) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorotetradecanoic Acid (51631) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
N-ethyl perfluorooctanesulfonamidoethanol (51641) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
N-methyl perfluorooctanesulfonamidoethanol (51642) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
2-(N-ethyl-PFOSA) acetic acid (51643) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
2-(N-methyl-PFOSA) acetic acid (51644) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorobutanesulfonic acid (52602) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorodecanesulfonic acid (52603) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluoroheptanesulfonic acid (52604) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorohexanesulfonic acid (52605) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorooctanesulfonic acid (52606) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
1H,1H, 2H, 2H-Perfluorohexane sulfonic acid (52607) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (52608) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
1H,1H, 2H, 2H-Perfluorodecane sulfonic acid (52609) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluoropentansulfonic acid (52610) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorononanesulfonic acid (52611) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Hexafluoropropylene oxide dimer acid (52612) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Nonafluoro-3,6-dioxaheptanoic acid (52626) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluoro(2-ethoxyethane)sulfonic acid (52629) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluorododecanesulfonic acid (52632) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
4,8-Dioxa-3H-perfluorononanoic acid (52636) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
N-methyl perfluorooctanesulfonamide (52641) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
N-ethyl perfluorooctanesulfonamide (52642) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
3-Perfluoropropyl propanoic acid (PF001) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluoro-3-methoxypropanoic acid (PF002) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (PF003) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (PF004) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
3-Perfluoroheptyl propanoic acid (PF005) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
Perfluoro-4-methoxybutanoic acid (PF006) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ
2H,2H,3H,3H-Perfluorooctanoic acid (PF007) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Single Sample	ng/l	Semi-Annually	Grab	All Months	BPJ

DSN001Q: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater. salt recovery system wastewater and stormwater associated with production of Sucralose.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Cyanide, Total (As CN) (00720) Effluent Gross Value	0 Monthly Average	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Nickel Total Recoverable (01074) Effluent Gross Value	2.241 Monthly Average	5.278 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	BPJ
Zinc, Total (As Zn) (01092) Effluent Gross Value	1.392 Monthly Average	3.461 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	BPJ
Lead, Total Recoverable (01114) Effluent Gross Value	0.424 Monthly Average	0.915 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	BPJ
Chromium Total Recoverable (01118) Effluent Gross Value	1.472 Monthly Average	3.673 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	BPJ
Copper Total Recoverable (01119) Effluent Gross Value	1.923 Monthly Average	4.482 Maximum Daily	lbs/day	*****	10.3 Monthly Average	10.9 Maximum Daily	mg/l	Quarterly	Grab	All Months	EGL
Carbon Tetrachloride (32102) Effluent Gross Value	0.104 Monthly Average	0.219 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,2-Dichloroethane (32103) Effluent Gross Value	0.391 Monthly Average	1.215 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Chloroform (32106) Effluent Gross Value	0.121 Monthly Average	0.265 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Toluene (34010) Effluent Gross Value	0.15 Monthly Average	0.461 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Benzene (34030) Effluent Gross Value	0.213 Monthly Average	0.783 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Acenaphthylene (34200) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Acenaphthene (34205) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Acrylonitrile (34215) Effluent Gross Value	0.553 Monthly Average	1.393 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Anthracene (34220) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Benzo (B) Fluoranthene (3,4-Benzo) (34230) Effluent Gross Value	0.132 Monthly Average	0.351 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Benzo (K) Fluoranthene (34242) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Benzo (A) Pyrene (34247) Effluent Gross Value	0.132 Monthly Average	0.351 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Chlorobenzene (34301) Effluent Gross Value	0.086 Monthly Average	0.161 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Chrysene (34320) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Diethyl Phthalate (34336) Effluent Gross Value	0.466 Monthly Average	1.169 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Dimethyl Phthalate (34341) Effluent Gross Value	0.109 Monthly Average	0.271 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Ethylbenzene (34371) Effluent Gross Value	0.184 Monthly Average	0.622 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Fluoranthene (34376) Effluent Gross Value	0.144 Monthly Average	0.391 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Fluorene (34381) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Hexachloroethane (34396) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Methyl Chloride (34418) Effluent Gross Value	0.495 Monthly Average	1.094 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Methylene Chloride (34423) Effluent Gross Value	0.23 Monthly Average	0.512 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Nitrobenzene (34447) Effluent Gross Value	0.155 Monthly Average	0.391 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Phenanthrene (34461) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Pyrene (34469) Effluent Gross Value	0.144 Monthly Average	0.386 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Tetrachloroethylene (34475) Effluent Gross Value	0.127 Monthly Average	0.322 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,1-Dichloroethane (34496) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,1-Dichloroethylene (34501) Effluent Gross Value	0.092 Monthly Average	0.144 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
1,1,1-Trichloroethane (34506) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,1,2-Trichloroethane (34511) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Benzo (A) Anthracene (34526) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,2-Dichlorobenzene (34536) Effluent Gross Value	0.443 Monthly Average	0.938 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,2-Dichloropropane (34541) Effluent Gross Value	0.881 Monthly Average	1.324 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,2-Trans-Dichloroethylene (34546) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,2,4-Trichlorobenzene (34551) Effluent Gross Value	0.391 Monthly Average	0.806 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,3-Dichlorobenzene (34566) Effluent Gross Value	0.178 Monthly Average	0.253 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,4-Dichlorobenzene (34571) Effluent Gross Value	0.086 Monthly Average	0.161 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
2-Chlorophenol (34586) Effluent Gross Value	0.178 Monthly Average	0.564 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
2-Nitrophenol (34591) Effluent Gross Value	0.236 Monthly Average	0.397 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
2,4-Dichlorophenol (34601) Effluent Gross Value	0.225 Monthly Average	0.645 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
2,4-Dimethylphenol (34606) Effluent Gross Value	0.104 Monthly Average	0.207 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
2,4-Dinitrotoluene (34611) Effluent Gross Value	0.651 Monthly Average	1.641 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
2,4-Dinitrophenol (34616) Effluent Gross Value	0.409 Monthly Average	0.708 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
2,6-Dinitrotoluene (34626) Effluent Gross Value	1.468 Monthly Average	3.690 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
4-Nitrophenol (34646) Effluent Gross Value	0.415 Monthly Average	0.714 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
4,6-Dinitro-O-Cresol (34657) Effluent Gross Value	0.449 Monthly Average	1.595 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Phenol, Single Compound (34694) Effluent Gross Value	0.086 Monthly Average	0.150 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Naphthalene (34696) Effluent Gross Value	0.127 Monthly Average	0.340 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Bis (2-Ethylhexyl) Phthalate (39100) Effluent Gross Value	0.593 Monthly Average	1.606 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Di-N-Butyl Phthalate (39110) Effluent Gross Value	0.155 Monthly Average	0.328 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Vinyl Chloride (39175) Effluent Gross Value	0.599 Monthly Average	1.543 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Trichloroethylene (39180) Effluent Gross Value	0.121 Monthly Average	0.311 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Hexachlorobenzene (39700) Effluent Gross Value	0 Monthly Average	0 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Hexachlorobutadiene (1) (39702) Effluent Gross Value	0.115 Monthly Average	0.282 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
1,3 Dichloropropene (77163) Effluent Gross Value	0.167 Monthly Average	0.253 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL
Chloroethane (85811) Effluent Gross Value	0.599 Monthly Average	1.543 Maximum Daily	lbs/day	*****	*****	*****	*****	Quarterly	Grab	All Months	EGL

DSN001S: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater. salt recovery system wastewater and stormwater associated with production of Sucralose.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Mercury Total Recoverable (71901) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	303(d)

DSN001T: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater. salt recovery system wastewater and stormwater associated with production of Sucralose.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Toxicity, Ceriodaphnia Acute (61425) Effluent Gross Value	*****	0 Maximum Daily	pass=0;fail=1	*****	*****	*****	*****	Semi-Annually	Grab	All Months	WQBEL
Toxicity, Pimephales Acute (61427) Effluent Gross Value	*****	0 Maximum Daily	pass=0;fail=1	*****	*****	*****	*****	Semi-Annually	Grab	All Months	WQBEL

DSN001Y: Treated process wastewater, boiler blowdown, non-contact cooling water, sanitary wastewater. salt recovery system wastewater and stormwater associated with production of Sucralose.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
Annual Certification Statement (51930) Effluent Gross Value	*****	*****	*****	*****	*****	0 Maximum Daily	Yes=0; No=1	Annually	Not Applicable	All Months	EGL

DSN002S: Stormwater associated with non-process areas.

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Measured	All Months	BPJ
Solids, Total Dissolved (70295) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Chemical Oxygen Demand (COD) (81017) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ

DSN003S: Stormwater associated with non-process areas (administrative buildings and employee parking).

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq	Sample Type	Seasonal	Basis
BOD, 5-Day (20 Deg. C) (00310) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
pH (00400) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Semi-Annually	Grab	All Months	BPJ
Solids, Total Suspended (00530) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Oil & Grease (00556) Effluent Gross Value	*****	*****	*****	*****	*****	15 Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Semi-Annually	Measured	All Months	BPJ
Solids, Total Dissolved (70295) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ
Chemical Oxygen Demand (COD) (81017) Effluent Gross Value	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Semi-Annually	Grab	All Months	BPJ

*Basis for Permit Limitation

- BPJ – Best Professional Judgment
- WQBEL – Water Quality Based Effluent Limits
- EGL – Federal Effluent Guideline Limitations
- 303(d) – 303(d) List of Impaired Waters
- TMDL – Total Maximum Daily Load Requirements

NPDES Individual Permit Mod/Reissue (Form 187) - Supplementary Information for Industrial Facilities

version 2.11

(Submission #: HQC-J7YX-NKFNK, version 1)

Details

Submission ID HQC-J7YX-NKFNK

Form Input

General Instructions

This form should be used to submit the following permit requests for permitted Industrial Individual NPDES facilities

•Permit Transfers
•Permittee/Facility Name Changes
•Minor Modifications, for example:
> Frequency of monitoring or reporting modifications
> Changes to interim compliance dates in a schedule of compliance, not including the final compliance date.
> Removal of a point source outfall, provided the discharge is terminated and does not result in discharge of pollutants from other outfalls, except in accordance with permit limits.
•Major Modifications, (Any modifications not covered by minor mod's, whether Effluent Limit changes occur or not)
•Reissuances
•Reissuance of a permit due to approaching expiration
•Revocation and Reissuance of permit prior to its scheduled expiration

Applicable Base Fees:
•Permit Transfers and/or Permittee/Facility Name Changes
> $800
•Minor Modifications (see examples above)
> $3,940 (Major Sources)
> $3,120 (Minor Sources)
•Major Modifications
> $17,990 (Major Sources)
> $5,615 (Minor Sources)
•Reissuances
> $17,990 (Major Sources)
> $5,615 (Minor Sources)

For assistance, please click here to determine the permit staff responsible for the site or call (334) 271-7799

Processing Information

Purpose of Application
Minor Modification

Please indicate if the Permittee is applying for a permit transfer and/or name change in addition to permit modification or reissuance:
None

Action Type
Minor Modification

Brief description of the action/change that has resulted in the request for this permit modification:
The site requests updated IWC value to 1.6%. This value was determined by the CORMIX1 predicted model submitted 11/8/2024.

For your minor modifications, please attach the supporting information detailing the changes at this facility requiring this minor modification request:

031602031103 AL0069736 MZ 03-24-2025 WET TOMRB RGS TOMBIGBEE RIVER-TATE & LYLE SUCRALOSE, LLC.pdf - 05/13/2025 12:20 PM

Comment

NONE PROVIDED

General Information

SID Permit Number (if your facility currently holds an SID permit, please provide that number below):

NONE PROVIDED

NPDES or General Permit Numbers (if applicable, please list all permit numbers):

AL0069736

Is this facility/site only applying for permit coverage for discharges from stormwater?

Yes

Permit Information

Permit Number

AL0069736

Current Permittee Name

Tate & Lyle Sucralose, LLC

Permittee

Permittee Name

Tate & Lyle Sucralose, LLC

Mailing Address

588 Industrial Road

McIntosh, AL 36553

Per ADEM Admin. Code r. 335-6-6-.09 (1), a Responsible Official is defined as CEO, President, any position at a level of Vice President or higher, Owner, Partner, Managing Member (LLC), or ranking elected official. Please provide the contact information for the person meeting this definition.

Do NOT enter information for a person that is/will be a Duly Authorized Representative (DAR) (i.e. a person that has been delegated signatory permissions by a Responsible Official). A person that is a Duly Authorized Representative is NOT considered a RESPONSIBLE OFFICIAL.

Responsible Official

Prefix
Mr.

First Name	Last Name
George	Parten

Title
Plant Manager

Organization Name
Tate & Lyle Sucralose, LLC

Phone Type	Number	Extension
Business	2519443656	

Email
george.parten@tateandlyle.com

Mailing Address

588 Industrial Road

McIntosh, AL 36553

Does the Responsible Official intend to delegate signatory authority for DMRs or other compliance reports to an individual as a duly authorized representative (DAR) for this site?
No

Existing Permit Contacts

Affiliation Type	Contact Information	Remove?
Engineer,DMR Contact	David "Monte" Carpenter, Tate and Lyle Sucralose LLC	*NONE PROVIDED*
Responsible Official,Environmental Contact,Notification Recipient	George Parten, Tate & Lyle Sucralose, LLC	*NONE PROVIDED*
Permittee	Tate & Lyle Sucralose, LLC	*NONE PROVIDED*

Facility/Site Information

Facility/Site Name
Tate & Lyle Sucralose, LLC

Organization/Ownership Type
LLC

Facility/Site Address or Location Description

588 Industrial Road

McIntosh, AL 36553

Facility/Site County
Washington

Detailed Directions to the Facility/Site
NONE PROVIDED

Facility Map
2021 Site Map DSN001 Attachment.pdf - 05/13/2025 12:10 PM
Comment
NONE PROVIDED

Please refer to the link below for Lat/Long map instruction help:
Map Instruction Help

Facility/Site Front Gate Latitude and Longitude
31.25310000000000,-88.01760000000002

588 Industrial Road, McIntosh, AL

SIC Code(s) [Please enter Primary SIC Code first followed by any additional applicable SIC Codes]
2869-Industrial Organic Chemicals

NAICS Code(s) [Please enter Primary NAICS Code first followed by any additional applicable NAICS Codes]
325199-All Other Basic Organic Chemical Manufacturing

Facility/Site Contact

Prefix
Mrs.

First Name	Last Name
Shaquondra	Manuel

Title
Environmental Manager

Organization Name
Tate & Lyle

Phone Type	Number	Extension
Business	2514019847	

Email
shaquondra.manuel@tateandlyle.com

Address
588 Industrial Road
McIntosh, AL 36553

DMR Contact(s) (1 of 1)

DMR Contact

Prefix
Mrs.

First Name	Last Name
Shaquondra	Manuel

Title
Environmental Manager

Phone Type	Number	Extension
Business	2514019847	

Email
shaquondra.manuel@tateandlyle.com

Address
588 Industrial Road
McIntosh, AL 36553

Additional Attachments

Please attach any additional information as needed.
NONE PROVIDED
Comment
NONE PROVIDED

Application Preparer

Application Preparer

Prefix
Mrs.

First Name	Last Name
Shaquondra	Manuel

Title
Environmental Manager

Organization Name
Tate & Lyle

Phone Type	Number	Extension
Business	2514019847	

Email
shaquondra.manuel@tateandlyle.com

Address
588 Industrial Road
McIntosh, AL 36553

Agreements and Signature(s)

SUBMISSION AGREEMENTS

- ☑ I am the owner of the account used to perform the electronic submission and signature.
- ☑ I have the authority to submit the data on behalf of the facility I am representing.
- ☑ I agree that providing the account credentials to sign the submission document constitutes an electronic signature equivalent to my written signature.
- ☑ I have reviewed the electronic form being submitted in its entirety, and agree to the validity and accuracy of the information contained within it to the best of my knowledge.

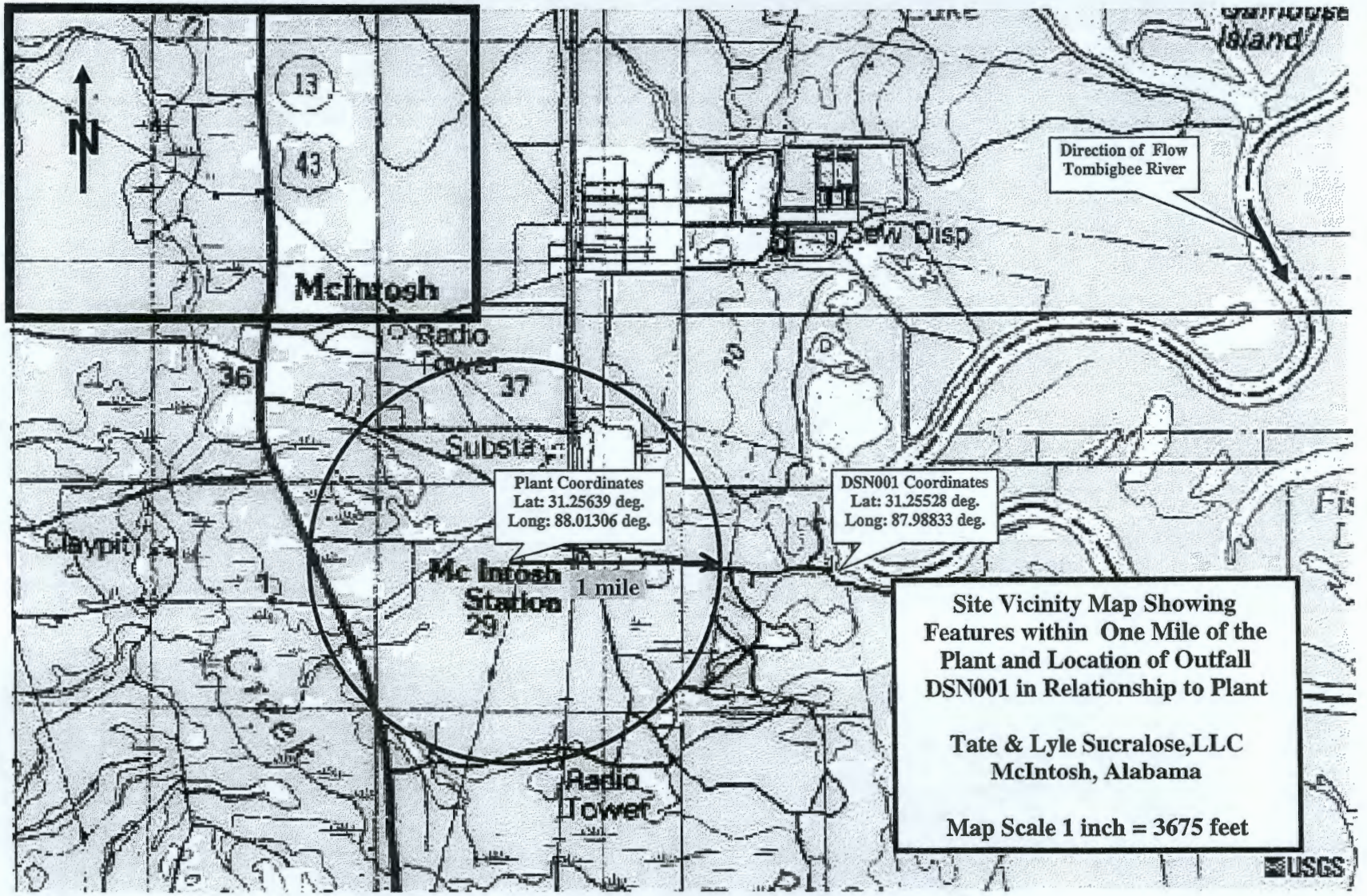
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted; based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

"I further certify under penalty of law that all analyses reported as less than detectable in this application or attachments thereto were performed using the EPA approved test method having the lowest detection limit for the substance tested."

NOTE: 335-6-5-.14 SIGNATORIES TO PERMIT APPLICATIONS AND REPORTS.
The application shall be signed by a responsible official, a request for variance from categorical pretreatment standards, and a category determination request shall be signed by a responsible official, as indicated below:

- *In the case of a corporation, by a principal executive officer of at least the level of vice president;*
- *In the case of a partnership, by a general partner;*
- *In the case of a sole proprietorship, by the proprietor; or*
- *In the case of a municipal, state, federal, or other public entity, by either a principal executive officer, or ranking elected official*

Signed By George Parten on 05/14/2025 at 8:50 AM


N
13
43
McIntosh
Direction of Flow
Tombigbee River
Sew Disp
Island
Radio
Tower
36
37
Substa
Plant Coordinates
Lat: 31.25639 deg.
Long: 88.01306 deg.
DSN001 Coordinates
Lat: 31.25528 deg.
Long: 87.98833 deg.
Claypit
Mc Intosh
Station
29
1 mile
Radio
Tower
Site Vicinity Map Showing
Features within One Mile of the
Plant and Location of Outfall
DSN001 in Relationship to Plant
Tate & Lyle Sucralose,LLC
McIntosh, Alabama
Map Scale 1 inch = 3675 feet
USGS

Mixing Zone Analysis Summary

REQUEST INFORMATION

request number: 4031

From: (Responsible Engineer) Clint Dear — In Branch/Section: Industrial

Date Submitted: 11/8/2024 — **Date Required:** 12/8/2024 — **FUND Code:** 210

Date Permit application received by NPDES program:

Receiving Waterbody: Tombigbee River

Previous Stream Name:

Facility Name: Tate & Lyle Sucralose, LLC (Name of Discharger-WQ will use to file)

Previous Discharger Name:

River Basin: Tombigbee — **Outfall Latitude:** 31.256012 (decimal degrees)

***County:** Washington — **Outfall Longitude:** -87.987019 (decimal degrees)

Permit Number: AL0069736 — **Permit Type:** Permit Reissuance

Permit Status: Active

Type of Discharger: INDUSTRIAL

Do other discharges exist that may impact the model? ☐ Yes ☑ No

If yes, impacting dischargers names.	Impacting dischargers permit numbers.

Existing Discharge Design Flow: MGD

Proposed Discharge Design Flow: 0.8352 MGD

Note: The flow rates given should be those requested for modeling.

Seasonal limits requested? ☐ Yes ☑ No

If not seasonal, only the summer sections will be used

Comments included: ☑ Yes ☐ No

Information Verified By: KDP

Year File Was Started:

12 Digit HUC Code: 031602031103

Date of MZ Response: 3/24/2025

Use Classification: F&W

Site Visit Completed? ☐ Yes ☑ No

Date of Site Visit:

Hydrology			Method Used to Calculate
Drainage Area	19755	sq mi	
Stream 7Q10	1539	cfs	ADEM Estimate w/USGS Gage Data
Stream 1Q10	1154	cfs	75%of 7Q10
Stream 7Q2	2658	cfs	ADEM Estimate w/USGS Gage Data
Annual Average	28982	cfs	ADEM Estimate w/USGS Gage Data

Date of MZ Analysis: 3/21/2025

Model Completed by: Keosha Powell

Pollutant Category

Whole Effluent Toxicity (WET) ☑ **Thermal** ☐ **Pathogens** ☐

Mixing Zone Analysis Summary

WET Parameters

Summer

Acute

Ambient Streamflow	1154	cfs
ZID Length	5.42	Meters
ZID IWC	1.6	%

Chronic

Ambient Streamflow		cfs
Mixing Zone Length		Meters
Mixing Zone IWC		%

Winter

Acute

Ambient Streamflow		cfs
ZID Length	5.42	Meters
ZID IWC		%

Chronic

Ambient Streamflow		cfs
Mixing Zone Length		Meters
Mixing Zone IWC		%

Thermal Parameters

Summer

Ambient Streamflow		cfs
Mixing Zone Length		Meters
Max. Effluent Temp		°C

Winter

Ambient Streamflow		cfs
Mixing Zone Length		Meters
Max. Effluent Temp		°C

Pathogen Parameters

Summer

Ambient Streamflow		cfs
ZID Length		Meters
Max. Effluent Fecal Conc		Cols/100 mls
Max. Effluent E. coli Conc		Cols/100 mls
Monthly Average Effluent E. coli Conc		Cols/100 mls
Max. Effluent Enterococci Conc (for coastal waters)		Cols/100 mls

Winter

Ambient Streamflow		cfs
ZID Length		Meters
Max. Effluent Fecal Conc		Cols/100 mls
Max. Effluent E. coli Conc		Cols/100 mls
Monthly Average Effluent E. coli Conc		Cols/100 mls
Max. Effluent Enterococci Conc (for coastal waters)		Cols/100 mls

Comments and/or Notations: This model reflects the addition of a new Tideflex valve to the facility's discharge pipe. A site visit was conducted in 2021 for the previous mixing zone analysis (see 9/22/2023 mixing zone response for site visit information).

Tombigbee River / Tate and Lyle Sucralose, LLC

ADEM

Alabama Department of Environmental Management

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CORMIX Rationale: Tate and Lyle Sucralose, LLC

I. BACKGROUND

Clint Dear, NPDES Industrial Section, submitted a CORMIX model request to the Water Quality Branch on November 8, 2024, for Tate and Lyle Sucralose, LLC as part of a permit re-issuance. The facility has an average discharge flow rate of 0.8352 MGD (1.292 cfs), and the receiving waterbody is the Tombigbee River. The previous CORMIX model for this facility was completed by Keosha Powell in September 2023. The facility has requested an updated model that reflects the addition of a new Tideflex valve to their discharge pipe.

II. AMBIENT CONDITIONS

The facility discharges to the Tombigbee River. This segment of the Tombigbee River has a use classification of Fish and Wildlife (F&W). Low-flow data obtained from the reference gauge (USGS 02469761) gave a 7Q10 value of 1434.62 cfs. Using the ratio method of drainage areas, the calculated 7Q10 and 1Q10 values at the discharge location are 1539 cfs and 1154 cfs, respectively. A limiting dilution of 1192:1 was calculated using the effluent flow rate of 0.8352 MGD (1.292 cfs) and the 7Q10 of 1539 cfs. Therefore, based upon the established ADEM protocol for Whole Effluent Toxicity (WET) determination, acute toxicity using the 1Q10 applicable at the edge of the zone of initial dilution (ZID) will be employed. The applicable distance to the edge of the ZID is 5.42 m (17.78 ft), based upon the criterion stating that the ZID is equal to fifty times the discharge length scale in any spatial direction. CORMIX evaluation outputs can be found in the following sections of this report.

III. DISCHARGE CONFIGURATION

The existing discharge structure (submerged endpipe) is submerged approximately 23 feet in the Tombigbee River. The discharge is perpendicular to river flow and extends from the right bank. The end pipe is 12 inches (0.3048 m) in diameter and issues 85 degrees vertically. The Permittee indicated that there will now be a Tideflex valve at the end of the pipe that has an effective diameter of 4.817 inches (0.122 m). The discharge pipe is raised 6 ft (1.83 m) above the river bottom.

IV. MODEL EVALUATION

CORMIX1 was utilized to model the submerged endpipe. The region of interest is the ZID equal to 5.42 m. The CORMIX1 model predicted an acute IWC value of 1.6%.

V. MIXING ZONE/ZID CRITERIA

General Information

Facility:	Tate and Lyle Sucralose, LLC
Permit #:	AL0069736
Current Outfall #:	001

Receiving Waterbody:	Tombigbee River
Discharger Latitude:	31.256012
Discharger Longitude:	-87.987019

Ambient Conditions

Receiving Waterbody 7Q10:	1539	cfs	*43.58*	*cms*
Receiving Waterbody 1Q10:	1154	cfs	*32.68*	*cms*

Width of Waterbody @ discharge point:	187	m	*613.55*	*ft*
Depth of Waterbody @ discharge point:	7	m	*22.96*	*ft*
Average depth @ discharge point:	7	m	*22.96*	*ft*

Discharge Conditions:

Discharge flow rate:	[illegible]	MGD	*1.292*	*cfs*

WET Protocol

Limiting Dilution $S_{lim}=[(Qw+7Q10)/Qw]$	1192
Applicable Flow to Use in Model	1Q10
Applicable Toxicity	Acute @ Edge of the ZID

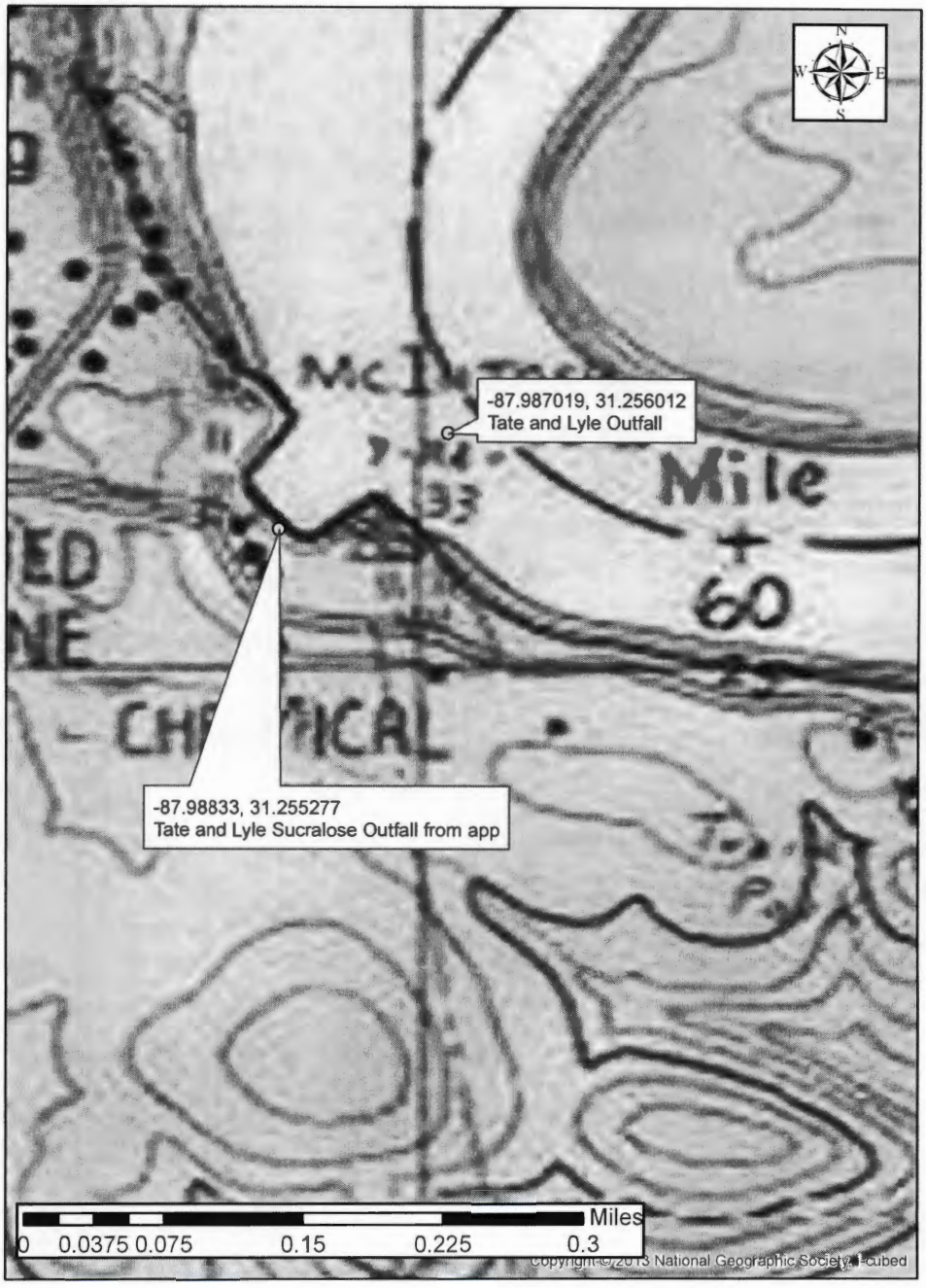
ZID Criteria

1. 10% of the mixing zone distance in any spatial direction *Equals 0.1 x 93.5 m*	*9.35 m*	*30.68 ft*
2. 5 times the local water depth in any horizontal direction *Equals 5 x 7 m*	*35 m*	*114.84 ft*
3. 50 times the discharge length scale (DLS) in any spatial direction *Equals 50 x 0.108*	*5.42 m*	*17.78 ft*

Appendices

I. AREA MAPS

Figure 1: Tate and Lyle Sucralose, LLC Outfall Location Map (Topographic Overlay)



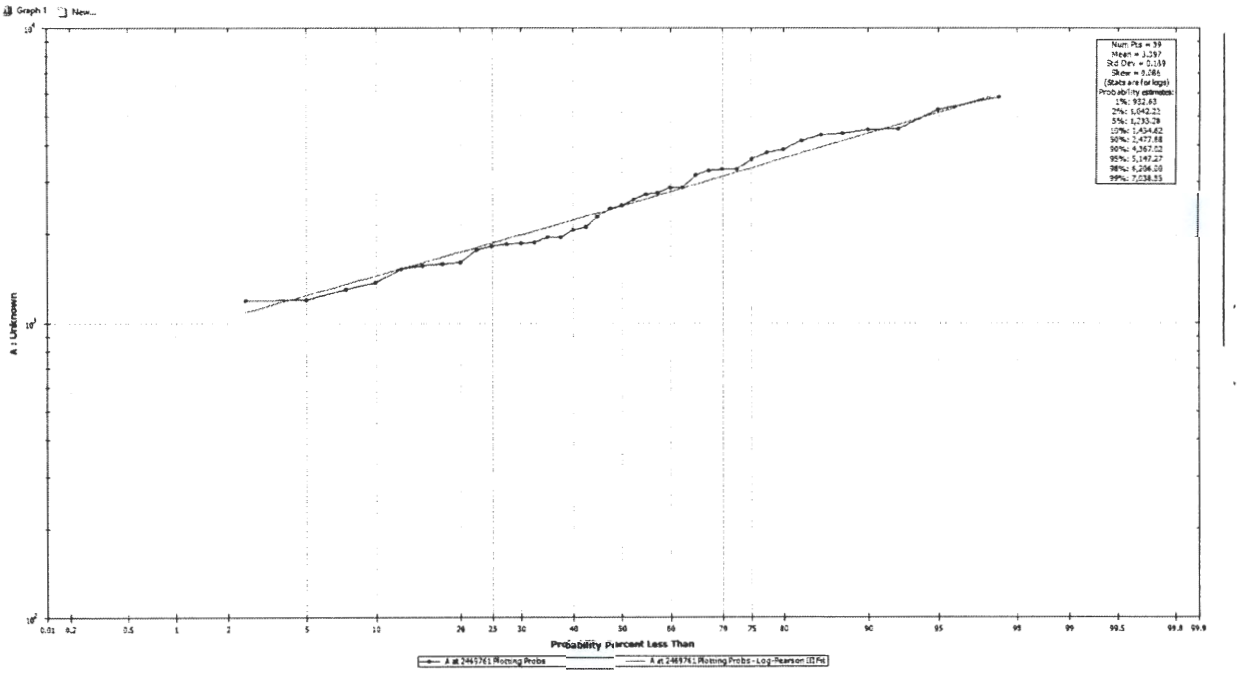
Receiving Waterbody: Tombigbee River
County: Washington
Performed by: KDP – Water Quality

Figure 2: Tate and Lyle Sucralose LLC Outfall Location Map (Aerial Overlay)

Receiving Waterbody: Tombigbee River
County: Washington
Performed by: KDP – Water Quality

II. AMBIENT FLOW CALCULATIONS

Figure 6: Calculated low-flows from WRDB 6.1 at the reference gauge (02469761)



Tombigbee River at the discharge:

Using USGS 02469761

$7Q10 = 19755\ mi^2 * (1434.62\ cfs / 18417\ mi^2) = 1539\ cfs$

$7Q2 = 19755\ mi^2 * (2477.68\ cfs / 18417\ mi^2) = 2658\ cfs$

$1Q10 = 0.75 * 1539\ cfs = 1154\ cfs$

III. CORMIX MODEL PRINTOUTS

The following pages contain outputs for CORMIX1.

```
CORMIX1 PREDICTION FILE:
1111111111111111111111111111111111111111111111111111111111111111111111111111
11111111111111111111
                        CORMIX MIXING ZONE EXPERT SYSTEM
                    Subsystem CORMIX1: Single Port Discharges
                             CORMIX Version 12.0GTD
                      HYDRO1 Version 12.0.0.0 December 2020
------------------------------------------------------------------------------
----------------------
------------------------------------------------------------------------------
----------------------
CASE DESCRIPTION
 Site name/label:   Tate and Lyle Sucralose LLC
 Design case:       Tate and Lyle End Pipe 2025
 FILE NAME:         C:\...e Sucralose LLC MZ\End Pipe 1000 kgm3
density.prd
 Time stamp:        03/21/2025--11:20:16

ENVIRONMENT PARAMETERS (metric units)
 Bounded section
 BS    =    187.00  AS    =   1309.00  QA    =     32.68  ICHREG= 1
 HA    =      7.00  HD    =      7.00
 UA    =     0.025  F     =     0.026 USTAR =0.1414E-02
 UW    =     2.000 UWSTAR=0.2198E-02
 Uniform density environment
 STRCND=  U         RHOAM =  995.6470

DISCHARGE PARAMETERS (metric units)
 BANK  =  RIGHT     DISTB =     30.48
 D0    =     0.122 A0    =     0.012 H0    =      1.83  SUB0  =
5.17
 THETA =     85.00  SIGMA =      0.00
 U0    =     3.130 Q0    =     0.037       =0.3659E-01
 RHO0  = 1000.0000  DRHO0 =-.4353E+01  GP0   =-.4287E-01
 C0    =0.1000E+03  CUNITS=  %
 IPOLL =  1         KS    =0.0000E+00  KD    =0.0000E+00

FLUX VARIABLES (metric units)
 Q0    =0.3659E-01  M0    =0.1145E+00  J0    =-.1569E-02  SIGNJ0=     -
1.0
 Associated length scales (meters)
 LQ    =     0.11  LM    =     4.97  Lm    =     13.56  Lb    =
100.85
                                       Lmp   =  99999.00  Lbp   =
99999.00

NON-DIMENSIONAL PARAMETERS
 FR0   =     43.28  R     =    125.39

FLOW CLASSIFICATION
 11111111111111111111111111111111111111111111111
 1  Flow class (CORMIX1)      =    NV5          1
 1  Applicable layer depth HS =    7.00         1
 1  Limiting Dilution S=QA/Q0 + 1=   894.02     1
```

```
 1111111111111111111111111111111111111111111111111

MIXING ZONE / TOXIC DILUTION / REGION OF INTEREST PARAMETERS
 C0    =0.1000E+03  CUNITS=  %
 NTOX  =  0
 NSTD  =  0
 REGMZ =  1
 REGSPC=  4         XREG  =      5.42  WREG  =      0.00  AREG  =
0.00
 XINT  =   2000.00  XMAX  =   2000.00

X-Y-Z COORDINATE SYSTEM:
    ORIGIN is located at the bottom and below the center of the port:
        30.48 m  from the RIGHT bank/shore.
    X-axis points downstream, Y-axis points to left, Z-axis points
upward.
NSTEP =  50 display intervals per module
--------------------------------------------------------------------------
---------------------
--------------------------------------------------------------------------
---------------------
BEGIN MOD101: DISCHARGE MODULE

       X        Y       Z        S       C       B        Uc        TT
     0.00     0.00    1.83     1.0 0.100E+03   0.06    3.128
.00000E+00

END OF MOD101: DISCHARGE MODULE
--------------------------------------------------------------------------
---------------------
--------------------------------------------------------------------------
---------------------
BEGIN MOD134: UNSTABLE RECIRCULATION REGION OVER LAYER DEPTH

 INITIAL LOCAL VERTICAL INSTABILITY REGION:
   Bulk dilution (S =  62.22) occurs in a limited region (horizontal
extent
   =    14.91 m) surrounding the discharge location.

  Control volume inflow:
       X        Y       Z        S       C       B        TT
     0.00     0.00    1.83     1.0 0.100E+03   0.06 .00000E+00

  Control volume outflow:
       X        Y       Z        S       C       BV       BH      ZU
ZL       TT
    14.91     0.00    3.50    62.2 0.161E+01   7.00    17.50    7.00
0.00 .47639E+01
 ** REGULATORY MIXING ZONE BOUNDARY OCCURS within the Control Volume **
 In this prediction interval the plume TRAJECTORY distance meets or
exceeds
 the regulatory value =     5.42 m.
 This is the extent of the REGULATORY MIXING ZONE.
```

```
END OF MOD134: UNSTABLE RECIRCULATION REGION OVER LAYER DEPTH
-------------------------------------------------------------------------------
---------------------
-------------------------------------------------------------------------------
---------------------
BEGIN MOD134a: UPSTREAM SPREADING AFTER NEAR-FIELD INSTABILITY

 UPSTREAM INTRUSION PROPERTIES:
        Upstream intrusion length                =      10.00 m
        X-position of upstream stagnation point =       4.91 m
        Thickness in intrusion region            =       2.09 m
        Half-width at downstream end             =     374.41 m
        Thickness at downstream end              =       0.14 m

  Control volume inflow:
       X        Y        Z        S        C        B        TT
    14.91     0.00     3.50     62.2 0.161E+01     0.06 .47639E+01

 Profile definitions:
   BV = top-hat thickness, measured vertically
   BH = top-hat half-width, measured horizontally in Y-direction
   ZU = upper plume boundary (Z-coordinate)
   ZL = lower plume boundary (Z-coordinate)
   S  = hydrodynamic average (bulk) dilution
   C  = average (bulk) concentration (includes reaction effects, if any)
   TT = Cumulative travel time

       X        Y        Z        S        C        BV       BH       ZU
ZL       TT
      4.91     0.00     0.00   9999.9 0.000E+00     0.00     0.00     0.00
0.00 .40548E+03
      8.85     0.00     0.00     81.7 0.122E+01     1.60    52.95     1.60
0.00 .24748E+03
     28.18     0.00     0.00     62.4 0.160E+01     2.06   128.62     2.06
0.00 .53623E+03
     47.51     0.00     0.00     63.3 0.158E+01     1.87   174.01     1.87
0.00 .13104E+04
     66.83     0.00     0.00     64.8 0.154E+01     1.58   209.80     1.58
0.00 .20846E+04
     86.16     0.00     0.00     66.5 0.150E+01     1.24   240.33     1.24
0.00 .28588E+04
    105.49     0.00     0.00     68.2 0.147E+01     0.91   267.38     0.91
0.00 .36330E+04
    124.81     0.00     0.00     69.6 0.144E+01     0.63   291.95     0.63
0.00 .44071E+04
    144.14     0.00     0.00     70.6 0.142E+01     0.43   314.60     0.43
0.00 .51813E+04
    163.47     0.00     0.00     71.3 0.140E+01     0.30   335.72     0.30
0.00 .59555E+04
    182.79     0.00     0.00     71.7 0.140E+01     0.22   355.59     0.22
0.00 .67297E+04
    202.12     0.00     0.00     72.0 0.139E+01     0.14   374.41     0.14
0.00 .75039E+04
 Cumulative travel time =        7503.8770 sec  (    2.08 hrs)
```

```
END OF MOD134a: UPSTREAM SPREADING AFTER NEAR-FIELD INSTABILITY
-------------------------------------------------------------------------------
** End of NEAR-FIELD REGION (NFR) **
 Some BOUNDARY INTERACTION with both banks occurs at end of near-field.
   The dilution values in one or more of the preceding zones may be too
high.
 Carefully evaluate results in near-field and check degree of
interaction.
-------------------------------------------------------------------------------
BEGIN MOD181: MIXED PLUME/BOUNDED CHANNEL/POSSIBLE UPSTREAM WEDGE
INTRUSION

 No wedge intrusion due to strong ambient current blocking.

       X        Y       Z        S       C      BV       BH      ZU
ZL       TT
    202.12   -30.48    0.00    72.0 0.139E+01   0.56   187.00    0.56
0.00 .75039E+04
 Cumulative travel time =        7503.8784 sec  (    2.08 hrs)
 Flow is LATERALLY MIXED over the channel width.

END OF MOD181: MIXED PLUME/BOUNDED CHANNEL/POSSIBLE UPSTREAM WEDGE
INTRUSION
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
BEGIN MOD161: PASSIVE AMBIENT MIXING IN UNIFORM AMBIENT

  Vertical diffusivity (initial value)   = 0.333E-02 m^2/s
  Horizontal diffusivity (initial value) = 0.416E-02 m^2/s

 Profile definitions:
   BV = Gaussian s.d.*sqrt(pi/2) (46%) thickness, measured vertically
      = or equal to layer depth, if fully mixed
   BH = Gaussian s.d.*sqrt(pi/2) (46%) half-width,
        measured horizontally in Y-direction
   ZU = upper plume boundary (Z-coordinate)
   ZL = lower plume boundary (Z-coordinate)
   S  = hydrodynamic centerline dilution
   C  = centerline concentration (includes reaction effects, if any)
   TT = Cumulative travel time

 Plume Stage 2 (bank attached):
       X        Y       Z        S       C       BV       BH      ZU
ZL       TT
    202.12   -30.48    0.00    72.0 0.139E+01   0.56   187.00    0.56
0.00 .75039E+04
    238.08   -30.48    0.00    72.1 0.139E+01   0.56   187.00    0.56
0.00 .89443E+04
```

274.03	-30.48	0.00	72.1	0.139E+01	0.56	187.00	0.56	0.00 .10385E+05
309.99	-30.48	0.00	72.1	0.139E+01	0.56	187.00	0.56	0.00 .11825E+05
345.95	-30.48	0.00	72.1	0.139E+01	0.56	187.00	0.56	0.00 .13265E+05
381.91	-30.48	0.00	72.1	0.139E+01	0.56	187.00	0.56	0.00 .14706E+05
417.86	-30.48	0.00	72.1	0.139E+01	0.56	187.00	0.56	0.00 .16146E+05
453.82	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .17587E+05
489.78	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .19027E+05
525.74	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .20467E+05
561.70	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .21908E+05
597.65	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .23348E+05
633.61	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .24789E+05
669.57	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .26229E+05
705.53	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .27669E+05
741.48	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .29110E+05
777.44	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .30550E+05
813.40	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .31991E+05
849.36	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .33431E+05
885.31	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .34871E+05
921.27	-30.48	0.00	72.1	0.139E+01	0.57	187.00	0.57	0.00 .36312E+05
957.23	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .37752E+05
993.19	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .39192E+05
1029.14	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .40633E+05
1065.10	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .42073E+05
1101.06	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .43514E+05
1137.02	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .44954E+05
1172.98	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .46394E+05
1208.93	-30.48	0.00	72.2	0.139E+01	0.57	187.00	0.57	0.00 .47835E+05

```
   1244.89   -30.48    0.00    72.2 0.139E+01   0.57   187.00    0.57
0.00 .49275E+05
   1280.85   -30.48    0.00    72.2 0.139E+01   0.57   187.00    0.57
0.00 .50716E+05
   1316.81   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .52156E+05
   1352.76   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .53596E+05
   1388.72   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .55037E+05
   1424.68   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .56477E+05
   1460.64   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .57918E+05
   1496.59   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .59358E+05
   1532.55   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .60798E+05
   1568.51   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .62239E+05
   1604.47   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .63679E+05
   1640.42   -30.48    0.00    72.2 0.138E+01   0.57   187.00    0.57
0.00 .65119E+05
   1676.38   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .66560E+05
   1712.34   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .68000E+05
   1748.30   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .69441E+05
   1784.26   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .70881E+05
   1820.21   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .72321E+05
   1856.17   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .73762E+05
   1892.13   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .75202E+05
   1928.09   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .76643E+05
   1964.04   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .78083E+05
   2000.00   -30.48    0.00    72.3 0.138E+01   0.57   187.00    0.57
0.00 .79523E+05
 Cumulative travel time =       79523.3359 sec  (   22.09 hrs)

 Simulation limit based on maximum specified distance =   2000.00 m.
   This is the REGION OF INTEREST limitation.

END OF MOD161: PASSIVE AMBIENT MIXING IN UNIFORM AMBIENT
--------------------------------------------------------------------------
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--------------------------------------------------------------------------
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```

CORMIX1: Single Port Discharges End of Prediction File
1111111111111111111111111111111111111111111111111111111111111111111111111
1111111111111111111111

```
CORMIX SESSION REPORT:
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXX
                      CORMIX MIXING ZONE EXPERT SYSTEM
                          CORMIX Version 12.0GTD
                       HYDRO1:Version-12.0.0.0  December,2020
SITE NAME/LABEL:                Tate and Lyle Sucralose LLC
  DESIGN CASE:                  Tate and Lyle End Pipe 2025
  FILE NAME:                    C:\Users\keosha.powell\OneDrive - Alabama
Department of Environmental Management\Documents\WLAs & MZs\Tate and Lyle
Sucralose LLC MZ\End Pipe 1000 kgm3 density.prd
  Using subsystem CORMIX1:     Single Port Discharges
  Start of session:             03/21/2025--11:20:16
************************************************************************
****
SUMMARY OF INPUT DATA:
------------------------------------------------------------------------
----
AMBIENT PARAMETERS:
  Cross-section                                = bounded
  Width                             BS         = 187 m
  Channel regularity                ICHREG     = 1
  Ambient flowrate                  QA         = 32.68 m^3/s
  Average depth                     HA         = 7 m
  Depth at discharge                HD         = 7 m
  Ambient velocity                  UA         = 0.0250 m/s
  Darcy-Weisbach friction factor    F          = 0.0256
    Calculated from Manning's n                = 0.025
  Wind velocity                     UW         = 2 m/s
  Stratification Type               STRCND     = U
  Surface temperature                          = 30 degC
  Bottom temperature                           = 30 degC
  Calculated FRESH-WATER DENSITY values:
  Surface density                   RHOAS      = 995.6470 kg/m^3
  Bottom density                    RHOAB      = 995.6470 kg/m^3
------------------------------------------------------------------------
----
DISCHARGE PARAMETERS:               Single Port Discharge
  Nearest bank                                 = right
  Distance to bank                  DISTB      = 30.48 m
  Port diameter                     D0         = 0.122 m
  Port cross-sectional area         A0         = 0.0117 m^2
  Discharge velocity                U0         = 3.13 m/s
  Discharge flowrate                Q0         = 0.036592 m^3/s
  Discharge port height             H0         = 1.83 m
  Vertical discharge angle          THETA      = 85 deg
  Horizontal discharge angle        SIGMA      = 0 deg
  Discharge density                 RHO0       = 1000 kg/m^3
  Density difference                DRHO       = -4.3530 kg/m^3
  Buoyant acceleration              GP0        = -0.0429 m/s^2
  Discharge concentration           C0         = 100 %
  Surface heat exchange coeff.      KS         = 0 m/s
  Coefficient of decay              KD         = 0 /s
```

```
--------------------------------------------------------------------------
----
DISCHARGE/ENVIRONMENT LENGTH SCALES:
  LQ  = 0.11 m         Lm  = 13.56 m         Lb  = 100.85 m
  LM  = 4.97 m         Lm' = 99999 m         Lb' = 99999 m
--------------------------------------------------------------------------
----
NON-DIMENSIONAL PARAMETERS:
  Port densimetric Froude number  FR0    = 43.28
  Velocity ratio                  R      = 125.39
--------------------------------------------------------------------------
----
MIXING ZONE / TOXIC DILUTION ZONE / AREA OF INTEREST PARAMETERS:
  Toxic discharge                          = no
  Water quality standard specified         = no
  Regulatory mixing zone                   = yes
  Regulatory mixing zone specification     = trajectory
  Regulatory mixing zone value             = 5.42 m (m^2 if area)
  Region of interest                       = 2000 m
**************************************************************************
****
HYDRODYNAMIC CLASSIFICATION:
  *-------------------------*
  | FLOW CLASS   = NV5 |
  *-------------------------*
  This flow configuration applies to a layer corresponding to the full
water
  depth at the discharge site.
  Applicable layer depth = water depth = 7 m

  Limiting Dilution S = (QA/Q0)+ 1.0 = 894.0

**************************************************************************
****
MIXING ZONE EVALUATION (hydrodynamic and regulatory summary):

--------------------------------------------------------------------------
----
X-Y-Z Coordinate system:
  Origin is located at the BOTTOM below the port/diffuser center:
    30.48 m from the right bank/shore.
  Number of display steps NSTEP = 50 per module.
--------------------------------------------------------------------------
----
NEAR-FIELD REGION (NFR) CONDITIONS :
Note: The NFR is the zone of strong initial mixing.  It has no regulatory
  implication.  However, this information may be useful for the discharge
  designer because the mixing in the NFR is usually sensitive to the
  discharge design conditions.
  Pollutant concentration at NFR edge  c = 1.388 %
  Dilution at edge of NFR              s = 72.0
  NFR Location:                        x = 202.12 m
    (centerline coordinates)           y = 0 m
                                       z = 0 m
```

```
  NFR plume dimensions:  half-width (bh) = 374.41 m
                          thickness (bv) = 0.14 m
  Cumulative travel time:       7503.8784 sec.
-------------------------------------------------------------------------
----
Buoyancy assessment:
  The effluent density is greater than the surrounding ambient water
  density at the discharge level.
  Therefore, the effluent is NEGATIVELY BUOYANT and will tend to sink
towards
  the bottom.
IMPORTANT NOTE:
Since the effluent is NEGATIVELY BUOYANT, it is recommended that you
consider using the Brine or Sediment options for Effluent specification
for a more detailed analysis, particularly for coastal discharges over a
sloping bottom where density currents are important.

CORMIX will however continue with the current simulation.
-------------------------------------------------------------------------
----
UPSTREAM INTRUSION SUMMARY:
Plume exhibits upstream intrusion due to low ambient velocity or strong
  discharge buoyancy.
  Intrusion length                          =  10.00 m
  Intrusion stagnation point                =  4.91 m
  Intrusion thickness                       =  2.09 m
  Intrusion half width at impingement       =  374.41 m
  Intrusion half thickness at impingement =  0.14 m
-------------------------------------------------------------------------
----
FAR-FIELD MIXING SUMMARY:
  Plume becomes vertically fully mixed WITHIN NEAR-FIELD at 0 m
  downstream, but RE-STRATIFIES LATER and is not mixed in the far-field.
  Plume becomes laterally fully mixed at 0 m
  downstream.
************************ TOXIC DILUTION ZONE SUMMARY
************************
No TDZ was specified for this simulation.
********************** REGULATORY MIXING ZONE SUMMARY
************************
The plume conditions at the boundary of the specified RMZ are as follows:
  Pollutant concentration              c = 1.607271  %
  Corresponding dilution               s = 62.2
  Plume location:                      x = 14.91 m
    (centerline coordinates)           y = 0 m
                                       z = 3.5 m
  Plume dimensions:      half-width (bh) = 17.5 m
                          thickness (bv) = 7 m
  Cumulative travel time < 7503.8784 sec. (RMZ is within NFR)

Note:
Plume concentration c and dilution s values are reported based on
prediction
file values - assuming linear interpolation between predicted points just
```

before and just after the RMZ boundary has been detected.

Please ensure a small step size is used in the prediction file to account for this linear interpolation. Step size can be controlled by increasing (reduces the prediction step size) or decreasing (increases the prediction
step size) the - Output Steps per Module - in CORMIX input.

Regulatory Mixing Zone Analysis:
The specified RMZ occurs within the near-field region (NFR). This RMZ specification may be highly restrictive.

********** FINAL DESIGN ADVICE AND COMMENTS **********
REMINDER: The user must take note that HYDRODYNAMIC MODELING by any known
technique is NOT AN EXACT SCIENCE.
Extensive comparison with field and laboratory data has shown that the CORMIX predictions on dilutions and concentrations (with associated plume geometries) are reliable for the majority of cases and are accurate
to within about +-50% (standard deviation).
As a further safeguard, CORMIX will not give predictions whenever it judges
the design configuration as highly complex and uncertain for prediction.

REQUIRED INFORMATION FOR MIXING ZONE MODELING

GENERAL INFORMATION

1. Applicant Name: Tate & Lyle
2. Permit No.: AL0069736
3. Project Name (if different from applicant): Tate & Lyle McIntosh Effluent Diffuser
4. Contact name and phone number: Shaquondra Manuel/ 251-401-9847
5. Date submitted: 10/30/2024
5. Facility type (new, existing or upgrade): Existing

AMBIENT CONDITIONS

1. Receiving waterbody: Tombigbee
2. Width of waterbody at discharge point (m): 138
3. Depth of waterbody at discharge point (m): 1.8288
4. Average depth of waterbody at discharge point (m): 7

DISCHARGE TYPE:

Submerged endpipe or submerged multiport diffuser? submerged endpipe

Effluent Density (kg/m^3): 1000

Note: Fill out box A below for endpipe discharges; box B for diffuser discharges.

A. DISCHARGE CONDITIONS FOR SUBMERGED ENDPIPE DISCHARGES

1. Nearest bank (right or left) to the outfall looking downstream: right
2. Distance from nearest bank to discharge (m): 30.48
3. Endpipe diameter (m): 0.3048
4. Contraction ratio (if known): N/A
5. Height of discharge above stream bottom (m): 1.8288
6. Effluent flow rate (mgd): average 0.63 MGD

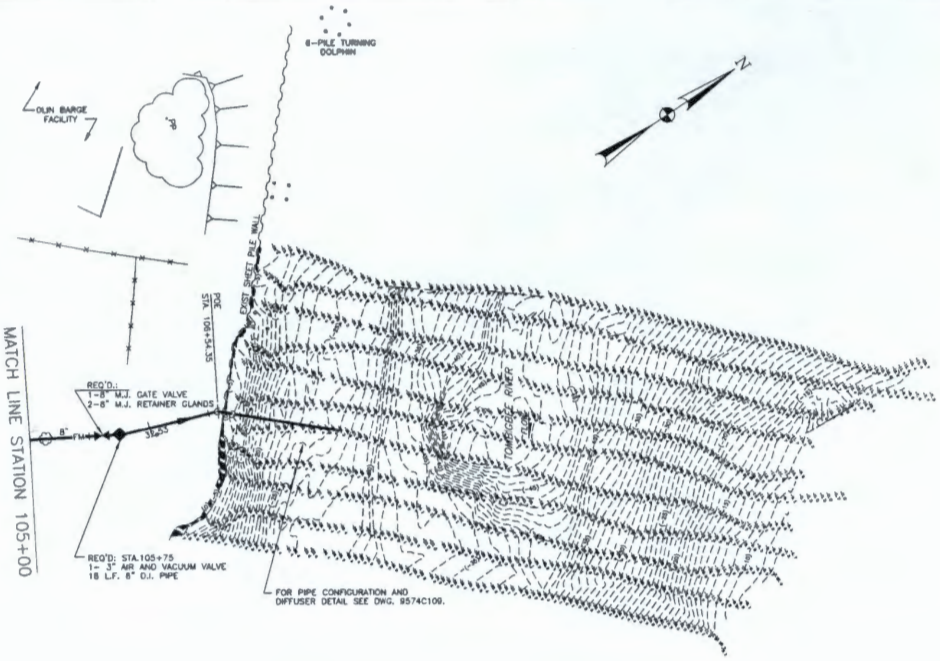
B. DISCHARGE CONDITIONS FOR SUBMERGED MULTIPORT DIFFUSERS

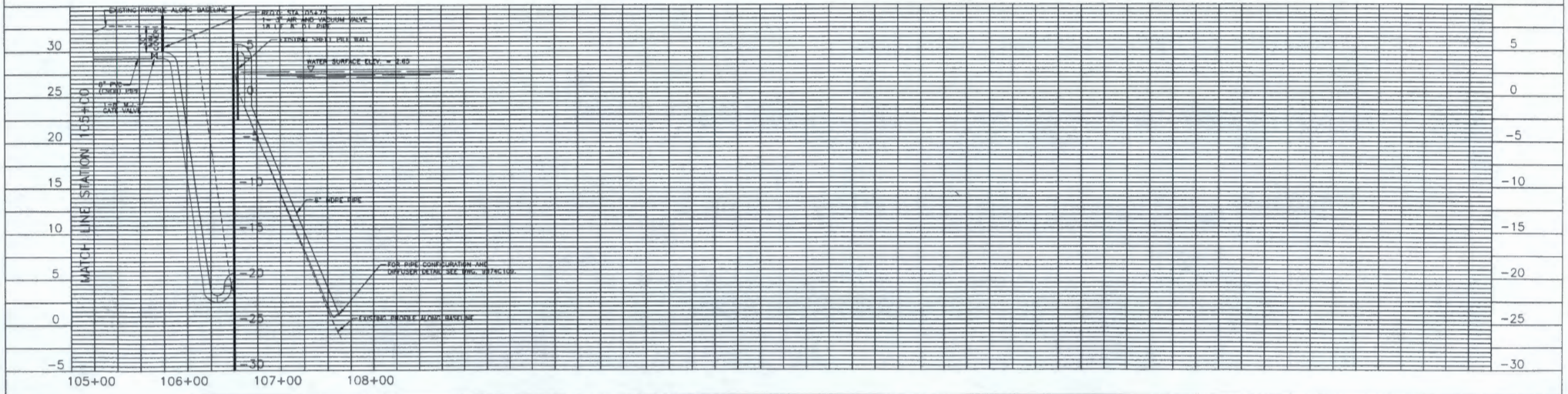
NOTE:
Diffuser length is defined as the distance between the first and last diffuser ports.

1. Diffuser length (m): _____
2. Nearest bank (right or left) to the outfall looking downstream: _____
3. Distance from nearest bank to first diffuser port (m): _____
4. Total number of ports: _____
5. Diameter of a single port (m): _____
6. Distance between adjacent ports (i.e., port spacing, m): _____
7. Height of ports above stream bottom (m): _____
8. Port contraction ratio (if known): _____
9. Diameter of diffuser manifold (m): _____
10. Effluent flow rate (mgd): _____

SPECIAL REQUIREMENTS

1. Please submit a map displaying the outfall location along with the appropriate latitude/longitude coordinates.
2. Please submit the appropriate engineering plans that depict the outfall configuration.





VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'
0' 25' 50' 100' 150'

REVISION NO.	DESCRIPTION	DATE	BY
2	AS BUILT	02/08/00	
1	ISSUED FOR CONSTRUCTION	10/4/99	

PLAN & PROFILE
STA. 105+00 TO STA. 107+57

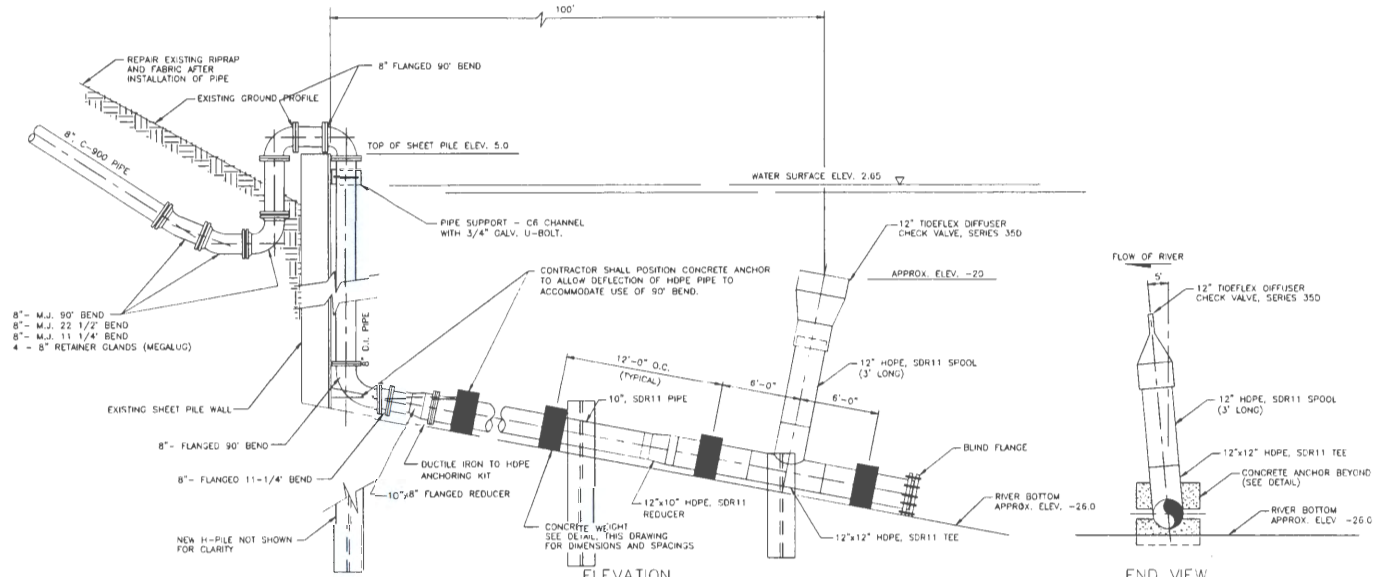
FORCE MAIN CONSTRUCTION FROM PLANT SITE TO TOMBIGBEE RIVER

McNEIL SPECIALTY PRODUCTS CO.
McINTOSH, ALABAMA

SCALE:	DRAWN BY:	CHECKED BY:	APPROVED BY:
NOTED	A.W.O.	J.D.M.	T.G.M.

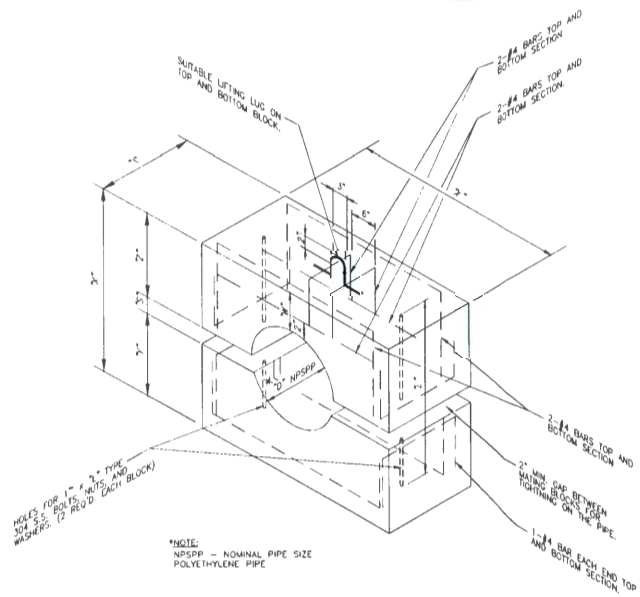
Thompson Engineering

DATE:	JOB NO.:	DRAWING NAME:	REVISION NO.:
9/20/99	1999-00-0574	9574C108	2



DIFFUSER DETAIL FOR SEWER FORCE MAIN

SCALE: NTS



*NOTE:
NPSPP - NOMINAL PIPE SIZE POLYETHYLENE PIPE

CONCRETE WEIGHT DETAIL FOR POLYETHYLENE SEWER PIPE

NO SCALE

NOMINAL PIPE SIZE	SPACING IN FEET O.C.	APPROXIMATE BLOCK DIMENSIONS							
		"D"	"X"	"Y"	"Z"	"T"	"S"	"W" MIN.	"L"
8"	12'-0"	9-1/4"	18"	9-1/2"	7"	5"	1-1/2"	3"	20"
12"	12'-0"	12"	24"	11"	11"	12"	2"	5"	26"
14"	12'-0"	14-5/8"	32"	16"	14"	8"	2"	5"	34"
16"	12'-0"	16-3/8"	36"	18"	16"	10"	2"	5"	38"
18"	12'-0"	18-3/8"	36"	18"	16"	12"	2"	5"	38"
20"	12'-0"	20-3/8"	38"	19"	17"	12"	2"	5"	40"
26"	12'-0"	26-3/8"	44"	22"	20"	16"	2"	5"	46"
36"	12'-0"	36-3/8"	60"	30"	28"	16"	2"	6"	62"
42"	12'-0"	42-3/8"	68"	34"	32"	18"	2"	5"	70"

NOTES:

1. PIPE SHALL BE PROTECTED FROM CONTACT WITH CONCRETE ANCHOR BLOCKS BY UNDERPAD MATERIAL WHICH SHALL EITHER BE 1/8" BLACK OR RED RUBBER SHEET OR 1/4" NEOPRENE SPONGE AT LEAST 18" WIDE.

2. CONCRETE INTERIOR SURFACE SHALL BE SMOOTH (3000 PSI CONCRETE @ 28 DAYS). MINIMUM CLEARANCE AROUND STEEL REINFORCEMENT SHALL BE 2".

REVISION NO	DESCRIPTION	DATE	BY
REVISION NO	DESCRIPTION	DATE	BY
REVISION NO 2	DESCRIPTION AS BUILT	DATE 02/08/00	BY
REVISION NO 1	DESCRIPTION ADDED 11-1/4 ° BEND	DATE 11/19/99	BY

McNEIL SPECIALTY PRODUCTS CO.
McINTOSH, ALABAMA

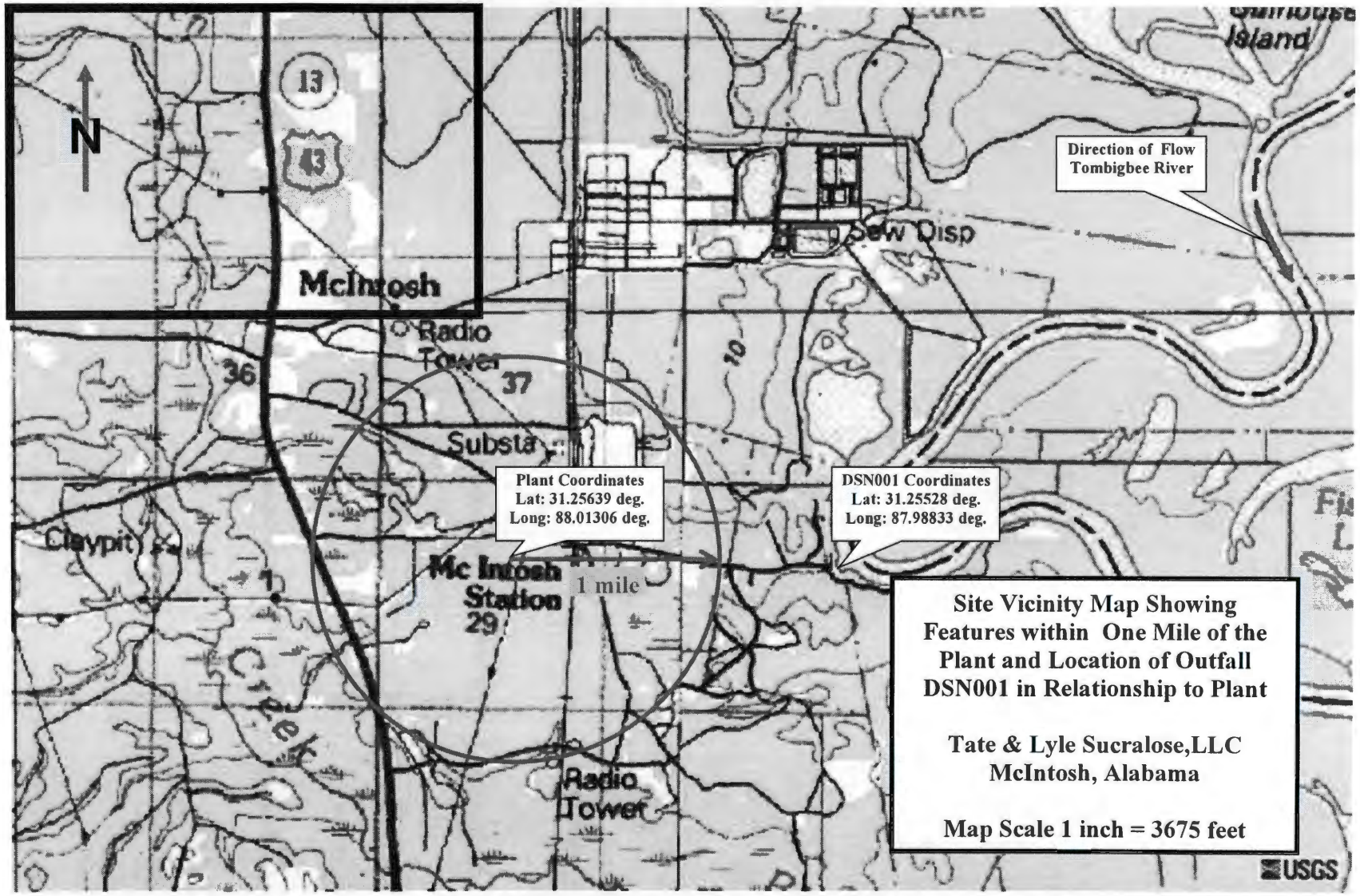
FORCE MAIN CONSTRUCTION FROM PLANT SITE TO TOMBIGBEE RIVER

FORCE MAIN CONSTRUCTION DETAILS

SCALE	DRAWN BY	CHECKED BY	APPROVED BY
NTS	A.W.O.	J.D.M.	T.G.M.

Thompson Engineering

DATE	JOB NO.	DRAWING NO.	REVISION NO.
9/20/99	1999-00-0574	90574C109	2

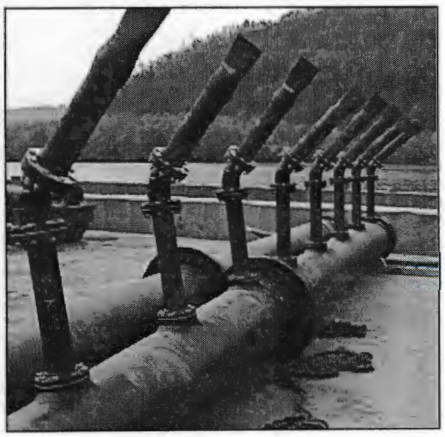


TIDEFLEX DIFFUSER NOZZLE

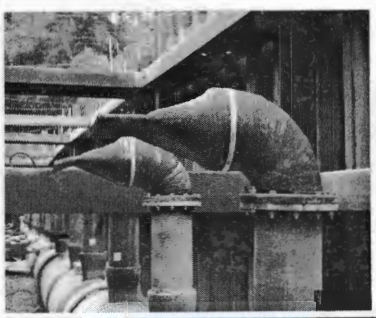
HYDRAULIC ANALYSIS

Mcintosh Effluent Outfall Diffuser

Tate and Lyle Sucralose, Mcintosh, AL



Analysis by:
Patrick Platt



Tideflex® Technologies
A Division of Red Valve Company®, Inc.

August 6, 2024

STANDARD TIDEFLEX DIFFUSER (TFD) SYSTEM DATA ANALYSIS

MEDIA:		Effluent	
	Density or Spec. Gravity	62.4	lb/ft^3

FLOW RANGE:				
0.43	MGD =	300	gpm
0.84	MGD =	580	gpm
1.32	MGD =	915	gpm

AVAILABLE HEADLOSS@ DIFFUSER:	Minimum		feet
	Design		feet
	Maximum		feet

MAX. BACKPRESSURE:	30	feet

DATE:	06-Aug-2024
CLIENT:	Tate and Lyle Sucralose, Mcintosh, AL
CONTACT:	Christopher A. Johnson
ENGINEER:	
CONTACT:	
PROJECT:	Mcintosh Effluent Outfall Diffuser
REP:	Dwight W. Prouty Co., Inc.
CONTACT:	Clint Lowery

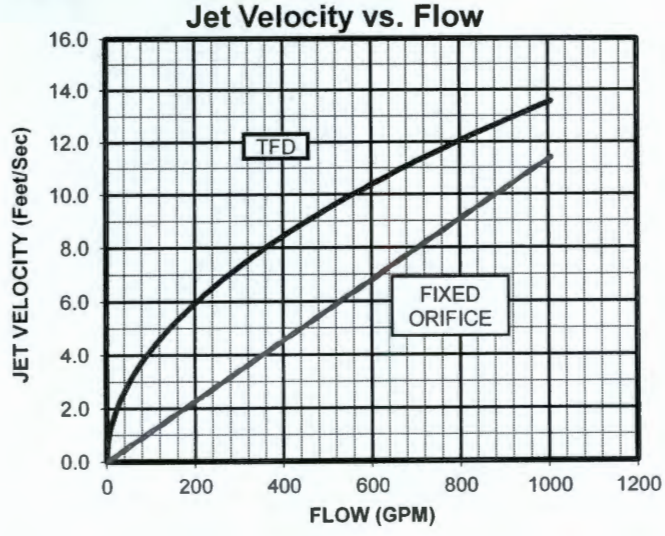
TFD SIZE (IN)	HYDRAULIC CODE
12	**368**

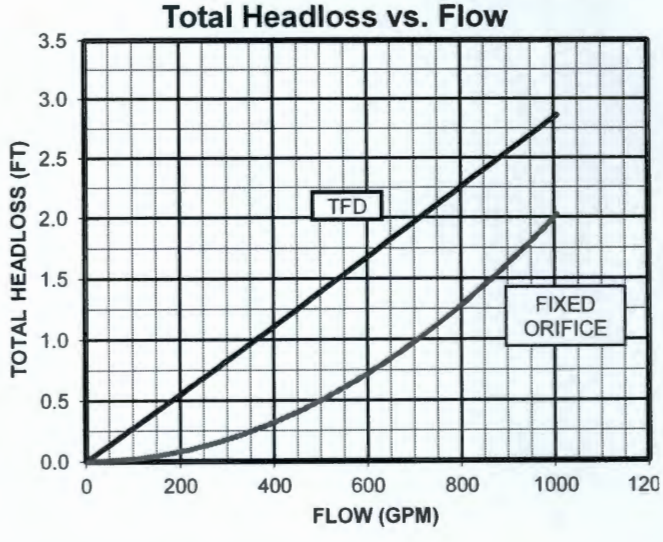
PER STANDARD BILLTIDEFLEX DIFFUSER

* TOTAL QUANTITY	TOTAL FLOW (gpm)	FLOW (gpm)	JET VELOCITY (fps)	TIDEFLEX DIFFUSER (TFD) HEADLOSS (feet)	EFFECTIVE DIAMETER (in)
1	300	300	7.3	0.8	4.098
	580	580	10.2	1.6	4.817
	915	915	12.9	2.6	5.378

PER FIXED ORIFICE

FIXED ORIFICE DIA.	* Cd = 1					
12.00	**1**	300	300	**0.9**	**0.0**	12.0
		580	580	**1.6**	**0.0**	12.0
		915	915	**2.6**	**0.1**	12.0





Waste Load Allocation/MZ Request Form

MEMORANDUM

request number: 4031

To: Chief, Technical Support Section

From: (Responsible Engineer) Clint Dear | In Branch/Section: Industrial

Date Submitted: 11/8/2024 | 2/8/2024 Date Required | FUND Code: 210

General Information

Receiving Waterbody: Tombigbee River | River Basin: Tombigbee

County: Washington | Outfall Latitude: 31.255280 (decimal degrees)

Outfall Longitude: -87.988330 (decimal degrees)

Modeling Information

Facility Name: Tate & Lyle Sucralose, LLC (Name of Discharger-WQ will use to file)

Applicant Name:

Previous Discharger Name

MasterID: 8194

Contact Name: Shaquondra "Shay" Manuel

Phone Number: 251-944-3618

Permit Number: AL0069736

Model request submitted as part of permit application? ☐ Yes ☑ No

Date Permit application received by NPDES program:

Date Permit Expires:

Permit Type: Permit Reissuance

Permit Status: Active

Type of Discharger: INDUSTRIAL

Type of Modeling being requested:

- Modeling with Data Collection (10 stations) ☐
- Modeling with Data Collection (5 stations) ☐
- WLA Modeling Review Only (per season) ☐
- MZ CORMIX Modeling Review Only ☐
- Desktop Model ☐
- Mixing Zone Model (CORMIX) ☑
- HCR Model Analysis ☐
- Additional Season (Desktop and/or/CORMIX Mod ☐

Current Permit Limits (mg/L)

CBOD5 summer:		CBOD5 winter:	
BOD5 summer:		BOD5 winter:	
NH3-N summer:		NH3-N winter:	
TON summer:		TON winter:	
TKN summer:		TKN winter:	
MinDO summer:		MinDO winter:	

Seasonal limits requested? ☐ Yes ☑ No | Number of Seasons Requested:

Existing Discharge Design Flow: MGD

Proposed Discharge Design Flow: 0.8352 MGD

Note: The flow rates given should be those requested for modeling.

Waste Load Allocation/MZ Request Form (Cont)

Do other discharges exist that may impact the model? ☐ Yes ☑ No

If yes, impacting dischargers names.		**Impacting dischargers permit numbers.**	

Note: ADEM form 455 must be submitted with all mixing zone requests. This information is usually furnished by the applicant and/or consultant. The form can be printed using the link below. It can also be found on the ADEM web site under the "ADEM Forms" link.

http://www.adem.state.al.us/DeptForms/Form455.pdf

Attachments: Photocopy of 7.5 minute series topographic map included with (discharge location marked)? ■ Yes ■ No

Form 455, Site Map DSN001, Diffuser Drawing, Email (TyFlex)

Comments